

Chapter 6

Developing AEC into a Global Service Hub: The Case of the Creative Industries in the Philippines

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CHAPTER 6

Developing AEC into a Global Service Hub:

The Case of the Creative Industries in the Philippines

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1. Nature of the Industry

1.1. Service

Creative industries, in general, belong to the service sector. Business activities that normally fall in the category, according to the United Kingdom's Department for Culture, Media and Sport (DCMS), "have their origin in individual creativity, skill and talent, which have a potential for job and wealth creation through the generation and exploitation of intellectual property" (Creative Industries Mapping Document, DCMS, 2001, p.05). Consistent with the definition, the DCMS (2001) maintains that creative services include: advertising, architecture, art and antiques, computer games, crafts, design, designer fashion, film and video, music, performing arts, publishing, software, and TV and radio.

As a broad and highly diverse area of expertise, the difficulties in clearly delineating the activities of creative industries and capturing their contribution to the economy stems from three main points: 1) creative industries are closely linked with the undertakings of non-creative sectors; 2) contribution to culture are valued more relative to the contribution to ideas; Tolentino's Framework for Clustering Creative Services (Joint Foreign Chambers of the Philippines, 2010), for instance, clearly distinguishes between sectors employing creative workers and those employing knowledge workers (refer to Table 1); and 3)

creative industries are comprised mainly of micro, small- and medium-scale enterprises, whose performance may not be accurately reflected in current statistics (Local Government Development and Improvement, 2010).

Whilst clearly identifying activities that are classified as creative services and measuring their economic performance can still be improved, the Philippines has not only adopted the UK's Department of Culture, Media and Sport's characterization of creative industries but has also expanded the list of sectors to include: animation, culinary arts, cultural/heritage activities, new media, and visual arts.

Quite apparent from the preceding discussion, however, is that creative industries span a wide array of services. In the interest of: 1) providing a detailed analysis of the strengths, weaknesses, opportunities, and threats (SWOT) as well as that of the policies/regulatory/institutional initiatives that support the sector; 2) presenting meaningful and appropriate recommendations; and 3) developing a profile of firms which are considered key players of the sector, this paper will focus on two of the Philippines' creative services sector, namely, printing and publishing, with focus on electronic or digital publishing, and animation industries.

Table 1: Industries Employing Creative and Knowledge Workers

Clustered Industries Employing Creative Workers	Clustered Industries Employing Knowledge Workers
✓ Advertising	✓ Business Process Outsourcing
✓ Animation	✓ Engineering Design
✓ Architectural and Interior Design	✓ Financial Services
✓ Brand, Product and Fashion Design	✓ Hardware and Systems Design
✓ Cultural Exhibition and Performance	✓ Legal Services
✓ Digital Gaming and Entertainment	✓ Medical and Healthcare Services
✓ Industrial Craft	✓ R&D and Consulting Services
✓ Mobile Phone Applications	✓ Software Development
✓ Motion Pictures	✓ Website Development
✓ Music and Performing Arts	
✓ Radio Broadcasting and TV	
✓ Toys and Playthings	
✓ Visual Arts	

Source: Cesar Tolentino, Framework for Clustering Creative Services, 2008

Note: The table is copied from the 2010 Joint Foreign Chambers of the Philippines' Advocacy Paper.

The Philippine printing and publishing industry is an established sector comprised of more than a thousand firms located in ten out of the country's sixteen regions and employed an estimated twenty-six thousand workers in 2008. The industry has extensive forward and backward linkages and offers a wide range of products and services to both the local and global markets. The digital animation industry, on the other hand, gained prominence in the 1980s through its subcontracting services that catered mostly to the international market. Foreign ownerships and affiliations helped domestic counterparts to tap into the opportunities offered by the global animation industry. Presently, the Animation Council of the Philippines, Inc. believes that the sector is made up of about 50 to 100 establishments that are mostly located in the National Capital Region. In 2008, the Business Process Outsourcing Association of the Philippines reported that the animation sub-sector provided about 8,000 employees with a means of livelihood. Both industries are mostly comprised of small- and medium-scale enterprises.

The succeeding sections define the scope and discuss the performance and prospects of the two industries. The insights gained from the analysis of the qualitative and quantitative information will be utilized to fulfill objectives of the project that are enumerated above.

1.2.Industry Scope

Printing and Publishing

Under the Philippine Standard Industrial Classification (PSIC), the printing and publishing industry is comprised of firms engaged in the activities listed in Table 2.

Table 2: Philippines Printing and Publishing Sectors and Products

PSIC Code	Sector/Activity	Product/Service
221	Publishing	✓ Books (i.e., textbooks, atlases, professional nooks, fiction books, etc.), brochures, musical books, maps, pamphlets, and other publications (i.e., packaging materials, political campaign materials, receipts and business forms, etc.)
221	Publishing	✓ Newspapers, journals (i.e., tradejournals), periodicals, magazines, comics, etc. ✓ Photos, engravings and postcards, timetables, forms, posters, reproduction of works of art, or other printed matters, products of micropublishing
222	Printing and Services Related to Printing	✓ Reproducing published products listed above (PSIC Code 221) by means of duplicating machines, computer controlled reproduction, embossers, photocopiers or thermocopiers ✓ Production of composed type, prepared printing plates or cylinders, impressed lithographic stones or other impressed media for use in printing in other unit; includes bookbinding ✓ Electrotyping, stereotyping and photoengraving ✓ Bookbinding and related work ✓ Services related to printing
223	Publishing and Printing Activities	✓ Services of establishments involved in both printing and publishing activities

Source: Tullao & Habaradas. (2001). “An In-depth Study on the Printing and Publishing Industry in the Philippines”

The market for printing and publishing services includes a wide range of consumers starting with the household - which includes political candidates, students, medical doctors, researchers, etc. – and ending with institutional buyers such as financial institutions, private education, hotel and restaurants, etc. (Tullao & Habaradas, 2001).

Digital Animation

The PEARL2 State of the Sector Report on Philippine Digital Animation (2008) defines animation as “the process of giving the illusion of movement or life to cinematographic drawings, models or inanimate objects,” which is accomplished through a series of drawings “photographed in sequence on successive motion picture frames or images created by computer software” (PEARL2, 2008, p.11). In general, animation technology falls into two categories: 1) two-dimensional, which is traditionally hand-drawn but of late is accomplished with the aid of computers; and 2) three-dimensional, which

creates characters that have depth and 3D viewpoints through animation software programs (Tschang & Goldstein, 2004).

Production of animated works, according to Tschang & Goldstein (2004), involves four stages: 1) conceptualization – focuses on the development of ideas, creating the conceptual artwork, drafting the final script, and planning (i.e., roles, logistics, schedules, etc.); 2) pre-production – involves script revision, if necessary, details of scripts are depicted in storyboards and, ultimately story reels¹ in mostly non-computer generated art and a “prototype” of the film is assembled – the stage requires more art and, thus, the services of artists; 3) production – centers on the development of how each character and background would be shown on film such as color, texture, shading, and lighting; animation and visual effects are also incorporated in film recording; and 4) post-production – “consists of the sound effects, the final musical score, sound mixing and color correction” (Tschang & Goldstein, 2004) as well as editing of scenes and retakes, if necessary.

Outsourcing of the various tasks involved in animation production is an industry practice borne out of cost, quality and talent considerations. Subcontractors are typically employed after the conceptualization stage when the script and main models for characters (how they would look, for instance) have been developed (Tschang & Goldstein, 2004). More specifically, in the pre-production stage, subcontractors are employed to prepare, for example, storyboards, character design, background design, prop design, special effects, etc. Subcontractors, when hired to work in the production stage, are assigned to “animation, clean up, visual effects, and digital ink and paint (especially for 2D), and for 3D, rendering and compositing” (Tschang & Goldstein, 2004).

Commercial applications of animation services include advertisements – be it on the internet or television, video clips, computer games, television animation series, animated films, architectural and industrial design, medical demonstrations, and teaching aids (PEARL2, 2008 and Tschang & Goldstein, 2004).

¹Story reels “are full sequence of the art conveying the story that can be viewed largely in its entirety” (Tschang & Goldstein, 2004).

1.3. Contribution to the Philippine GDP, GNP and Manufacturing Sector

Printing and publishing services has steadily accounted for less than half a percent of the Philippines' GDP and GNP – an average of 0.34% and 0.33%, respectively from 1991 to 2005, which is higher than its average share in the more recent years of 0.24% and 0.21%, respectively in 2006 to 2009 (refer to Table 3). The industry's contribution to the Philippines' manufacturing sector, while subject to the same declining trend, is more than one percent during the same time period – an estimated 1.4% from 1991 to 2005 and 1.01% from 2006 to 2009 (refer to Table 3).

The dwindling share of the printing and publishing industry to the economy's national income is a result of the sector's lackluster performance in the past two decades. Table 3 clearly shows that while an average annual expansion of 1.05% in the sector's gross value added (GVA) was recorded in 1991-2000, except for 2001 to 2005, the industry's output has been steadily going down at an annual average rate of 0.69% in 1996 to 2000 and 2.71% in 2006 to 2009 (refer to Table 3).

Table 3: Printing and Publishing Industry Contribution to the Philippine Economy, 1991-2009

Indicator	1991-1995	1996-2000	2001-2005	2006	2007	2008	2009	2006-2009
Printing & Publishing GVA (in constant 1985 PHP billions)	2.93	3.09	3.34	3.29	3.36	3.12	3.02	3.20
Manufacturing GVA (in constant 1985 PHP billions)	187.60	224.27	266.37	305.66	315.71	329.01	314.40	316.20
GDP (in constant 1985 PHP billions)	747.64	904.28	1,094.99	1,276.87	1,368.41	1,417.09	1,432.12	1,373.68
GNP (in constant 1985 PHP billions)	762.75	951.31	1,182.15	1,392.01	1,502.81	1,591.11	1,654.94	1,535.22
Printing & Publishing GVA Growth (%)	1.05	-0.69	2.87	-2.14	2.01	-7.00	-3.27	-2.71
Manufacturing GVA Growth (%)	2.70	3.17	3.34	4.20	3.29	4.21	-4.44	1.82
GDP Growth (%)	2.88	3.96	4.49	5.40	7.19	3.54	1.06	4.30
GNP Growth (%)	3.45	4.74	4.94	5.45	7.96	5.88	4.01	5.83
Printing & Publishing Share to Manufacturing (%)	1.56	1.38	1.25	1.08	1.06	0.95	0.96	1.01

Printing & Publishing Share to GDP (%)	0.39	0.34	0.30	0.26	0.25	0.22	0.21	0.24
Printing & Publishing Share to GNP (%)	0.38	0.33	0.28	0.24	0.22	0.20	0.18	0.21

Source: 2010 Philippine Statistical Yearbook, NSCB

Note: 1991-1995, 1996-2000, 2001-2005 values are averages for the indicated years.

The improvement in the sector's performance in 2001 to 2005 - as evidenced by a 2.87% annual average rate of increase for the five-year period - was mostly accounted for by rising GVA levels in 2001 (PHP2.97 billion) to 2004 (PHP3.76 billion); thus off-setting the more than ten percent decline in gross value added in 2005 (PHP3.36 billion). The succeeding years, however, witnessed frequent contractions in the printing and publishing GVA levels recorded at 2.14% in 2006 (from 2005's PHP3.4 billion to 2006's PHP3.3 billion), 7% in 2008 (from 2007's PHP 3.4 billion to 2008's PHP3.1 billion) and 3.27% in 2009 (from PHP2008's PHP3.1 billion to 2009's PHP3 billion); thus, shrinking the industry's output by an annual average rate of 2.71% during the four-year period (refer to Table 3).

Tullao & Habaradas (2001), in their in-depth study of the Philippine printing and publishing industry, identified "the lack of formal training of managerial and technical personnel and inadequate investment in new technology" (p.14), which determines the quality of the sector's products, as among the major factors that hinder its growth. Consequently, combined with greater competition among local printers and publishers as well as foreign providers of printing and publishing products and services, the onset of and the relatively prolonged effects of the global financial crisis in 2007 to 2009, high production costs and, thus, declining marginal profits, the gross value added of the Philippine printing and publishing sector shrank in 2006, 2008 and 2009.

Table 4: Printing and Publishing Industry Trade Values (in US\$), 2009

Products	Exports	Imports	Net Exports
Printed books, brochures, leaflets and similar printed matter, whether or not in single sheets	1,841,933	52,762,065	-50,920,132
Newspapers, journals and periodicals, whether or not illustrated or containing advertising material	194,635	1,886,581	-1,691,946
Children's picture, drawing or colouring books	2,789	86,929	-84,140
Music, printed or in manuscript, whether or not bound	-	838	-838
Maps and hydrographic and similar charts of all kinds, including atlases, wall maps, topographical plans and globes, printed	-	165,309	-165,309
Plans and drawings for architectural, engineering, industrial, commercial, topographical or similar purposes, being originals drawn by hand; handwritten texts, photographic reproductions or sensitised paper and carbon copies of the foregoing	-	28,421	-28,421
Unused postage, revenue or similar stamps of current or new issue in the country in which they have, or will have, a recognized face value; stamp-impressed paper; banknotes; cheque forms; share or bond certificates	1,942,947	27,521,877	-25,578,930
Transfer (decalcomanias)		1,067,710	-1,067,710
Printed or illustrated postcards; printed cards bearing personal greetings, messages or announcements, whether or not illustrated, with or without envelopes or trimmings	836,118	177,966	658,152
Calendars of any kind, printed, including calendar blocks	67,243	303,107	-235,864
Other printed matter, including printed pictures and photographs	5,327,521	10,496,093	-5,168,572
Total	10,213,186	94,496,896	-84,283,710

Source: 2009 Foreign Trade Statistics Imports, Volume I, NSO

Trade in printing and publishing products and services reinforce the conclusion of Tullao & Habaradas (2001) that the local industry predominantly serves the domestic market. In 2009, for instance, the industry posted a trade deficit of US\$84,283,710 (refer to Table 4). Imports were more than nine times that of exports – US\$94.5 billion versus US\$10.2 billion; thereby posing strong competition, specifically for local producers of printed books, brochures, leaflets and similar printed matter, whether or not in single sheets, unused postage and other printed matter, including printed pictures and photographs - which accounted for more than 55.83% of Philippine printing and publishing imports during the year, unused postage (29.12% share) and other printed matter (11.11% share). Majority of these printed products was sourced from the United States, Singapore, France, Hong Kong and China. Note that the industry consistently suffered a trade deficit for all product items (refer to Table 4); thus, implying very strong competition in the local and global markets.

