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## **MAKING FULL USE OF A CREATIVE ECONOMY: REVIEW OF THE DEVELOPMENT OF MALAYSIA AS A HUB FOR CREATIVE CONTENT TECHNOLOGIES**

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### **ABSTRACT**

*The global market value of the creative economy is approximate US\$1.6 trillion. The main objective of this paper is to perform review to development of Malaysia as a hub for creative content technologies. Malaysia has been identified as one of the top cultural producers among developing countries. Malaysia's digital economy is expected to exceed its target of contribution to the country's gross domestic product of 18 per cent by 2020. Content analysis method was used to analyse the various literatures in this subject matter. The Government provides support such as Malaysia Animation and Creative Content Centre grants and Film in Malaysia Incentive incentives. Successful industry players are fully utilising intellectual property rights and expanding from the success of the animation series to film, and move on to games, licensing and merchandising. Creative Content and Technologies has well-spread development from Cyberjaya to other parts of Malaysia especially Penang, Perak, Sabah and Sarawak. In conclusion, the industry needs the talent of whom with art skills, story writing and directing, as well as TV channel that caters primarily for children. The main contribution of this paper is to provide an alternate study focusing on development and achievement of the creative content and technologies clusters.*

**Key words:** *Creative Content and Technologies, Creative Economic, Digital Economy, Internet Economy, Shared Services and Outsourcing*

### **INTRODUCTION**

According to British Council (2012), creative economy is 'the interface between creativity, culture, economics and technology as expressed in the ability to create and circulate intellectual capital, with the potential to generate income, jobs and export earnings while at the same time promoting social inclusion, cultural diversity and human development.

There is great potential in developing the creative economy. In UNCTAD report (2008) creative economy has been identified as the medium to spread economic equality among the developed and developing countries. UNDP (2013) recommended 10 keys to forging

new pathways for development in the Creative Economy Report 2013. The global market value of the creative economy is at approximately US\$1.6 trillion (RM6.72 trillion) (“Musa: Malaysia should Embrace Creative Economy”, 15 November 2016), out of which the international games market will breach the US\$100 billion (RM350 billion) mark by 2017 (Hanifkuala, 2014). UNCTAD (2008) has identified Malaysia as one of the top cultural producers among developing countries such as Indonesia, Nigeria and Vietnam. Malaysia is also promoting high value-added services in digital economy through Malaysia Digital Economy Corporation (MDEC).

World Intellectual Property Organisation (WIPO) estimates that the "core copyright industries" contributed 2.9% to Malaysia's GDP and employed 518,200 people (WIPO, 2008). Based on World Intellectual Property Organization (WIPO), three-quarters of the countries surveyed have a contribution between 4 and 6.5 per cent, with the average standing Copyright Industries to GDP at 5.20 per cent. Malaysia has experienced economic growth typically has a below-average share of GDP attributed to copyright industries (Figure 1).

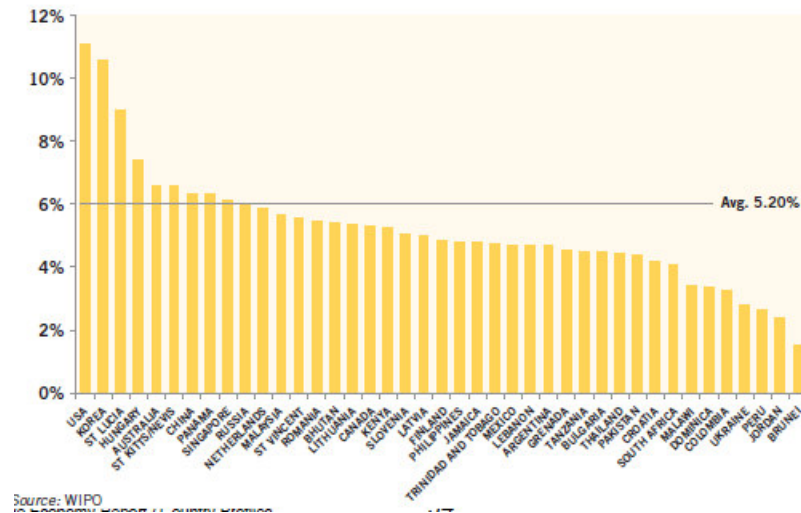


Figure 1  
 Contribution of Copyright Industries to GDP

Malaysia’s creative industries trade ranked 8<sup>th</sup> consists of \$2,666 million exports and \$102.78 million of imports and result in trade balance of \$2,763 million (Table 1).