In terms of exports, more than half of the sector's foreign sales (52.16% of US\$10.2 million) stemmed from the other printed matter including printed pictures and photographs sub-sector. Tullao & Habaradas (2001) claim that the relatively large Filipino communities abroad accounted for the considerable demand for these printed materials in major foreign-markets in 2009, which included Saudi Arabia (US\$3 million), China (US\$0.30 million), and the United States (US\$0.23 million).

1.4.Sector Profile

1.4.1. Regional Distribution/Concentration of Enterprises

Printing and Publishing

According to the results of the National Statistics Office's (NSO) 2003 and 2005 Annual Survey of Philippine Business and Industry (ASPBI), the number of printing and publishing producers with twenty or more average total employees rose from 329 to 392 or a rate of increase of 19.15% (refer to Table5). Employment, however, went up at a slower rate of 2.17% during the same time period from 2003's 20,053 to 2005's 20,489 (refer to Table5).

Table 5: Establishments with Twenty or More Average Total Employees in the Printing and Publishing Industry Number of Establishments and Employment Level by Region, 2003 and 2005

REGION	No. of Establishments		Employment	
	2003	2005	2003	2005
PHILIPPINES	329*	392*	20,053*	20,489*
NATIONAL CAPITAL REGION (NCR)	250	299	15,709	16,306
CORDILLERA ADMINISTRATIVE REGION (CAR)	4	3	117	77
REGION III - CENTRAL LUZON	5	10	135	205
REGION IVA - CALABARZON	17	15	1,776	927
REGION V - BICOL	-	3	-	129
REGION VI - WESTERN VISAYAS	8	9	242	249
REGION VII - CENTRAL VISAYAS	18	20	772	946
REGION X - NORTHERN MINDANAO	3	4	78	119
REGION XI - DAVAO	12	14	765	962
REGION XII - SOCCSKARGEN	3	4	198	213

Source: 2003 and 2005 Annual Survey of Philippine Business and Industry, NSO

*Sum of the regional statistics may differ from the overall statistics reported owing to suppressed data.

In addition, the data gathering efforts of the NSO also revealed that - in 2005, with the addition of three printing and publishing establishments in Bicol, businesses belonging to the sector were located in ten out of the Philippines' sixteen regions. Majority of them, however, were concentrated in the National Capital Region (76%), Central Visayas (5%) and CALABARZON (average of about 4% for the two years). Correspondingly, about 79% of the total number of laborers who worked in printing and publishing firms with twenty or more average total employees was employed by firms located in the National Capital Region in 2003 and 2005 (refer to Table 5).

Digital Animation

Interviews conducted revealed that the industry is comprised of mostly small- and medium-scale enterprises. Firms engaged in animation services are located in the three major regions of the Philippines: Luzon, Visayas and Mindanao. Majority, however, particularly large players, are mostly based in the National Capital Region. The Animation Council of the Philippines, Inc. puts the number of establishments that comprise the industry about fifty to one hundred studios and companies.

Notable in the regional distribution of firms belonging to the printing and publishing and digital animation industries is that a significant number of them are located in the National Capital Region (NCR). Theories and empirical studies explain the behavior in terms of market and cost realities in urban areas. In 2007 to 2009, for instance, NCR accounted for significant shares of the Philippines' gross domestic product - an average of 32.7% per year; personal consumption expenditure - an average 28.6% per year; government expenditure - an average of 41.7% per year; and gross capital formation - an average of 55.1% per year. It was also the home of an estimated 13% of the Philippines' 89 million population in 2007; growing at a faster rate of 2.11% annually relative to the Philippines 2.04% population rate of increase. Accordingly, NCR offers a larger market, a higher quality and more extensive network of functional infrastructure (i.e., roads, ports,

public transportation, utilities, communication facilities, educational institutions, etc.), and complementary good and services industries relative to the other regions of the country.

In addition to the benefits clearly offered by NCR's considerable household, firm and government expenditures, Ebert & McMillen (1999) also claim that the availability of supporting and complementary industries can reduce the cost of operation (Ebert & McMillen, 1999) of firms and are, therefore, critical to their success.

1.4.2. Industry Structure and Performance

Printing and Publishing

The printing and publishing industry of the Philippines is comprised of primarily small-scale enterprises that employed less than 20 workers – 78% in 2006 and 74% in 2008.

In 2008, the National Statistics Office reported a 15.1% drop - from 1,344 enterprises in 2006 to 1,141 in 2008 - in the total number of establishments that made up the Philippine printing and publishing industry. Table 6 clearly illustrates that although both the number of small (less than 20 employees) and large (more than 20 employees) printing and publishing firms fell during the period, the former's drop was steeper at 23.93% - from 1,046 in 2006 to 844 in 2008 – relative to the latter's 0.67% reduction – from 298 in 2006 to 296 in 2008.

Consequently, overall employment in the sector suffered a similar decrease - 4.1%, from 27,599 in 2006 to 26,382 in 2008. Similar to the case of the number of establishments, the reduction in total employment was monopolized by establishments with less than 20 employees at 31.31%, from 2006's 9,507 to 2008's 6,625. Firms in the printing and publishing sector employing more than 20 workers reported higher employment levels at 19,864 in 2008 relative to 2006's 18,092 – or a growth rate of 9.79% (refer to Table 6).

Table6: Printing and Publishing Industry Number of Establishments and Employment Level by Type of Establishment, 2006 and 2008

Type of Establishment	No. of Establishments		Employment Level	
	2006	2008	2006	2008
Employing Less than 20	1,046	844	9,507	6,625
Employing 20 and over	298	296	18,092	19,864
Philippines	1,344	1,141	27,599	26,382

Source: 2006 and 2008 Annual Survey of Philippine Business and Industry, NSO

*Sum of the regional statistics may differ from the overall statistics reported owing to suppressed data.

Despite the reduction in the overall total number of establishments and total employment, variables pertaining to output, revenue, investment and cost - except for capital expenditure of firms with less than 20 employees - registered an upward trend in 2008 for printing and publishing establishments regardless of size (refer to Table7). In addition, rates of increases indicate that relative to small (less than 20 employees) printing and publishing enterprises, larger service providers (more than 20 employees) benefited the most from the more lucrative business transactions in 2008.

Table7: Printing and Publishing Industry Statistics by Type of Establishment (in current PHP million), 2006 and 2008

Region	Value of Output		Total Revenue		Total Cost		Capital Expenditures	
	2006	2008	2006	2008	2006	2008	2006	2008
Employing Less than 20	4,016	4,347	3,957	4,252	3,440	4,098	105	91
Employing 20 and over	22,824	26,865	23,148	26,695	19,981	23,358	362	586
Philippines	26,840	31,308	27,104	31,046	23,421	27,553	467	680

Source: 2006 and 2008 Annual Survey of Philippine Business and Industry, NSO

*Sum of the regional statistics may differ from the overall statistics reported owing to suppressed data.

In terms of value of output, for example, small printing and publishing enterprises achieved an 8.24% boost from PHP4 billion in 2006 to PHP4.4 billion. Their larger counterparts, on the other hand, generally enjoyed a 17.71% growth in the value of output – from 2006’s PHP22.8 billion to 2008’s PHP26.9 billion (refer to Table7). The same pattern can be observed in the values reported for total revenue – 7.46% increase for small firms versus 15.32% for larger enterprises and cost - 19.13% rise in small enterprises as compared to 16.91% in larger service providers. It is, thus, not surprising that larger establishments posted a faster growth in profit 5.33% relative to a decline of 70.21% in

small enterprises. Accordingly, larger firms had a greater incentive to invest in capital – up by 61.88% from PHP362 million in 2006 to PHP586 million. Establishments with less than 20 employees reduced their capital expenditures to PHP91 million in 2008 from 2006's PHP105 million or -13.33% drop (refer to Table7).

Table8: Printing and Publishing Industry Return on Investment (in current PHP) by Type of Establishment, 2006 and 2008

Type of Establishment	Return on Investment Based on Total Revenue		Return on Investment Based on Profit	
	2006	2008	2006	2008
Employing Less than 20	37.69	46.72	4.92	1.67
Employing More than 20	63.89	45.52	8.74	5.67
Philippines	58.00	45.66	7.88	5.14

Values are generated from the statistics published in the NSO's 2006 and 2008 Annual Survey of Philippine Business and Industry.

Deriving the overall returns on investment (ROIs) based on total revenue and profit for both types of establishments in the printing and publishing industry in 2006 and 2008 revealed that overall ROIs suffered a decline of 27.28% and 34.78%, respectively – from PHP58 for every PHP1 investment in capital in 2006 to PHP45.66 in 2008 for ROI based on income and from PHP7.88 for every PHP1 investment in capital in 2006 to PHP5.14 in 2008 (refer to Table8).

Small firms, however registered a positive rate of change in the ROI based on total revenue of 23.96% - from PHP37.69 in 2006 to PHP46.92 but a drop of 66.06% in the ROI based on profit - from PHP4.92 in 2006 to PHP1.67 in 2008 for every PHP1 investment in capital; implying that for printing and publishing enterprises employing less than 20 workers, higher revenues earned in 2006 to 2008 required incurring additional costs that were significantly greater. Labor costs, in particular, would rise considerably especially if workers were required to work longer hours (i.e., overtime) in order to cope with the higher demand for printing and publishing services. More paper and paper products and power would also be required as output level increased. For establishments employing less than

20 workers in the printing and publishing industry, therefore, the gap in ROI values in 2003 and 2005 is explained by a higher marginal cost relative to marginal revenue.

Both of the larger service providers' ROIs, on the other hand, posted negative rates of change of 28.75% (based on total revenue) and 35.13% (based on profit) during the same period. Apparent in the data is that the larger investments made in 2005 did not generate at least equal amounts of corresponding revenues during the same year. Expansions, particularly in the form of additional physical capital, may not immediately bring in added revenues and profits. Lag times are commonplace owing to delays encountered in integrating the new equipment in the production process, hiring more workers – if necessary, seeking out new customers, etc. In the case of the publishing and printing industry, particularly the key players, investments in new capital also go into launching new products and services, which also require time before revenues and profits are earned. The most likely explanation for the difference in ROI values in 2003 and 2005, however, is the slowdown in the market itself. The year 2004 was an election year, which explains the greater demand for printed materials in 2003 and the relatively lower one in 2005.

Table9: Printing and Publishing Import Levels and Sub-sector Shares to Total Printing and Publishing Import Level, 2007

Commodity	Value of Imports (inUS\$)	Share to Total Printing and Publishing Imports
Printed books, brochures, leaflets and similar printed matter, whether or not in single sheets	52,762,065	55.8347
Newspapers, journals and periodicals, whether or not illustrated or containing advertising material	1,886,581	1.9964
Children's picture, drawing or colouring books	86,929	0.0920
Music, printed or in manuscript, whether or not bound	838	0.0009
Maps and hydrographic and similar charts of all kinds, including atlases, wall maps, topographical plans and globes, printed	165,309	0.1749
Plans and drawings for architectural, engineering, industrial, commercial, topographical or similar purposes, being originals drawn by hand; handwritten texts, photographic reproductions or sensitised paper and carbon copies of the foregoing	28,421	0.0301
Unused postage, revenue or similar stamps of current or new issue in the country in which they have, or will have, a recognized face value; stamp-impressed paper; banknotes; cheque forms; share or bond certificates	27,521,877	29.1246
Transfer (decalcomanias)	1,067,710	1.1299
Printed or illustrated postcards; printed cards bearing personal greetings, messages or announcements, whether or not illustrated, with or without envelopes or trimmings	177,966	0.1883
Calendars of any kind, printed, including calendar blocks	303,107	0.3208
Other printed matter, including printed pictures and photographs	10,496,093	11.1073
Total Printing and Publishing Import Level	94,496,896	100.0

Source: 2009 Foreign Trade Statistics Imports, Volume I, NSO

Moreover, revenue and profit generation within the printing and publishing industry are significantly affected by competition among local and foreign publishers, particularly in the book publishing sub-sector. Foreign book publishers, according to Tullao & Habaradas (2001), enter the Philippine market by directly selling to major bookstores, using an agent to introduce their books to local retailers, forming partnerships with booksellers who can import foreign books upon the request of clients, and granting reprint rights to local booksellers.

Indeed, printed books, brochures, leaflets and similar printed matter whether or not in single sheet accounted for more than half, 55.83% or US\$52.8 million, of the industry's 2009 US\$94.5 million total imports (refer to Table 9). As mentioned in the discussion in the section on Contribution to the Economy, the top three countries from which these materials originated were the United States (US\$23.1 million), Singapore (US\$10.8 million) and Hong Kong (US\$5.5 million).

Similarly, the unused postage (29.12% of total imports, US\$27.5 million) and other printed matter including printed pictures and photographs (11.11% of total imports, US\$10.5 million) sub-sectors face strong rivalry not only from local but also foreign printers, specifically from France (US\$9.81 million) and the United Kingdom (US\$9.3 million) and China (US\$0.88 million) and Hong Kong (US\$0.25 million), respectively. Competition in the printing and publishing industry, similar to other sectors, are based on price and quality. While a highly trained workforce, investment in technology and product and service diversity, particularly in large-scale enterprises, strengthen the ability of local players to compete; higher production costs in the Philippines - owing to more expensive paper and paper products, power and transportation - puts local providers at a disadvantage.

Digital Animation

The Philippine animation sector is considered to be part of a larger industry called Business Process Outsourcing (BPO), which is divided into: contact/call centers, back office services, data transcription, animation, software development, engineering

development and game development (Senate Economic Planning Office, 2010). In 2008, BPO companies numbered 618 with the largest percentage shares reported for contact centers at 31% or 191 companies, data transcription at 22% or 135 companies, and information technology and software development at 19% or 119 companies. Animation accounted for 8% (49 companies) of the total number of BPO establishments in 2008. It was the second smallest sector in the industry –engineering services firms was the smallest at 7% (43) of the total number of BPO establishments, reported during the same year (Senate Economic Planning Office, 2010).

In the Philippines, according to PEARL2 (2008), enterprises involved in animation work fall into two general categories: 1) service providers – mostly local firms with foreign affiliations that are engaged in animation services for use in entertainment, business, and education; and 2) local subcontractors – commissioned to work on segments of an animation series; freelancers dominate in this type of animation service. Local animation industry participants offer a wide range of services beginning with storyboarding in the pre-production stage to dubbing in post-production. Unlike in China, India, South Korea, and Malaysia, however, there are “virtually no commercial animator producer” (PEARL2, 2008) in the country. Interviews with industry stakeholders confirm that one of these few companies that work on original content is Top Peg Animation and Creative Studio, Inc.

Table 10 presents data on the BPO’s and animation industry’s revenues from 2004 to 2008. The animation sector’s income initially accounted for 3.53% of the Business Process Outsourcing’s US\$1.48 billion earnings in 2004. The former’s share slowly tapered off to 1.98% of the BPO’s US\$6.1 billion proceeds in 2008. Although both sectors’ revenues went up significantly, particularly in 2005, during the five-year period, the animation industry’s growth rates remained below the BPO’s annual rate of increase – average of 23.98% per year from 2004 to 2008 for animation versus 43.32% per year from 2004 to 2008 for BPO (refer to Table 10). The gap between the two widened from 2007 to 2008; hence the smaller share of animation to BPO revenues in 2008.

Table 10: Animation Industry Revenues, 2004-2008

Description	2004	2005	2006	2007	2008	Average
Animation Industry						
Level (in current US\$ millions)	52	74	97	105	120	89.6
Growth Rate (%)	-	42.31	31.08	8.25	14.29	23.98
Share to BPO Total Revenue (%)	3.53	3.06	2.98	2.15	1.98	2.74
Business Process Outsourcing						
Level (in current US\$ millions)	1,475	2,420	3,257	4,875	6,061	3,617.6
Growth Rate (%)	-	64.68	34.59	49.68	24.33	43.32

Source: Business Process Outsourcing Association of the Philippines (BPAP) as cited by the Senate Economic Planning Office (2010)

Share to BPO and growth rates were derived from the BPAP figures.

World demand for animation output, particularly for entertainment purposes (films, commercials, etc.), was placed at US\$80 billion in 2010 (WTC, 2008); thus creating a lucrative market for animation services, and, in turn, service providers (i.e., artists). Competition for subcontracted animation services, however, is fierce among the major players in the region, namely: Singapore, South Korea, Philippines, India, and China.

Studies and interviews argue that rivals in Singapore, South Korea and China, specifically, are strongly backed by their respective governments through co-production programs, tax incentives and domestic market penetration policies (Fei, 2008; Young, 2008 and Seah, 2008), which gives them an edge in securing projects in the domestic and international markets. Since the industry's products and services, particularly for subcontracted work, are relatively homogenous, Philippine animation firms lose out to rivals in countries like India and China that perform the same tasks, for less pay (Tschang & Goldstein, 2004).

It is, therefore, critical that the local industry differentiate its products and services from its competitors in order to establish a niche and increase market share. Continuous upgrading of equipment, training of artists and technical workers, and climbing the value chain – which for the Philippines means developing original ideas for animated series and films that will cater to the tastes and preferences of the world market –as well as greater government support are avenues that can be explored to achieve these goals.

1.4.3. Employment and Wages

Printing and Publishing

Establishments with twenty or more average total workers in the printing and publishing industry employed 20,053 and 20,489 workers in 2003 and 2005 (refer to Table 11), respectively, posting a rate of increase of 2.17% during the period. Printing and publishing industry laborers, similar to the number of establishments in the sector, were concentrated in the National Capital Region - accounting for 78.34% and 79.58% of total industry employment in 2003 and 2005, respectively.

Table 11: Establishments with Twenty or More Average Total Employees in the Printing and Publishing Labor Statistics by Region, 2003 and 2005

Region	Total Employment		Paid Employees		Unpaid Employees		Total Compensation (in million current PHP)	
	2003	2005	2003	2005	2003	2005	2003	2005
NCR	15,709	16,306	15,696	16,172	13	135	2,561	2,714
CAR	117	77	112	77	5	0	14	10
REGION III	135	205	120	183	15	23	8	10
REGION IVA	1,776	927	1,776	918	0	9	102	102
REGION V	-	129	-	129	-	0	-	8
REGION VI	242	249	240	241	2	8	18	18
REGION VII	772	946	772	932	0	14	78	105
REGION X	78	119	78	119	0	0	5	8
REGION XI	765	762	765	756	0	5	53	68
REGION XII	198	213	198	210	0	3	13	15
Philippines	20,053*	20,489*	20,015*	20,283*	38*	207*	2,878*	3,147*

Source: 2003 and 2005 Annual Survey of Philippine Business and Industry, NSO

*Sum of the regional statistics may differ from the overall statistics reported owing to suppressed data.

Regions where the growth of employment in printing and publishing firms were the fastest in 2003 and 2005 included Region X (52.56%), Region III (51.85%), Region XI (25.75%), and Region VII (22.54%), which can be explained by expansions in the number of establishments (refer to Table5). The total number of laborers working in the industry, on the other hand, shrank in Region IVA (47.80%) and CAR (34.19%) (refer to Table5). Correspondingly, the more than one-third reduction in the Cordillera Administrative

Region's printing and publishing establishments' level of employment can be accounted for by firms leaving the industry in 2005 (refer to Table5).

Unpaid workers in the industry accounted for 0.19% and 1.01% of total printing and publishing sector employment in 2003 and 2005, respectively. Regions with the highest share of unpaid laborers in 2003 were: Region III (11.11%), CAR (4.27%), Region VI (0.83%), and NCR (0.08%). In 2005, except for the Cordillera Administrative Region, all the previously reported shares of unpaid workers to total printing and publishing industry employment rose considerably - 11.22% in Region III, 3.21% in Region VI, and 0.83% in NCR. Additional regions that also reported climbing shares of unpaid workers to total employment were Region VII (1.48%), Region XII (1.41%), Region IVA (0.97%), and Region XI (0.52%).

In the Philippines, unpaid workers are normally members of the family (spouses and children) who are called upon to perform a variety of business-related tasks (i.e., attend to customer queries, orders and concerns) for which remuneration may be in kind – for example, food and shelter.

Lastly, on the national level, total compensation in the industry swelled by 9.35% from 2003's PHP2.9 billion to PHP3.2 billion in 2005 (refer to Table 11). Printing and publishing laborers in Region X enjoyed the largest upswing in total compensation at 60%; Region VII and Region XI were distant second and third from the top at a 34.62% at 28.3%, respectively.

Table 12: Selected Printing and Publishing Industry Personnel Average Monthly Wage Rates (in current PHP), 2004, 2006 and 2008

Occupation	2004	2006	2008	Average Growth (%)
Production Supervisors & General Foremen	14,566	13,387	17,403	11.00
Mechanical Engineers	14,175	19,753	17,004	12.72
Journalists & Other Writers	n.d.	n.d.	17,629	-
Accounting & Bookkeeping Clerks	10,355	10,700	12,277	5.71
Proofreaders and Copywriters	n.d.	n.d.	14,228	-
Compositors, Typesetters & Related Workers	11,486	11,128	10,525	-4.27
Stereotypers & Electrotypers	12,167	9,959	11,065	-3.52
Printing Engravers & Etchers	10,819	12,569	12,312	7.07
Bookbinders & Related Workers	7,834	9,787	10,649	16.87
Pressman Letterpress and Related Workers	9,622	9,747	8,943	-3.48
Unskilled Workers, except Janitors, Messengers & Freight Handlers	7,515	8,919	10,389	17.60

Source: 2010 Philippine Statistical Yearbook, NSO
 2008 Philippine Statistical Yearbook, NSO
 2006 Philippine Statistical Yearbook, NSO

Based on Table 12, majority of the average monthly wage rates of selected occupations in the printing and publishing industry consistently grew in 2004, 2006, and 2008 - accounting and bookkeeping clerks with an average rate of increase of 5.71%, bookbinders and related workers, 16.87%, and unskilled workers, except janitors, messengers and freight handlers, 17.6%. Except for compositors, typesetters and related workers, which steadily declined at an average rate of 4.27%, the rest exhibited a volatility that did not necessarily result in levels of average monthly wage rates that were lower in 2008 relative to 2004. In 2004 production supervisors and general foremen, for instance, reported an average monthly wage of PHP14,566. It fell to an average monthly wage of PHP13,387 in 2006 and climbed to an average monthly wage of PHP17,403 - thus, posting an 11% growth rate. The variations in wages across occupations were determined by the demand for the industry's products and services as well as the availability of required skills, which in the Philippines may be hampered by the "lack of formal education and training on the managerial and technical aspects of printing and publishing" (Tullao & Habaradas, 2001, p.15).

Digital Animation

Employment in the Philippine animation sector accounted for an average of 2.6% per year of the BPO workforce from 2004 to 2008 (refer to Table 13). Similar to the BPO employment levels, the animation sector workforce posted positive rates of change during the 5-year period - an annual average rate of increase of 29.10% per year from 2004's 3,000 workers to 2008's 8,000 workers. Employment level peaked in 2005 with a 50% jump – from 3,000 workers in 2004 to 4,500 workers in 2005, which was unmatched by succeeding years' employment level rates of change (refer to Table 13).

Table 13: Animation Industry Employment Level, 2004-2008

Description	2004	2005	2006	2007	2008	Average
Animation Industry						
Level	3,000	4,500	6,500	7,000	8,000	5,800
Growth Rate (%)	-	50.00	44.44	7.69	14.27	29.10
Share to BPO Employment (%)	2.99	2.77	2.76	2.34	2.15	2.60
Business Process Outsourcing						
Level	100,500	163,250	235,575	298,953	371,965	234,049
Growth Rate (%)	-	62.44	44.30	83.13	24.42	53.57

Source: Business Process Outsourcing Association of the Philippines (BPAP) as cited by the Senate Economic Planning Office (2010)

Share to BPO and growth rates were derived from the BPAP figures.

The animation sector's employment level growth rates, however, pale in comparison with the swell in the BPO sector's labor force – an average of 62.44% increase per year from 2005's 100,500 to 2006's 371,965 workers (refer to Table 13). Consequently, the share of animation employment to BPO workforce has been steadily declining – from 2.99% in 2004 to 2.15% in 2008 - during the five-year period.

Competition for animation artists is fierce not only in the domestic but, especially, in the international market. Whereas local firms in the 1980s conducted intensive in-house training, Tschang & Goldstein (2004) claim that hiring away animators who have already been trained and are ready to work is the more recent strategy employed by local and

international industry players. Consequently, some “[firms have] stop[ed] training animators” (Tschang & Goldstein, 2004, p.18).

Skilled and experienced personnel certainly have every incentive to look for greener pastures outside the domestic economy. In 2011, the reported median salary for a cartoonist/ animator in the United States is US\$46,775 per year or PHP2,011,325². For the same year, senior 2D artists in the Philippines received salaries that ranged from PHP25,000 to PHP40,000 (<http://job-search.jobstreet.com.ph/philippines/animator-jobs/>) per month or PHP300,000 to PHP480,000 a year. The average wages of selected animation and animation-related personnel in 2008 are listed in Table 14. Art directors were the highest paid personnel in the industry per NSO’s database. They nonetheless still received only 20% of what animators in the US earned in 2011.

Table 14: Selected Animated Films and Cartoons Production Industry Personnel Average Monthly Wage Rates (in current PHP), 2008

Occupation	2008
Multi-Media Artists & Animators	15,420
Art Directors	34,211
Film & Video Editors	13,946
Graphic Designers	12,830
Accounting & Bookkeeping Clerks	13,308
Unskilled Workers, except Janitors, Messengers & Freight Handlers	9,720

Source: 2010 Philippine Statistical Yearbook, NSO

In addition to the difficulty of keeping skilled and experienced personnel, the industry is also hard pressed in finding workers who acquired training in the use of new and emerging animation technology. In particular, the high-end 3D animation is an important technology/skill for local animators to master and extensively utilize if the Philippines is going to be successful in attracting a larger share of the world animation market.

²Computed at PHP43 for every US\$1.

2. Reinventing the Printing and Publishing Industry: Digital Publication

One of the most important technological developments of the 20th century is the introduction and the evolution of the internet as a tool for communication and dissemination of information. Presently, a person spends on average of 11 hours and 24 minutes online per month. The internet is mainly used to send e-mails, news and weather, information search, surfing, research, or instant messaging (Pew Internet and American Life Project as cited in Sharma, n.d.).