Table 1  
 Top 10 Export Partners for Creative Goods, 2003 & 2012

Rank	2003				2012			
	Country	Exports	Imports	Balance	Country	Exports	Imports	Balance
1	United States	13665.41	306.76	13358.64	United States	34790.52	1443.01	33347.52
2	China, Hong Kong SAR	6752.04	310.63	5441.42	China, Hong Kong SAR	29900.33	422.78	29477.55
3	Japan	3245.12	544.25	2700.87	Japan	9056.10	1183.29	7872.81
4	United Kingdom	1675.25	44.69	1630.56	Germany	5945.96	457.02	5488.94
5	Germany	1556.29	136.80	1419.49	United Kingdom	5776.25	369.48	5406.78
6	Russian Federation	1517.22	85.39	1431.83	Russian Federation	3942.60	22.84	3919.76
7	Netherlands	1475.33	10.10	1465.23	Netherlands	3565.45	77.90	3487.55
8	Canada	838.02	9.09	828.93	Malaysia	2866.07	102.78	2763.29
9	Italy	785.83	64.42	721.41	Australia	2750.12	36.24	2713.88
10	France	675.21	46.70	628.51	France	2729.74	716.70	2013.04

Creative goods exports with the best performance in 2012 included design, audio visuals and new media. Creative multimedia (film-TV, advertising, creative digital contents) generated revenues of 2.7 percent of GDP (Figure 2).

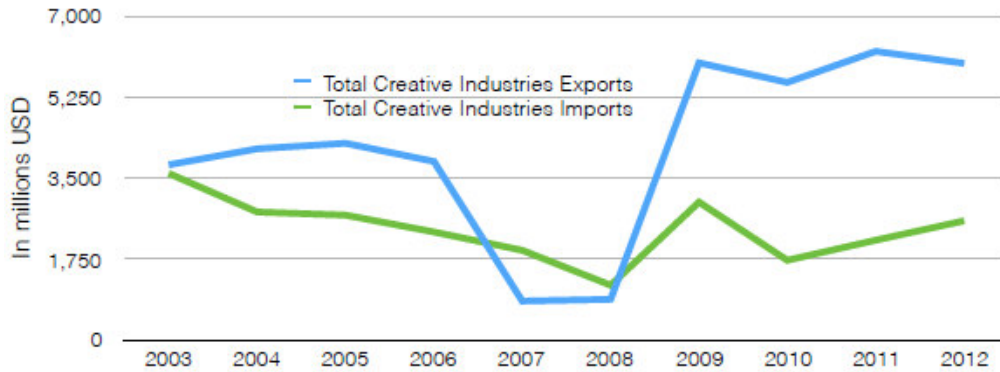


Figure 2  
 Malaysia: Creative Industry Trade Performance, 2003-2012

In 2012, audio visual's design achieved exports of over \$3,750 million (Figure 3).