Accordingly, there has been a dramatic increase in the demand for digital content and, thus, electronic publishing, which, for the most part, is provided free of charge. A closer look into the preferred sites and information accessed in the internet revealed that the five most popular electronic publishing content types included: 1) scientific, technical and medical (STM), which was identified as the fastest growing media sectors; 2) legal tax and regulatory (LTR); 3) education and training, wherein the internet serves as a source of materials used to facilitate class room teaching from kindergarten to college; 4) travel, the internet provides a convenient source of travel information as well as eases bookings through its online options; and 5) finance and market, the internet provides quick and easy access to databases, academic researches and local and global news, which are indispensable to decision-makers (Sharma, n.d.).

In the United States, free on-line content has resulted in falling newspaper circulation – recorded at 5% from April to May 2010 (Zacks Investments, 2011) – and, thus, aggravating the concern over tumbling advertising revenues – estimated at 5.4% from July to September of 2010. On-line advertising revenues, on the other hand, steadily increased from 13.9% during the second quarter of 2010 to 10.7% in the third-quarter of 2010. Zacks Investments (2011) claim that “advertisers are migrating to the Internet driven by increasing online readership and lower advertising prices online than print”.

US key players are striving to cope with the present-day realities by downsizing and, therefore, cutting costs (i.e., reducing the workforce and closing printing facilities), exploring new markets (i.e., younger demographics and higher-income households who

require varied web and print services requirements), and contemplating the possibility of “charging readers for online content” (Zacks Investment, 2011). The pay and read model pioneered by leading business newspapers like The Financial Times and The Wall Street Journal, which employs a metered system “where readers after browsing a certain number of free articles, are being asked to subscribe” (Zacks Investment, 2011), has inspired various newspapers like The New York Times to do the same.

The Philippine printing and publishing industry is no stranger to offering digital services. In the newspapers and magazines sub-sector, for example, The Philippine Daily Inquirer and Summit Publishing Company, Inc., provide customers on-line access to their printed materials. Similarly, Vibal Publishing, a key player in the publishing and printing sub-sector, complements the textbook publication and on-line publishing product line services with a website for parents to promote e-learning.

In fact, given the high printing and publishing costs in the country (i.e., paper and paper products, chemical and chemical products, and power), digital publishing/e-publishing holds a more promising future for local industry participants. The demand for digital materials (i.e., books) is fueled by the accessibility and widespread use of the internet and the availability of gadgets that facilitate their use (i.e., computers, mobile phones, and e-book readers).

In this regard, the future of publishing, particularly in terms of building an AEC Global Service Hub, lies in digital publication. Accordingly, the succeeding sections for the printing and publishing sector analysis focus on digital publishing, also known as electronic publication.

2.1. Industry Definition

According to Grolier Electronic Publishing (1995), electronic publishing - also known as e-publishing and digital publishing – “refers more precisely to the storage retrieval of information through electronic communications media” (Grolier Electronic Publishing as cited in Mishra & Saxena, 2008, p.190). The process has been equated to the sum of electronic technology, computer technology, communication technology and publishing

(Saxena, 2009). Thus, fueled by the growing demand for fast and easy to access information and rapidly improving technology, particularly in the area of information and communication, e-publishing is currently utilized by all sectors of the world economy – firms, households and governments.

The literature identifies a number of different types of electronic publishing models: 1) electronic books, which is primarily conceived to meet the needs of the academic community, allows for “quick publishing and dissemination of information” (Saxena, 2009, p. 671). E-books, today, however, are no longer limited to encyclopedias, journals and textbooks. Virtually any traditionally printed book can have an electronic version; 2) electronic periodicals provide access to online reading materials (i.e., journals, magazines, newsletters, etc.) to all users anytime and anywhere; 3) electronic database refers to books, periodicals and reports, which are “converted to electronic form that allows access for public use through digital networks. The online electronic library card catalog (OPAC) shows how information could be published and that enables the user to search the document with various access points like author, title, subjects” (Saxena, 2009, p. 671); 4) electronic publishing on CD-ROM allows for more materials to be included, “both in terms of quantity and type” (Saxena, 2009, p.671); 5) print-on-demand (POD) is a hybrid of traditional and electronic publishing. Books are retained by publishers. Hard copies are made only when orders are received, which reduces the publishers’ costs (Saxena, 2009); 6) digital content publishers “deliver shorter sized works to the consumer via download to handheld and other wireless devices” (Saxena, 2009, p. 672); 7) electronic ink uses technology that allows materials (i.e., ads and newspapers) to self-update; 8) email publishing “is designed specifically for delivering regular content-based email messages. Email publishing, or newsletter publishing, is a popular choice among readers who enjoy the ease of receiving news items, articles and short newsletters in their email box” (Saxena, 2009, p. 672); and 9) web publishing is a widely used model today by many companies (through their websites) “to create content and data that is portable to other devices” (Saxena, 2009, p. 672).

2.2. On-line Publishing Value Chain

Traditional and on-line publishing share similar value chains; both aim “to generate, add value and deliver information or content to the final consumer or end-user of that content” (The Cultural Industries Growth Strategy, 1998). On-line publishing has three main revenue streams: 1) delivery infrastructure; 2) content; and 3) supporting products. The difference between traditional and on-line publishing is in the proximity between the service provider and the reader. On-line service providers, owing to the internet, have immediate access to a global customer base. Accordingly, Internet Service Providers who provide access to the network and charge subscription fees comprise the first stream of revenues in the value chain. Similar to traditional publishing, the second revenue stream focuses on individuals responsible for content such as writers, illustrators, designers and editors. On-line publishing, on the other hand, also requires professionals who can capture the content in digital form and publish the materials on websites for consumers to access through web-pages or through the intermediation of search engines or hypertext links (The Cultural Industries Growth Strategy, 1998). Revenues are then generated through subscription fees, as in the case of academic publications, and advertising. The providers of supporting products and services make up the final revenue stream. Access to the internet and, thus, on-line materials, necessitates the purchase of software (i.e., web browsers), hardware (i.e., e-readers, personal computers, mobile phones, etc.) and other products and services (i.e., network installation)

2.3. Industry Structure and Performance

The latest available data on book sales indicate that the revenues from electronic books were a small but a rapidly growing segment of the global publishing industry. According to the Association of American Publishers (AAP), e-book sales accounted for 3.64% of total US book sales in 2010, US\$441.3 million digital book sales versus US\$12.11 billion total US book sales (printed and e-books). Whereas US printed book sales went up by 3.6% in 2010 – from US\$11.25 billion in 2009 to US\$11.67 billion in 2010, e-book sales

more than doubled from US\$18.7 million in 2009 to US\$49.5 million in 2010 (Soares, 2011).

In particular, Reynolds & Ioffe (2010) determined that about 1% of US textbook sales were accounted for by digital books in 2010. While relatively low at present, their five-year projection show that the share of digital textbook sales can go up to 18.8% in 2014 owing to: 1) competitive pricing; 2) availability; 3) advances in technology; 4) integration of textbook/instruction with student outcomes; 5) viability and popularity of online learning; and 6) expansion in scope and use of open educational resources. Moreover, technological developments, especially in the field of consumer electronics, which are also gaining ground in terms of use in the educational institutions, enhance the opportunities in digital publishing.

There are, therefore, indications that support the claim that the growth of digital publishing and internet companies are achieved at the expense of traditional bookstores, especially in the US textbook sub-sector. Overall, however, it could also be argued that online bookstores serve as a marketing tool, which boosts the sale of published materials, particularly new authors and back list books. In fact, some e-book sales are prompted by customers owning the traditional published versions or owning the electronically published version encourages the user to buy the traditionally published counterpart. The above data, in fact, can be interpreted that despite the rapid increase in electronic books sales, there was little change in the total printed books – 2010's US\$11.67 billion relative to 2009's US\$11.25 billion (Soares, 2010). Undoubtedly, the signs are pointing to significant changes in global publishing industry in the near future. For now, however, the demand for traditional books – based on US data - remains strong.

2.4. Can the AEC be a Global Service Hub in Digital Publishing?

Although electronic publishing is but an emerging industry in the Philippines, within the ASEAN region, Singapore has a well-developed, competitive and steadily growing interactive digital media (IDM), for which digital publishing is a sub-sector. In general, Singapore's IDM sector posted double-digit compounded annual average growth rates in

the number of establishments (14%), employment (22%), value added (26%) and revenue (22%) for 2007 to 2010 (Deloitte, 2012). The Singapore IDM sector is composed of three sub-sectors: 1) firms involved in “creating, publishing, production, display, and distribution of IDM-related content” (Deloitte, 2012); 2) related industries engaged in production, manufacture, and sale of devices and equipment that enable consumers to access to IDM products and services; and 3) enterprises “that are involved in the development and purchase of IDM-related services” (Deloitte, 2012).

In particular, the rich media and publishing sub-sector is engaged in the following services: interactive television and film, interactive publishing services, interactive online media, web 2.0 services and interactive learning media. In 2010, the sub-sector contributed reported a \$463 million value added, an employment level of 4,080, and the participation of 280 enterprises (Deloitte, 2012). Moreover, according to Deloitte (2012), an estimated 66% of the firms that make-up Singapore’s IDM industry is of local origin.

According to the Deloitte (2012) study, the critical success factors of the enterprises comprising Singapore’s IDM sector are: 1) “increasing adoption of applications that are provided by Singaporean IDM companies to key players, such as Singtel, StarHub, Maxis, and TelkomSel”; 2) the attractiveness of the industry to foreign investors owing to the soundness, dynamism and future profitability of Singapore’s IDM industry; 3) the availability of talent and expertise, both local and foreign, in Singapore, which are essential inputs to all aspects of the IDM industry; and 4) increasing global reach, which is manifested through the “expanding []international presence” (Deloitte, 2012) of Singapore-based companies.

Finally, global players are recognizing Singapore’s potential as a means to reach the vast market in the Asia-Pacific region. Amazon, for example, is now hosting services in a data center in Singapore – formerly, Amazon Web Services were only available from data centers in the US and Europe. Amazon’s decision opens new possibilities for sub-sectors in the interactive digital media to expand their respective customer bases and innovate. Indigames, in fact, has already signified their intent “to launch a Facebook game based on

the Indian Premier League (IPL), an extremely popular cricket league in India and around the world” (www.datacenterknowledge.com/).

3. Key Players

Printing and Publishing

Seventy-three companies that belong to eight sub-sectors of the Philippine printing and publishing industry were ranked as among the Philippines’ Top 8000 Corporations in 2009. The Philippine Profiles and Perspectives, Inc. used gross revenue as a criterion in choosing the aforementioned establishments. Selected financial data are presented below for each sub-sector with key players that are involved digital publishing.

The five key enterprises in the publishing of newspapers, journals and periodicals sub-sector, which accounted for 17.81% - 13 out of 73 printing and publishing establishments - of all firms in the printing and publishing industry that were included in the 2009 top 8000 corporations are listed in Table 15. The sub-sector has the one of the highest return to equity among all the printing and publishing companies included in the Philippines’ top performing corporations; ranging from PHP0.15 net income for every PHP1 equity to PHP0.92 net income for every PHP1 equity in 2008 and 2009 (refer to Table 15).

Key players like The Philippine Daily Inquirer offer on-line access to newspapers and magazines (including archives) in addition to the sale of printed newspapers. Summit Publishing Company, Inc. – ranked number 2 in the sub-sector - is one of the leading magazine publishers in the country with more than twenty titles that caters to the different segments of Philippine society. In addition, Summit Publishing Company, Inc. offers digital media, outside-of-the-home media and consumer events services.

Table 15: Key Players in the Publishing of Newspapers, Journals and Periodicals Sub-sector, 2008-2009

Company Name	Rank		Gross Revenues (in current PHP million)		Net Income (in current PHP million)		Return on Equity	
	2008	2009	2008	2009	2008	2009	2008	2009
The Phil. Daily Inquirer, Inc.	-	574	2,386	2,209	125	122	0.23	0.23
Summit Publishing Company, Inc.	1046	1223	975	931	42	44	0.85	0.92
Pilipino Star Printing Company, Inc.	1807	2004	520	513	56	72	0.15	0.17
Pilipino Star Ngayon, Inc.	-	3083	-	297	-	28	-	0.15
SH Publications	2824	3401	288	256	41	42	0.86	0.92
Total for the Top Five Firms			4,169	4,207	263	309	0.26	0.25
Total for the Sub-sector (13 companies)			5,204	5,456	297	290	0.19	0.17

Source: Top 15000 Corporations Business Profiles 2010-2011 Edition, Volume 1, Philippine Profiles and Perspectives, Inc.

Note: Sums may not be consistent with the total of the columns owing to rounding off.

Majority of the top firms – four out of five - in the publishing and printing sub-sector realized significant increases in their respective returns to equity, ranging from PHP0.04 to PHP0.17 for every PHP1 equity in 2008 to PHP0.01 to PHP0.45 for every PHP1 equity in 2009 (refer to Table 16). Some of the key players in this sub-sector have branched out into digital publishing. Vibal Publishing, for example, does not only offer printing jobs but audio-video production (i.e., CD-ROMs to complement textbook series) projects as well. The company centers on education and education-related resources (i.e., production of textbooks and complementary learning materials). In support of its on-line publishing product line, particularly for educational materials, the company has established a hub for parents to promote e-learning. C&E Publishing, on the other hand, primarily serves the medical and science books markets through its re-printing and distribution services.

Table 16: Key Players in the Publishing and Printing Activities Sub-sector, 2008-2009

Company Name	Rank		Gross Revenues (in current PHP million)		Net Income (in current PHP million)		Return on Equity	
	2008	2009	2008	2009	2008	2009	2008	2009
Vibal Publishing House, Inc.	1177	1324	855	847	22	5	0.04	0.01
C&E Publishing, Inc.	1444	1781	684	601	6	13	0.08	0.14
Fortune Packaging Corp.	1660	2168	580	471	5	12	0.06	0.12
Rex Printing Co., Inc.	3091	2877	255	326	7	19	0.11	0.22
Book Media Press, Inc.	6163	3402	97	256	1	7	0.17	0.45
Total for the Top Five Firms			2,470	2,501	42	55	0.05	0.06
Total for the Sub-sector (8 companies)			2,939	2,973	52	67	0.06	0.07

Source: Top 15000 Corporations Business Profiles 2010-2011 Edition, Volume 1, Philippine Profiles and Perspectives, Inc.

Note: Sums may not be consistent with the total of the columns owing to rounding off.

Digital Animation

The major studios in the Philippines, according to Goldstein and Tschang (2004), include:

- ✓ Toei Animation - a Japanese company with a Philippine subsidiary that has worked on GI Joe, Transformers, Dragonball, Sailor Moon and Nadja
- ✓ Top Peg Animation and Creative Studio, Inc. – Philippine-owned company that has worked on Disney TV series like 101 Dalmations, Tarzan, Kim Possible and Hercules
- ✓ Top Draw – a new entrant in 2004 with a track record in the global market
- ✓ Philippines Animation Studios (PASI) – funded by a listed Malaysian company
- ✓ Holy Cow! Animation – specializes in 3D digital animation

In 2009 two of the five firms listed above – Toei Animation and Top Draw - as well as four members of the Association Council of the Philippines were included in the 2010-11 Philippines Top 15000 Corporations.

Data shows that Top Draw recovered considerably in 2008 from a net loss of PHP3 million to PHP12 million in 2009 or 300% revenue increase in one year (refer to Table 17). While Top Draw earned a net income which is significantly lower than the industry leader, Creative Programs, Inc. in 2009 – PHP12 million for Top Draw relative to Creative Programs, Inc.’s PHP101 million, it outperformed all top five companies with a return to equity of PHP1.38 per PHP1 equity (refer to Table 17).

Table 17: Key Players in the Animation and Animation Related Sector, 2008-2009

Company Name	Rank		Gross Revenues (in current PHP million)		Net Income (in current PHP million)		Return on Equity	
	2008	2009	2008	2009	2008	2009	2008	2009
Creative Programs, Inc.	1284	1384	776	801	-144	101	-0.14	0.09
Toon City Animation, Inc.	3872	3717	187	226	-16	6	0.70	-0.40
Top Draw Animation, Inc.	-	5352	83	134	-3	12	-0.15	1.38
Toei Animation Phils, Inc.	5268	6039	121	112	-26	8	-0.27	0.08
Challenge Systems, Inc.	7947	8706	66	66	1	1	0.13	0.20
Phoenix One Knowledge Solutions, Inc.	-	13577	32	31	0	2	0.02	0.50

Source: Top 15000 Corporations Business Profiles 2010-2011 Edition, Volume I, Philippine Profiles and Perspectives, Inc.

In 2009, half of the key players listed in Table 17 enjoyed higher levels of gross revenues – between 3.2% to 61.4% increase, which led to better ROIs (except for Toon City Animation, Inc.). According to interviews, key players offer animation and contracting services from pre-production to post-production activities.

4. Strengths, Weakness, Opportunities and Threats (SWOT) Analysis

The careful analysis of the printing and publishing, with focus on digital publishing, and the digital animation industries revealed internal factors that contribute to the sectors' ability to successfully compete (strengths) or undermine their ability to maintain their viability (weakness) in world market. Opportunities and threats, on the other hand, are elements external to the industry that affect their future growth and development. The succeeding section offers a discussion of these factors for each of the industry included in this study.

4.1. Printing and Publishing with focus on Digital Publishing

Table 18: Digital Publishing SWOT Analysis

Sector	Strengths	Weaknesses	Opportunities	Threats
Digital Publishing	<ul style="list-style-type: none"> ✓ availability to wide range of consumers/readers ✓ ease in accessing, purchasing and updating materials ✓ lower publication costs ✓ relatively more environmentally friendly ✓ higher value added ✓ prestigious literary awards that recognize literary talent and creativity in the Philippines 	<ul style="list-style-type: none"> ✓ electronic readers are expensive ✓ preference for traditionally printed books ✓ limited titles 	<ul style="list-style-type: none"> ✓ greater chance of being published ✓ higher royalties ✓ applicability to a wider range of media activity 	<ul style="list-style-type: none"> ✓ piracy ✓ copyright infringement ✓ rapid rate hardware and software obsolescence ✓ greater competition

4.1.1. Strengths

With the internet, electronic materials are available to anyone worldwide. More than 2.2 billion people used the internet in December 2011. According to Internet World Stats

(2011), majority of them resided in Asia (44.8%), Europe (22.1%) and North America (12%) (<http://www.internetworldstats.com/stats.htm>). North America, however, has the highest penetration rate at 78.6%, followed by Oceania/Australia at 67.5% and Europe at 61.3% (refer to Table 19). Worldwide, an estimated 32.7% of the 6.93 billion population has access to the internet (<http://www.internetworldstats.com/stats.htm>).

In addition, a typical person is online an average of more than 11 hours per month (Sharma, n.d.). Combining the time spent at home and at work, an average American's monthly internet usage is ten times more than the world norm, 25 hours and 25 minutes at home and 74 hours and 26 minutes at work (Sharma, n.d.). Accordingly, electronically published material (i.e., journals, magazines, books, etc.) has a global audience that spending a significant proportion of their time reviewing digitally available materials.

Table 19: Internet Usage Statistics

World Regions	Population (2011 Estimate)	Internet Users Dec. 2000	Internet Users Latest Data	Penetration (% Population)	Growth (in %) 2000-2011
Africa	1,307,524,058	4,514,400	139,875,242	13.5	2,998.4
Asia	3,879,740,877	114,304,000	1,016,799,076	26.2	789.6
Europe	816,426,346	105,096,093	500,723,686	61.3	376.4
Middle East	216,258,843	3,284,800	77,020,995	35.6	2,244.8
North America	347,394,870	108,096,800	273,067,546	78.6	152.6
Latin America	597,283,165	18,068,919	235,819,740	39.5	1,205.1
Oceania/Australia	35,426,995	7,620,480	23,927,457	67.5	214.0
World Total	6,930,055,154	360,985,492	2,267,233,742	32.7	528.1

Source: Internet World Stats (2011), <http://www.internetworldstats.com/stats.htm>

Second, the internet allows consumers immediate, convenient and easy access to electronically published materials (i.e., fiction and non-fiction books, journals, magazines, newsletters, etc.). Buying digital books, for instance, can be done anywhere – at home, at work, while traveling, etc – with a click of the mouse. In addition, digital publishing is also an ideal storage and retrieval mechanism for information that requires frequent updating such as the news. Not only is it less costly but data also reach its audience in a timely manner and provides an easy means for revising and correcting.

Third, publishers and readers/users of information also benefit from the cost reductions realized by eliminating the need for paper and ink in electronic publishing (Saxena, 2009). Certainly, less paper and chemicals demand mean less trees would be cut and, likely, less harmful wastes would be generated; thus, the environment benefits.

Fourth, in terms of content, digital publishing offers a broad spectrum of possibilities – colors, textures, animation, interactive, etc. – that not only enhances its entertainment value but also offers a new and an effective means of teaching and learning. By all indications, therefore, electronic publishing is posed to revolutionize data storage and retrieval, entertainment habits and broaden educational opportunities.

Lastly, a number of prestigious national and local awards recognize the creativity of Filipino writers. Among them are, but not limited to: 1) The Ramon Magsaysay Award, established in 1958, “is given to persons regardless of race, nationality, creed or gender – who address issues of human development in Asia with courage and creativity, and in doing so, have made contributions which have transformed their societies for the better. The award is given in six categories: government service; public service; community leadership; journalism, literature and creative communication arts; peace and international understanding; and emergent leadership” (<http://www.rmaf.org.ph/?id=2&page=history>); 2) National Artist Award (Gawad Pambansang Alagadng Sining) “was established under Proclamation No. 1001 dated April 27, 1972 to give appropriate recognition and prestige to Filipinos who have distinguished themselves and made outstanding contributions to Philippine arts and letters” (<http://www.ncca.gov.ph/about-ncca/org-awards/org-awards-national-artist-guidelines.php>). The National Artist Award was raised to the level of the Order of National Scientists and the Gawad sa Manlilikhang Bayan and, thus renamed to the Order of National Artists (Orden ng mga Pambansang Alagad ng Sining) by Executive Order No. 236 dated September 19, 2003; 3) National Awards, sponsored by the National Book Development Board and the Manila Critics Circle, are given every year to “the best books written, designed and published in the country” (http://nbdb.gov.ph/index.php?option=com_content&task=view&id=65&Itemid=97); 4) Gintong Aklat (Golden Book) Awards are given every year by the Book Development

Association of the Philippines “to the best books judged for all-around excellence” based on the quality of design, printing, and binding, and the significance of content and quality of writing (http://nbdb.gov.ph/index.php?option=com_content&task=view&id=65&Itemid=97); and 5) The Carlos Palanca Memorial Awards for Literature aims to “help develop Philippine literature by providing incentives for writers to craft their most outstanding literary works” (<http://www.palancaawards.com.ph/history.php>).

The various awards listed in the preceding paragraph goes beyond recognizing literary talent. They also confer upon the recipients material benefits. In the case of the National Artists Award, for example, prizes include cash, monthly pensions, medical and hospitalization benefits and life insurance (<http://www.ncca.gov.ph/about-ncca/org-awards/org-awards-national-artist-guidelines.php>). Cash prizes, certificates and medallions are also given to recipients of the Ramon Magsaysay Award (<http://www.rmaf.org.ph/?id=1&page=readMore>).

4.1.2. *Weaknesses*

Despite the seemingly lucrative future of the digital publishing industry, a few key concerns require attention for it to maximize its potentials. First, electronic materials require electronic readers, if not, computers. Currently, these gadgets are still priced above what typical consumers may be willing and/or able to spend (<http://www.ecommerce-digest.com/ebooks-survey.html>).

Second, not all printed books/materials have electronic counterparts. While the list of titles available in digital format is growing, electronic book titles are still but a small portion of the printed book titles (<http://www.ecommerce-digest.com/ebooks-survey.html>).

Lastly, the preference for printed books outweighs any and all advantages offered by electronic materials (i.e., graphics) for most consumers, which explains the strong demand for traditionally printed materials, especially in the US (<http://www.ecommerce-digest.com/ebooks-survey.html>).

4.1.3. Opportunities

Publishing is made easier with the use of the internet. An author now has a choice of publishing his work with or without the aid of a publishing company. Free softwares (i.e., Calibre and Mobipocket E-book Creator) allow one to convert a Microsoft Word file into an e-book format (i.e., AZW and MOBI). Once converted into an acceptable e-book format, an author can sell the work through an aggregator like Smashwords or have the aggregator sell the digital book to major e-book sellers such as Barnes and Noble eBookstore and Apple's iBooks (<http://reviews.cnet.com/how-to-self-publish-an-e-book>). Accordingly, added to the vast materials provided by established and traditionally-published authors whose works can also be made available in digital form, an untapped source of new and potentially prolific writers is made possible by the relative ease of self-publishing electronically. Lower costs – owing to the elimination of printing, transportation and warehouse costs - may also mean higher royalties in the near future.

Finally, digital publishing has potential for application to a wide range of markets, including advertising and digital animation. New products can be created by applying animation techniques to electronic materials, which can, in turn, be used for advertising or digitally animated children's books or interactive educational materials.

4.1.4. Threats

According to Castro, Bennett and Andes (2009), “piracy is the reproduction and distribution of material protected by copyright without the permission, including on P2P networks”. Book piracy, particularly, in developing countries, is a serious concern among traditional publishers. Textbook buyers, specifically among tertiary level clients, can acquire cheaper copies of the books they need from establishments that photocopy, bind and sell them. An interview with a key player in the Philippines attributes the problem to the lack of “resources and manpower to strictly implement” laws on Intellectual Property.

Electronic materials like e-books are even easier to copy and share/sell (Jungla, 2010). They can be quickly downloaded, stored indefinitely in flash and hard drives, and shared

with relative ease via e-mail, instant message, posted on websites, or copied to another flash/hard drive.

Data on digital piracy is mostly on incidents involving the US motion picture, sound recording, business software, and entertainment software/video game industries. Castro, Bennett & Andes (2009) maintained that about US\$22 billion were lost due to digital piracy (US\$20 billion) and retail opportunities (US\$2 billion). If these figures are any indication of the magnitude applicable to the digital publishing sector, then piracy, if unabated, is a serious threat to the electronic publishing industry.

Copyright infringement goes hand-in-hand with digital piracy. Since creative works, for instance published books, are protected by laws on Intellectual Property, the unauthorized reproduction and distribution of these materials – piracy - constitute copyright infringement.

Third, the choice of formats or platforms is critical for authors and digital publishers for it determines the hardware and software components the electronic material would need for consumers to access it. The rapidly changing technology, particularly in the area of consumer electronics, renders certain formats/platforms obsolete and, thus, the electronic materials that depend on them.

Lastly, in 2008, traditionally published books accounted for about 98% of global book sales, the balance, 2%, was attributed to electronic book sales (<http://publishingtrends.posterous.com/stats-global-book-publishers-ibisworld-0>). While digital book sales are growing at relatively rapid rates, 39% compounded from 2004 to 2008 for the US (<http://publishingtrends.posterous.com/stats-global-book-publishers-ibisworld-0>), numerous competitors - which include publishing industry rivals include online bookstores/aggregators/internet companies, self-publishers, traditional and established book publishers and traditional bookstores, make it a very competitive sector.

4.2. Analysis

The internet has literally opened a world of possibilities for the publishing industry by making it easy to retrieve and publish information. The stakeholders in the digital

publishing industry – including authors/writers, publishers, aggregators and online and traditional publishers that offer digital publishing services – are uniquely poised to make the most of the opportunities it offers, namely, a greater chance of being published and the applicability to of electronic materials to a wider range of activities.

A global audience and the ease of accessing timely information are strengths that the digital publishing can capitalize on to encourage new authors to submit their work for publication or to publish their output themselves. Royalties may also be higher in digital publishing as compared to traditionally-published works. Authors for the latter medium accept an average of 10-15% royalty given that the process entail considerable costs (i.e., editing, printing preparations such as artwork design and layout, printing thousands of copies, transportation and warehouse, overhead, etc.). The stakeholders in digital publication, especially the authors and book agents, believe that royalties should be more than the current 25% for e-books because some of the costs associated with traditionally published works will no longer apply, for instance printing, transportation and warehouse costs (Soares, 2011)). In other words, electronic publication could be a more lucrative endeavor for content creators. Moreover, as digital publication requires neither paper nor chemicals, electronic publications may be more appealing to a growing number of environmentally-conscious clientele. Furthermore, as new and established authors take advantage of the opportunities for digital publication, one of the current weaknesses of the sector, which is the limitation on the number of available titles in digital form, can be minimized, if not completely eliminated. Lastly, these endeavors will create new jobs for authors, editors, illustrators, animation artists, web designers and, in the case foreign manuscripts, translators. Filipinos can significantly contribute their talents in the accomplishment of these tasks – regardless of their place of residence for these tasks can be accomplished and submitted through the internet - and, thus, help build an AEC Global Service Hub.

Digitally published materials offer more than just the printed word. They also make possible the integration of animation and interactive activities that add to the potential of an author's/writer's work. Electronic materials, for example, can revolutionize the processes

of teaching and learning. Animated and interactive materials allow users to use more of their senses (i.e., sight and sound), which not only makes learning enjoyable, but also, according to experts, increases retention and facilitates the recall of information. Similarly, the application of animation to children's books can create new products, for instance an electronic book where the reader can choose how a story would progress – given the basic premise - and, thus, end. Every new selection would then create a new story and not only teach a child to read but can also serve as a stepping stone to teaching logic, critical thinking and the consequences of choices. Marketing and advertising, interactive/digital games, business and research can also benefit from the versatility and creativity of electronic materials.

Rapidly changing technology is both a boon and bane for the digital publishing industry. For one, it has made possible the existence and growth of digital publication through the internet and the introduction of electronic readers. Presently, electronic readers are still relatively expensive, which limits the market for electronic materials to those who can buy an iPad, Kindle, etc. In time, as these companies strive to improve on their products (i.e., lightweight and flexible screens, wireless downloads, bigger capacity, etc.) and given a larger customer base, e-readers should become more affordable. In addition, improvements in technology are also overcoming the problems concerning interoperability across consumer technologies – making it easier for gadgets to adapt to new trends. Critical to maximizing the gains from convergence, which is seen as the next big wave within the IDM sector, is knowledge transfer from global experts – sharing of ideas by industry leaders (Deloitte, 2012). Technology - in the form of software, networks and data bases - is also aiding stakeholders to filter and customize information according to the needs of the consumers. Hence, specialization and narrowcasting, for instance in the field of current affairs, commerce, education or fiction, is also an emerging trend (The Cultural Industries Growth Strategy, 1998). Improvements in technology and the development of new ones, however, can aggravate the concern of publishers on the choice of format or platform. There is a real danger of obsolescence if a platform is eliminated owing to the introduction of new and better models of e-readers.

Finally, the problem of piracy and copyright infringement can be addressed by technology. Presently, in the movie, music and software industries, file sharing is mitigated by industry stakeholders through digital rights management (DRM), which are “technical controls embedded within the content to prevent unauthorized use” (Castro, Bennett and Andes, 2009, p. 7). The content scramble system scheme, for instance, encrypts video on DVDs while software usually requires “a unique license key to activate the product” (Castro, Bennett and Andes, 2009, p. 7). Castro, Bennett and Andes (2009) assert that DRM curbs digital piracy but piracy is still a concern for the industry owing to the development and use of illegal methods to continue the unauthorized use electronic materials despite DRM.

In the digital publishing industry, the use of DRM creates unavoidable consequences such as “interoperability challenges especially for proprietary technology” (Castro, *et al.*, 2009, p. 8). On account of DRM, e-books purchased from a particular online source, for example iTunes for iPad, may not be read by Kindle or Galaxy. Despite the drawback, however, online digital book retailers protect their products against piracy through DRM.

4.3. Solutions to the Piracy Problem and Technology

Other than DRM, Castro, *et al.* (2009) elaborated on several technology-aided solutions that hinder digital. Among them are: 1) network management; 2) P2P network pollution; 3) content identification; and 4) blocking internet users from website feature pirated content.

First, uploading and downloading digital publishing content require high bandwidth, including P2P applications. “Pirates,” according to Castro, *et al.* (2009), “constitute the largest group of Internet users engaged in uploading and downloading the largest amounts of content.” Thus, revising service plans from the popular “unlimited use” to volume-bounded service or usage-sensitive pricing plans, with the cooperation of internet service providers (ISPs), can deter the acquisition and distribution of illegally obtained digital materials. Network management has been employed in OECD countries more as a means of managing internet traffic rather than to reduce the incidence of piracy and, therefore, “has been criticized by proponents of open access to copyrighted materials on grounds that

they limit free expression” (Castro, *et al.* 2009). Similarly, network management is an obstacle not only to the “illegal exchange of copyrighted content” (Castro, *et al.*, 2009) but also to the use of electronically published for legitimate means such as research and other academic purposes.

Second, P2P network pollution refers to providing sites that feature pirated content with file copies that are of inferior quality or those with content that are different from the genuine article, music, or video. P2P network pollution can, thus, slowdown the circulation of illegally-obtained digital materials (Castro, *et al.* 2009).

Third, content identification systems, which “can be detected by automated means if others try to share it on file sharing networks or websites,” (Castro, *et al.*, 2009) allow content owners to: 1) identify the source of the recording through watermarking; 2) determine if their work has been uploaded to a website through fingerprinting; and 3) require websites that distribute pirated materials to constantly update the means of uploading and downloading files, called hash tags, - through metadata systems - and, thus hinder access to digital materials (Castro, *et al.* 2009).

Lastly, blocking or denying internet users ISP connection to websites hosting pirated content requires: 1) federal government mandate to block websites that facilitate the exchange of illegal content; 2) private or public institution that would keep an updated list of websites (domain names or IP addresses) to block (Castro, *et al.*, 2009).

Clearly, technology-aided measures can deter or reduce the incidence but not completely prevent or eliminate digital piracy. Castro, *et al.* (2009), therefore, concluded that “government has an important role to play in protecting the intellectual property of copyright holders.” According to dialogues with Philippine industry stakeholders, the law on Intellectual Property is sufficient. Enforcement, however, requires resources that are acutely limited. In the case of digital publishing, monitoring and implementation costs would indeed prove to be prohibitive for if technology can be used to impede the progress of digital pirates then technology can also be employed by violators to circumvent the measures discussed above; for example, changing domains when websites are blocked or

shut down or replace inferior quality digital materials with the better ones when they are uploaded in official sites.

A more lasting solution to the problem of digital piracy, therefore, is changing social behavior - for “digital piracy exists, in large part, because individuals choose to engage in it” (Castro, *et al.* 2009). To this end, Castro, *et al.*, (2009) recommend education and the increased legal access to digital content. Education usually takes the form of campaigns against piracy, the first of which date back to 1992 when the Software Publishers Association attempted to inform the public of the impact of piracy on the industry and convince consumers to respect intellectual property. Similar campaigns, since then, have been launched by various sub-sectors of the industry (i.e., anti-piracy clips in theaters and DVDs) in the hopes that social norms will, in time, favor the rights of copyright owners (Castro, *et al.*, 2009). Lastly, the limited release of certain digital content can create a market for illegal copies (i.e., movies screened only in selected localities and countries, television series that can be viewed only in their countries of origin, etc.). Emerging consumer demand for entertainment, for instance the desire to watch television series continuously instead of on a weekly installment basis, are satisfied by digital pirates. Copyright owners and producers can do the same by making digital materials – electronic books, movies and music – available to the global market through legal means (Castro, *et al.*, 2009). Clearly identifying them as authorized or legal copies can also help ensure that consumers can distinguish and choose them over their pirated counterparts.

4.4. Digital Animation

Table 20: Digital Animation Industry SWOT

Sector	Strengths	Weaknesses	Opportunities	Threats
Animation	<ul style="list-style-type: none"> ✓ continuous training on traditional methods ✓ in-house training in local animation firm ✓ foreign-ownership and/or foreign affiliations ✓ familiarity with US language, culture, humor and history ✓ expertise in 2D ✓ Filipinos easily adjusts to industry changes ✓ strong industry association 	<ul style="list-style-type: none"> ✓ lack of data on the industry ✓ dominance of SMEs ✓ shortage of creative talent ✓ high investment required for new technologies ✓ difficulty in retaining skilled and experienced animation artists ✓ high cost of talent ✓ inadequate marketing and distribution network 	<ul style="list-style-type: none"> ✓ declining cost of critical inputs, particularly local broadband internet services ✓ new gadgets that expand market for animation ✓ untapped domestic market 	<ul style="list-style-type: none"> ✓ preference for foreign animation output ✓ inadequate facilities in training institutes ✓ weak academe-industry linkage high-cost of software licenses ✓ inadequate institutional support ✓ migration of animation artists ✓ low cost of foreign rivals

4.4.1. Strengths

The existing literature and interviews with industry stakeholders revealed a number of the sector's strengths starting with the claim of the Animation Council of the Philippines, Inc. (ACPI) that the continued training and emphasis on traditional methods (i.e., hand-drawings) gives the Philippine digital animation firms an edge over their foreign competitors. ACPI maintains that the processes involved in hand-drawings stimulate creativity and, thus, a factor that strengthens the competitive advantage of the local industry.

Second, the availability of in-house training in local animation firms, which enhances the education received from formal training institutions and raises the technical proficiency of workers through experience, also benefits the sector.

Third, foreign-ownership and/or foreign affiliations of large-scale animation firms is an major advantage in building credibility in the global market, acquiring finance and creative expertise, and securing contracts from foreign clients. In fact, with the growing opportunities abroad, strong linkages with foreign key players raise the potential for

success of business and industry strategies anchored on the co-production model and local content development (WTC, 2008).

Interviews with industry participants also bare out that the shared history, language and traditions between the Philippines and the United States give local animation participants an advantage over the country's closest rivals. Local animation artists are able to effectively convey humor, in particular, owing to their familiarity with idiomatic expressions, for instance, and other cultural nuances.

In addition, despite the emergence of tough competitors, dialogues with industry stakeholders claim that the Philippines' expertise in 2D animation remains unmatched. The application of software and hardware tools has enhanced the utilization of the technique and expanded its market. Moreover, Filipino animation artists adjust easily and quickly to changes in techniques and their applications to the industry.

Lastly, the Animation Council of Philippines, Inc. (ACPI) – one of the animation industry's professional associations – helps industry members establish well-functioning infrastructure needed by the local animation sector like marketing and distribution networks, offers venues for showcasing various animation output (i.e., annual competition like the Animahenasyon) and training and the spread of new technology (i.e., many of ACPI's members are schools that offer animation degree courses), and serves as a springboard for advocacy campaigns (i.e., lobby for government policies and will benefit all industry stakeholders).

Among the programs that ACPI conducts for the benefit of the sector include: 1) support for association members when participating in trade fairs and business missions; 2) training of animation artists through its collaboration with TESDA and the development of curricula and courses to ensure that graduates of animation programs are job ready; and 3) conduct of various content creation workshops to encourage and promote the development of locally-produced original content (ACPI, 2011).

4.4.2. *Weaknesses*

First, critical to the promotion of the animation industry is data. Accurate estimates of the number of establishments in the sector, the size of the enterprises, the number of workers it employs as well as the sector's value added, revenue and cost are essential in tracking the industry's performance, harnessing its potentials, determining the sector's needs and the assistance its participants requires, and lobbying for policies (i.e., incentives, training, etc.) that will directly benefit all industry players. Currently, there are scarce accurate private and/or public databases on the sector to help serve these purposes.

Second, the dominance of small- and medium-scale limits the capacity of firms and results in some animation firms having to turn down big projects. It also constrains the marketing capability of local animation enterprises for the task primarily falls on the shoulders of one person and limits the scope and reach of the campaign (PEARL2, 2008). On an industry level, the situation is exacerbated owing to the lack of a unified marketing program resulting in the inability of the local industry to maintain market presence.

Third, both the literature and interviews assert that the industry is unable to draw creative talents who can develop original-content animation work. In the stages of production of animated work, going up the value the chain requires that animators be capable of conceptualization work (Tschang & Goldstein, 2004); thus allowing them to keep up with the market's tastes and preferences. Conceptualization employs story-telling abilities and creativity that Filipino artists possess but require high investments and virtually no financial returns for five to seven years for full-fledged animation films. Accordingly, majority of the projects that use original Filipino content are short clips – three to five minute films – that are prepared for independent festivals. The exception to this is *RPG Metanoia*, the first Philippine full length CG animated feature film in 3D, which was released in 2010.

Fourth, local animation artists are experts in 2D animation but few can work on projects that utilize other animation technologies - for example 3D, because of the prohibitive investment in equipment that the technology requires; thus, limiting the types of projects that domestic animation service providers can accept. Monitoring and adapting

new technologies in animation production are critical elements for the continued viability and profitability of firms in the industry.

Fifth, the local animation industry has difficulty in retaining skilled and experienced animators, supervisors, and technical personnel owing to the draw of higher compensations and benefits offered by foreign animation outfits (ACPI, 2011).

Lastly, local animation service providers prefer to focus on tasks associated with completing animated projects (i.e., creating storyboards and story reels, applying color, textures, shading, and lighting, incorporating visual effects and integrating the musical score) as oppose to the business processes necessary in securing, marketing and distributing projects.

4.4.3. Opportunities

One of the potential sources of Philippine animation industry growth and profitability is the steady decline in the cost of local broadband internet services as well as faster internet connections resulting in greater efficiency (i.e., shorter turnaround times and transmissions to clients and lower production costs).

Second, beyond the expected growth in the traditional markets for animation output (i.e., featured film, advertising, gaming, military and medical simulations, etc.), demand for animation services is expected to grow considerably in the short- to medium-term owing to the introduction of gadgets (i.e., tablets, hand-held devices for e-learning, etc.), which creates new markets/applications for animation output.

Finally, interviews with industry stakeholders believe that there is a large untapped domestic market from which future demand for the industry's services and output would originate. An example is the application of animation to education. Developed countries are now using e-learning with digitized content and, thus, incorporate animation aspects. The digitization and possible production of animation series based on children's books, according to ACPI, could be other sources of growth in the domestic market for the industry.

4.4.4. *Threats*

ACPI considers the Filipinos preference for foreign goods and services, including animation series and films, as an obstacle to the promotion of animation works with original, homegrown content. Certainly a following for native Filipino animation series, films and other products would encourage artists to develop original ideas and help increase the number of Filipino animation works that the domestic and international markets can enjoy.

Similarly, the PEARL2 (2008) study on the digital animation sector maintain that – except for the very few large educational institutions - training institutes for animation often lack needed facilities to equip graduates with the knowledge and skills to use the latest animation technology. Animation schools require the latest software and hardware to guarantee that graduates are industry ready. High costs of equipment and the rapid rate of obsolescence, however, result in a gap between the skills acquired in training institutes and those that are needed by the industry.

The PEARL2 (2008) study also asserts that the academe-industry linkage can be strengthened, which, among other things, can result in a curricula for animation degree/training courses that fully address the needs of the animation industry.

The high cost of software licenses for digital animation that limits the budgets of animation enterprises on the rest of the inputs necessary for animation production is also identified as a potential obstacle to the local sector's viability and profitability.

Lastly, inadequate institutional support, particularly from complementary industries and government, limit market access and push up the cost of production (Tschang & Goldstein, 2004). Local TV stations, for instance, can champion locally-conceptualized and produced animated cartoons by regularly airing them. Not only will the strategy boost the local demand for the industry's output but it would also pave the way for encouraging and developing local talent. The government can also create a business environment that would enhance the sector's competitiveness by, for instance, removing the taxes on software and

hardware and expediting the release of imported animation equipment especially for the small-scale industry players that dominate the sector.

ACPI confirmed that foreign rivals enjoy significantly lower costs because of government support (i.e., co-production and development programs, fiscal incentives, etc.). China and India's costs, for instance, are about 50% less than that of Filipino animation firms, which gives firms originating from these countries an advantage when competing for subcontracted projects.

Consequently, strong institutional support and higher pay in neighboring countries attract experienced and well-trained animation artists to rival countries like Singapore and India. The local industry is compelled to continually shoulder the cost of training and adjust to the introduction of new artists into the work process throughout the completion of various projects.

4.5. Analysis

An opportunity for improving the price competitiveness of Philippine digital animation firms stem from the expansion of local broadband internet services, especially with the construction of the planned cyberspace corridor in the super regions, which, in turn, can further reduce the cost of one of the most important inputs to the digital animation sector services and result in greater efficiency through faster internet connections (i.e., shorter turnaround times and transmissions to clients). If this can materialize together with a concrete means of reducing software licenses costs (i.e., removing the taxes on software and hardware and expediting the release of imported animation equipment) and improvements in training received from educational institutions (i.e., improvement in facilities, especially in the equipment used for animation) – which can expand local expertise beyond the Philippine industry's niche in the 2D market segment - then Filipino digital animation enterprises can deepen and expand their hold on the outsourcing/subcontracting segment of the market.

Moreover, growth in the market for digital animation in the near future is expected to originate from several sources, namely: 1) traditional markets such as featured films,

advertising, and gaming; 2) new markets that are expected to open with new applications of modern gadgets and other technological innovations; and 3) large untapped domestic market including the application of digital animation to education and the digitization and possible production of animation series based on children's books.

In fact, the World Trade Centre (WTC) (2008) placed the global market for content and animation-related services at US \$34 billion and US\$80 billion for finished products by 2010. According to the WTC (2008), the animation sector's major markets include: 1) the United States; 2) Europe; 3) Asia; and 4) the Middle East and Africa.

The US and Europe remain to be the largest markets for animation services. Contributing to the United States' dominance of the industry are its sizeable population and "free" market for creative production. The WTC (2008) maintain that "US broadcasters are often able to wholly commission programming and when their license fees fall short, producers are often able to secure private sources of revenues or distribution to round out their budget." Whereas, the United Kingdom is the principal European producer of animation and many of its animation companies have established international reputation.

Asia is predicted to have the biggest potential for industry growth and development – both as a source of services and well as demand for finished products. The WTC (2008) identified Singapore, Hong Kong, Korea and Thailand as "relatively good sources of sales revenues for children's and factual programming." In addition, the Middle East and Africa, according to the WTC (2008) "have recently become good sources of sales for children's and family programming although the revenues are modest".

Filipino digital animation firms are poised to take advantage of these new markets through their strong linkages in the international market through affiliations with global players and familiarity with US language, culture, humor and history. Moreover, Filipino workers are highly trainable, animation artists, in particular, adjust easily to industry changes. Success in tapping into the local and global opportunities could transform SMEs into large-scale enterprises that have the capacity to take on greater work from the global market as well as resources to invest in original content development. Similarly, the mixture of foreign outsourced animated services and the creation of series with local

content can stem the tide of animation artists who leave the Philippines for foreign companies that offer considerable financial and professional gains.

The extent to which Filipino digital animation firms can increase their share of the growing global animation market, however, depends on how well the industry's weaknesses and threats are addressed. Raising the share of local digital animation materials aired in the domestic market, for instance, depends on the Filipinos' tastes and preferences, which, according to ACPI, favor foreign animation series and films. Support of the government and private sector, which can take the form of airing more locally-produced animated works, especially those that contain original content, will not only increase market access for domestic firms but also develop local talent and original content.

5. Regulatory Environment

5.1.Existing Regulations

Printing and Publishing

The Philippine government has passed laws, issued executive orders, and enforced policies that are intended to protect all the stakeholders of the printing and publishing industry - traditional and, by extension, electronic - as well as to promote the growth and development of firms that belong to the sector. They include, but are not limited to: 1) Republic Act 8293, The Intellectual Property Code of the Philippines; 2) Republic Act 8047, The Book Publishing Industry Development Act; 3) Executive Order No. 226, Omnibus Investment Code; 4) 2011 Investment Priorities Plan; and 5) Republic Act 8424, The Tax Reform Act of 1997.

While the Intellectual Property Code of the Philippines (RA 8293) focus on “the development of domestic and creative activity, [facilitation of] technology transfer, [attraction] of foreign investments, and [ensuring] market access for [Philippine] products” by guaranteeing intellectual and industrial property, the law affects the printing and publishing sector for it specifically requires the consent of authors before “published

works” are made public (via, for instance, books, pamphlets, and other writings, and periodicals and newspapers). Original works, including literary and artistic works, are likewise afforded copyright protection by virtue of the Code. Accordingly, as creativity flourishes owing to the protection the writers’ output, more opportunities for the printing and publishing sector will emerge (Tullao, Jr. and Habaradas, 2001).

The main goal of The Book Publishing Industry Development Act (RA 8047) is to develop and implement a National Book Policy that will promote the growth of the Philippine book industry. National Book Development Board, established by RA 8047, works to address the issues faced by the book publishing sector, specifically “authorship and creative activity, marketing and distribution, printing, readership, and the library system” (Tullao & Habaradas, 2004) through, for example, a network of fiscal and non-fiscal incentives (supported by Executive Order 226).

Among the fiscal incentives offered by RA 8047 are: 1) tax and duty-free importation of books, specifically children’s books; children’s educational comics; bookmics – blend of books and comics; scientific, cultural, medical, architectural and professional magazines; and book catalogs; 2) tax and duty-free importation of raw materials used in book publishing; 3) exemption from the value-added tax applied to the sale, importation, printing, publication or distribution of books; 4) tax and duty-exempt importation of spare parts and supplies, particularly for consigned equipment or those imported tax and duty-free by registered enterprises; and 5) tax holidays (RA 8047, 1994).

The Omnibus Investment Code - a.k.a., Executive Order 226– assures the inclusion of book development activities in the Philippines’ Investment Priorities Plan, which, in turn, grants fiscal and non-fiscal incentives for persons and enterprises engaged in book publishing and book publishing-related activities (EO 226, 1987).

The sector, as guaranteed by Executive Order 226, is included in the Board of Investments’ 2011 Investment Priorities Plan. The 2011 IPP offers: 1) fiscal incentives such as income tax holidays, tax and/or duty exemption on imported capital equipment, exemption from 12% input value added tax on allowable purchase of goods and services (i.e., communication charges) and/or additional deduction for labor expense; and 2) non-

fiscal incentives like unrestricted use of consigned equipment, exemption from wharfage dues and export tax, duty, and fees, employment of foreign nationals, and special investors resident visa (Triple i Consulting, 2005-2011).

Lastly, the Tax Reform Act of 1997 or RA 8424 reduced the tax imposed on the royalties of book authors from 20% to 10%, which may serve as an incentive to authors and, thus, promote productivity.

Digital Animation

Enabling laws and policies that affect the animation industry include: 1) Executive Order 561 - Formation of the Super Regions and the Mandate of the Superregional Development Champions; and 2) 2011 Investment Priorities Plan.

Executive Order 561, issued in 2006, among other things, provides for the establishment of “super” regions and a cyber corridor that “traverses [] ‘super’ regions from Baguio to Cebu to Davao” (<http://www.visitmyphilippines.com/index.php?title=ExecutiveOrder561-FORMATIONOFTHEUPERREGIONSANDMANDATEOFTHEUPERREGIONALDEVELOPMENTCHAMPIONS&func=all&pid=309&tbl=1>) that will serve as “catalyst[s] development” and, thus, “create opportunity across the country” (<http://www.visitmyphilippines.com/index.php?title=ExecutiveOrder561-FORMATIONOFTHEUPERREGIONSANDMANDATEOFTHEUPERREGIONALDEVELOPMENTCHAMPIONS&func=all&pid=309&tbl=1>). The cyber corridor is envisioned to and, thus, support for the information, communication and knowledge economy through a wide range of cyberservices that adhere to global standards, including a US\$10 billion high bandwidth fiber backbone digital network (Executive Order 561).

The animation sector – classified as under creative industries - is included in the “export industries” list of the Board of Investments’ 2011 Investment Priorities Plan (IPP) along with information technology and IT-enabled services. Similar to the printing and publishing industry, therefore, industry participants qualify for: 1) fiscal incentives such as income tax holidays, tax and/or duty exemption on imported capital equipment, exemption

from 12% input value added tax on allowable purchase of goods and services (i.e., communication charges) and/or additional deduction for labor expense; and 2) non-fiscal incentives like unrestricted use of consigned equipment, exemption from wharfage dues and export tax, duty, and fees, employment of foreign nationals, and special investors resident visa (Triple i Consulting, 2005-2011).

According to ACPI, the animation industry – under IT and IT-enabled services - was also one of the five sectors President Gloria Macapagal Arroyo identified for promotion during her administration, which granted privileges to industry participants such as invitations to and support for participation in international conferences, exhibits and fairs.

Lastly, Technical Education and Skills Development Authority (TESDA) supports the industry by sponsoring nationwide industry entry-level training, which helps the sector develop and recruit talent nationwide. Presently, they include short courses on: 1) animation (NC2); 2) digital animation (NC3); and 3) 3D animation (NC3). The Department of Education is also working with ACPI in developing a curriculum to train students in visual graphics design and basic animation, which would be offered to technology-vocational high school.

5.2. Modeling Success: Lessons from Our Neighbors

There is little doubt that several neighboring ASEAN countries' governments have done well in creating enabling environments in which their respective animation industries have bloomed and grown. Valuable lessons can, therefore, be learned from these countries on how best the Philippines can support creative industries and promote the region as a services hub.

Development funding, co-production/investment programs, and participation in trade fairs, according to interviews with Philippine local animation stakeholders are among the most effective means of assisting the industry nurture animation artists and small- and medium-scale enterprises who/that can produce original ideas and concepts (content), secure investments and subcontracted projects from the global market as well as exhibit their portfolio, and catch the attention of possible partners and be acquainted with new

technology. The Media Development Authority Singapore employs all three strategies to support “the growth of innovative ideas and concepts into commercial animation productions”, which has resulted in the creation of more “original made-by-Singapore content that are targeted at the international market” (Seah, 2008). Thailand’s Software Industry Promotion Agency (SIPA) has a similar policy on co-production. SIPA provides “30% funding for a digital content entrepreneur as a co-production partner” (Wiwatsinudom, 2008).

Small- and medium-scale players, in particular, do not find it easy to shoulder the cost of participating in trade fairs (i.e., air fare, hotel accommodations, booth fees, etc.) and few, if any, are able to take advantage of the opportunities offered by these events. SIPA “funds the participation of animation and game production enterprises with original content in world exhibits, matches major investors with producers of animation and game as well as facilitates trade negotiation and collaboration” (Wiwatsinudom, 2008).

Lastly, cultivating domestic market opportunities are just as important as penetrating the global market. Among the most effective means of increasing opportunities within the country for animation companies is encouraging local networks to air animation series/films with original, indigenous content. China, through the State Administration of Radio, Film and Television (SARFT), increase the number of channels and programmes on animation by mandating that “at least 70% of total animation broadcast must be domestic animation and foreign animation cannot be broadcasted during prime time, 17:00 to 21:00” (Fei, 2008). South Korea has a “quota for domestic animation and for newly produced domestic animation for the purpose of providing opportunities to promote newly produced domestic animations through television networks in Korea and thus increase the number of newly produced creative domestic animations and facilitate investment in the animation industry by broadcasting companies among others” (Young, 2008).

5.3. The Philippines and the ASEAN Economic Community as a Global Services Hub

The strategies discussed above can be complemented by policies that grow SMEs and creative individuals and utilize the AFAS and trade in services to promote local industry and build the ASEAN Economic Community as a Global Services Hub.

Growing SMEs in Creative Industries

A critical first step in promoting the growth and development of the local and regional services sector is nurturing small- and medium-scale enterprises until they reach maturity/large-scale operations. *Ceteris paribus*, big businesses can take advantage of the benefits offered by economies of scale (i.e., discounts on bulk purchases, allocation of fixed costs, etc.); have a higher likelihood of securing credit for expansion and technology upgrade; and the flexibility to offer diverse product lines.

Among the strategies that individual ASEAN countries and the region can adopt to achieve this goal fall into four main categories, namely: “1) building productive capacities; 2) regulations protecting intellectual property rights; 3) data collection; and 4) establishment of a source of international market information” (UN, 2004).

In the printing and publishing, including electronic publishing, and digital animation sectors, for example, capacity building can take the form of human resource development. The cost of training for firms can be reduced by graduating workers who are job-ready. Presently, the Philippine government is trying to address this by requiring students to complete two additional years of schooling before going to the university (also known as the K+12 Policy). K+12 graduates are expected to have improved communication and analytical skills and be better prepared either to work right after high school or take advantage of the opportunities offered in college. Another strategy is to encourage in-house training for workers through tax incentives for firms that invest in their workforce’s skills development (i.e., attendance in seminars and conferences both in-house and offered by a third party). The fiscal incentive is critical particularly to digital animation firms for most have to continuously train new workers and animation artists to replace employees

who leave local firms in favor of more lucrative opportunities offered by foreign-owned firms or the global market.

An equally important policy for the two industries is that which provides digital publishing and digital animation companies access to credit such as facilitating grants and credit schemes, particularly for small- and medium-scale publishers and digital animation firms. Upgrading of equipment and securing new software and hardware are expensive but necessary investments that allow small- and medium-scale firms to expand their scale and scope of operations. Reasonable sources of funding for these expenses could, thus, go a long way in ensuring the competitiveness of SMEs in the sectors.

In addition, similar to other digital animation firms in its neighboring ASEAN countries, the Philippines' local industry relies on the opportunities offered by the international market for animation services demand. Expanding their share in the global animation services market as well as establishing a market niche, according to UNCTAD, would be facilitated by policies that increase the local industry's value added. The "provision of market supported programmes specifically designed to increase the level of technological collaboration, innovation and support for cultural entrepreneurship" (UNCTAD, 2004, p. 9) – which in developed countries take the form of "specialized education and training, including support for artistic development both in its own right and with an added business dimension" (UNCTAD, 2004, p. 9), access to financial assistance and targeting SMEs in strengthening technological infrastructure and modernization – would build the required productive capacities to promote the industry's growth and development.

Interviews with Philippine industry stakeholders assert that incubation and technology centers – equipped with the latest software and hardware for animation production - for artists with original ideas for animation output would certainly serve the best interest of the industry. As mentioned previously, the conceptualization and production of an animation feature film, for example, takes anywhere from five to seven years. Local private entrepreneurs are, thus, hesitant to invest in a project that not only will have no returns for five to seven years and but also have uncertain outcomes after release. Industry

participants are, thus, recommending that government help shoulder the cost of developing these ideas and see them to fruition. Private and public sector partnership in producing animation films and series is a strategy that has been successfully employed by countries like Thailand and Singapore in not only securing foreign investments or forming joint-ventures with global players but, more importantly, in developing local content.

ACPI also recommends access to technology centers for industry participants, which would help reduce cost and allow smaller enterprises to use the latest animation technology without having to bear the investment cost. The incubation and technology centers can also house a showcase room and, thus, assist in marketing the output of animation enterprises to potential domestic and foreign clients. These technology centers do not necessarily have to be government-owned and operated. Small- and medium-scale enterprises or industry associations can pitch in and share the cost of maintaining the centers to enjoy the benefits of economies of scale despite the size of individual firms and/or the size of the members of the associations.

Moreover, like China, the Philippines and the ASEAN region can implement policies that will encourage local television and cable networks and movie production outfits to air animation series and films with local content. Promoting digital animation services in the regional and Philippine markets can lead to the development of original ideas and support efforts to climb the value chain and, thus, open the doors to higher value added products and processes. Marketing indigenous ideas and upholding local and regional talent can also stem the egress of animation artists.

Creative industries in the ASEAN region, which include the animation and publishing – traditional and electronic - sectors, would benefit from modernizing and enforcing Intellectual Property regimes. UNCTAD (2004) affirms that not only will respecting and enforcing IPRs attract foreign direct investment but the simplification of processes for local and regional firms to access new patents, new knowledge and the like can increase productivity and facilitate market creation. Book piracy in the Philippines, for example, is a serious concern among Philippine publishers. Textbook buyers, specifically among tertiary level clients, can acquire cheaper copies of the books they need from establishments that

photocopy, bind and sell them. An interview with a key player attributes the problem to the lack of “resources and manpower to strictly implement” the Philippine Intellectual Property Law. Digital piracy is also global concern, which would have to be successfully addressed by the ASEAN region if it is to build a global services hub (refer to the section on *Solutions to the Piracy Problem and Technology* for the discussion on technology-aided measures and the role of government).

Interviews with industry stakeholders also verify that data collection and monitoring, specifically on the digital animation industry of the Philippines, is hindered by the inability to accurately define the sector. The sector has two major components, namely: the outsourcing and creative components. Initially, the local animation industry was classified under petroleum and petroleum products owing to the petroleum content in the raw materials the sector used (i.e., ink). More recently, the outsourcing component drew public sector attention so the animation sector was included in the business process outsourcing industry together with call centers and medical transcription. Finally, the animation services were recognized for their creative content and included in the creative industries category. It is, nonetheless, often treated as a sub-sector of the information and communication technologies sector (i.e., 2011 IPP) owing to the type of equipment needed by animation firms.

Difficulties in properly identifying participants in the industry and, therefore tracking their performance and contribution to the economy were also encountered in the database that attempts to track top performers (Top 15000 Corporations). Enterprises engaged in animation and animation-related services, in particular, were classified under telecommunications services not elsewhere classified – Toei Animation Philippines, Inc. – and motion picture and video production – Top Draw Animation, Inc., Creative Programs, Inc., and Toon City Animation, Inc.

The accurate definition of any industry, especially on a regional scale, is critical to its growth and development. Data resulting from industry definition, structure and performance are the basis for formulating appropriate policies that can assist in building productive capacities, intervention measures, if and when necessary, and the like.

An important source of animation-related information (i.e., technology, market needs, etc.) as well as e-publishing is the link with foreign firms. According to the UNCTAD (2004) paper, developing countries can maximize the opportunities offered by international global production networks in creative industries by employing a local and regional strategy that is “framed around invigorating local firms and putting into place a whole range of fiscal, trade, financial and competition policy designed to strengthen the dynamic interactions between the local and international producers” (UNCTAD, 2004, p. 11).

Finally, ensuring the successful implementation of the policies recommended above require two very important ingredients: 1) applying for incentives and grants must be easy and economical; and 2) incentives and grants must be time bound. Assistance extended to the firms belonging to the digital publishing and digital animation industries would be ineffective if the cost of securing the incentives and grants are too high. Lengthy and complicated processes that require reams of documents and several days to obtain approval would discourage beneficiaries from applying at all. Worse, in some cases, these processes may entail costs that are higher than the offered incentive and/or grant. Likewise, support for the digital publishing and digital animation industries must focus on ensuring that firms belonging to the two industries will, in the immediate future, be global players. This goal will not be achieved if local enterprises become dependent on government support.

Growing Creative Individuals

The interview with the National Book Development Board (NBDB) and the Animation Council of the Philippines, Inc. (ACPI) contend that developing the inherent talents of creative individuals begin with increasing access to basic education and skills training for all potential creative workers regardless of place of residence and socio-economic status. In the Philippines, for example, ACPI attests to the assistance extended by the Technical Education and Skills Development Authority (TESDA) in expanding the search for and developing the talent of potential animation artists nationwide through the conduct of industry entry-level training in animation, digital animation, and 3D animation as well as in preparing a curriculum to educate students in visual graphics design and basic animation;

thereby extending the opportunities for employment and specialized training for animation artists beyond the urban areas. NBDB also echoes the call for strengthening basic education as a means of enhancing creative talents for the publishing sector. In addition, a sound background in history and geography and an effective reading program, backed with a sense of pride and national/regional identity would contribute to content development and moving up the value chain both in printing and publishing and digital animation.

In addition, recognizing superior creative work develops competition among creative workers that normally results to increases in high quality output and attracts more participants in the sector. Local private institutions and the Philippine government honor outstanding authors and their works with prestigious awards (medals, trophies and cash awards). ACPI has also been recognizing outstanding animation artists through the Animahenasyon Philippine Animation Festival (i.e., Animahenasyon's The Outstanding Emerging Artist in Animation Award and Animahenasyon Lifetime Achievement Award). A similar system can be established in the ASEAN region that not only acknowledges outstanding creative works but also one that pays tribute to books and animated series and films that are products of collaboration between creative workers across ASEAN countries.

AFAS and Trade in Services

The Philippines' commitments under the ASEAN Framework Agreement on Services (AFAS) impose conditions on Modes 3 (commercial presence) and 4 (presence of natural persons) of services supply. In general, limits to foreign equity participation (Mode 3) and employment of foreign professionals (Mode 4) in printing and publishing and digital animation and their respective sub-sectors and related industries (i.e., computer and related services, software implementation services, etc.) are waived with sufficient paid-in capital, employment generation, technology level, and share of exports to total production (7th Package of Commitments under ASEAN Framework Agreement on Services—Philippines—Schedule of Specific Commitments)³.

³ 'The 7th Package of Commitments under ASEAN Framework Agreement on Services—Philippines—Schedule of Specific Commitments' could be download from Annex of Protocol to Implement the

Based on the AFAS commitments, nature, performance and SWOT of the Philippine printing and publishing and digital animation industries, the promising modes of supply is Mode 1 (cross-border supply), which enjoys no significant barriers on market access and national treatment. Mode 3 (commercial presence), on the other hand, offers the best solution to the problem of the egress of animation artists in the Philippine digital animation sector. Attracting sufficient large-scale foreign enterprises that will employ local creative workers in the domestic economy can curb the loss of writers, artists and other essential creative industries personnel.

Moving up the Value Chain

Key to the future viability and prosperity of creative industries the ability of participating firms to move up the value chain. Specifically for the printing and publishing and digital animation sectors, this means graduating from sub-contracted work to content development. Original ideas and themes contained in books and portrayed in animated series and films will allow local firms to grow and reduce their dependence on foreign companies for commissioned work. As a multi-cultural region, the ASEAN's history, tradition, culture, belief system, folklore, and even everyday experiences can be tapped as materials for original content for as long as the chosen ideas have universal appeal – themes that speak to global experiences. Similarly, merchandising – in the form of toys (i.e., action figures, board games and digital games), shoes, wearing apparel and school supplies - can also be one of the sources of ideas for original/local content.

Results of previous studies and interviews with industry stakeholders identifies the following as the primary ingredients to shift from contracted to original work: 1) the availability of creative talent capable of original content development; 2) the use of the latest technology; and 3) government support. Growing creative talent, as discussed in the previous sections, requires investment in education and skills training with special focus on rural areas as well as recognition for exceptional creative works. Emphasis on technology

Seventh Package of Commitments under the ASEAN Framework Agreement on Services, Cha-am, Thailand, 26 February 2009. Available at <http://www.aseansec.org/22221.htm>

upgrades particularly for small- and medium-scale enterprises through private and public initiatives. Industry associations and/or cooperation between SMEs can make possible the sharing of equipment, softwares and the like to lighten the financial burden for individual firms but still enable SMEs to reap the benefits of the utilization of the latest technology (i.e., improved work quality, lower costs, faster processing time, etc.). Lastly, government support in critical areas such as the provision of well-functioning infrastructure (i.e., roads), access to credit and industry-specific information, co-production programs and the strict implementation of the Intellectual Property Laws can creating the business environment that is conducive for the creative industries' growth and development.

In the context of building a service hub in the ASEAN Economic Community, an incentive system can be designed that favors the output digital publishing and digital animation firms (i.e., access to low-cost credit, market access, national treatment, etc.) that combines the talents, skills, and capital of nationals of the ASEAN region. These can be especially critical when digital publishing materials and digital animation are combines to create new products in the field of advertising, children's books (i.e., animated or create your new adventures type of books) and/or educational materials (interactive).

What Can the Filipinos Contribute?

ACPI and NBDB believe that Filipinos can contribute significantly in content development and fielding trainers to the goal of building an AEC Global Services Hub. The strengths of Filipino creative workers lie in their mastery of the English language, multi-cultural background, and ease in adapting to new technology. Moreover, the Philippines offers a young, dynamic and college-educated population, which can be tapped as a rich source of creative workers. Presently, Filipinos are already working as teachers and instructors in basic education and animation firms operating within the region. New applications of digitally published materials and animation services and expansions in the current markets would require the services of additional authors, editors, illustrators, animation artists, web designers and, in the case foreign manuscripts, translators. Filipinos

can also contribute significantly in the accomplishment of these tasks and, thus, help build an AEC Global Service Hub.

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Insights into the industries were derived from interviews conducted with the stakeholders of the Philippine printing and publishing and animation industries including industry players, industry association and government regulating institution.