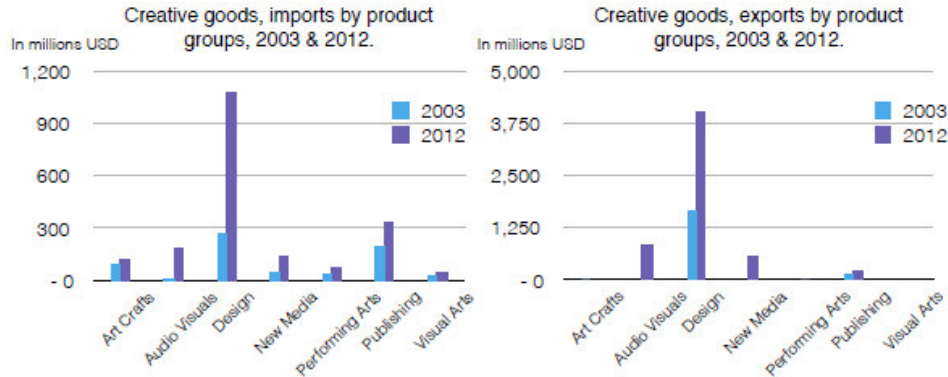


Figure 3  
Creative Goods, Imports and Exports by Product Group

Contribution of copyright industries to GDP of Malaysia was still below world average of 5.2%. Among the creative goods, the development of art crafts, new media, performing arts and visuals arts need more effort. Hence, the main objective of this paper is to perform review to development of Malaysia as a hub for creative content technologies. Content analysis method was used to analyse the various literatures in this subject matter.

## LITERATURE REVIEW

Cultural policy has traditionally contained goals such as fostering "national culture", but shifting to "creative industries", there is an enhanced belief in the disruptive and transformative power of creativity and its ability to generate new sources of income (Oakley, 2009). Similarly, Hesmondhalgh and Pratt (2005) emphasise that the creative industries have attention placed on how the creative industries can contribute to employment and national income in developed countries. The creative industries concept and the "Creative City" urban revitalization project have gained attention worldwide; initially proposed by the British government, the movement which aims to revitalize declining industrial cities and vacant factory sites through arts and creative activities, is particularly strong in Europe (Yoshimoto, 2003). According to Smoodin (1993), a cultural production, business, and the government are connected, and it is the common interests of business and government that produces culture.

Animations films have taken a role in introducing the cultural characteristics of various nations, and animation can become a powerful business tool as well as the culture and identity of a nation can be shared through its lenses (Omar & Ishak, 2011). The Western portrays sharp features, normal eye size, realistic and detailed hairstyle, sharp nose, small

lips and heroic body (Kaul, 1995), while Japan is popular with its heart-shaped face, big-eye, sharp and flat hair, small nose, thin lips, fit and a balanced body from head to toe (Lu, 2008). According to Wahab et al. (2012), imports of animation programme from the West had decreased that Japanese animation has started to claim a steady position in Malaysian television industry, with a conscious effort to inject Japanese cultural and social elements into the anime and characters on a world stage. Consequently, Japanese popular culture has been consumed among young Malaysians similar to those of many Japanese people, and becomes a major part of some Malaysian young people's lives (Yamato et al., 2011). The entertainment industry in South Korea has also been rightly designated as a cultural industry (Mutalib, 2007). Researchers are also looking into regional development of the creative industries. Gibson and Kong (2005) identified the uneven geographies of academic work in cultural economy and the need to move beyond an American/European focus. Countries such as China, India, Indonesia, Malaysia, the Philippines, the Republic of Korea, Singapore, Thailand and Viet Nam, which may all be considered major Asia-Pacific economies with a strategic interest in creative-industry development (UNCTAD, 2008). Lent (2004) examines the history, trends, and issues of animation in Thailand, Singapore, Philippines, and Malaysia, the region as an emerging major producer of and market for filmic cartoons.

The close relationship between Creative Industries and cultural are taking place in Singapore (Yue, 2006). Gwee (2009) illustrates the creative industries in Singapore and its national policy of its creative cluster. Singapore will develop its arts trading sector, get world famous artists to perform and establish the Asian Civilisations Museum, the Singapore Art Museum and the National Museum of Singapore, with the aim to make Singapore into the art and cultural capital of Southeast Asia (Ooi, 2007). The Singaporean authorities are adjusting the limits of openness, and determine which creative activities are preferred, as a stable environment is still considered desirable for the arts (Ooi, 2010). As a result, Chung (2008) argues that the public response and the 'bottom-up' artist movement are beginning to embrace new media art forms as part of the national culture in Singapore. On the other hand, they are authors such as Lee (2004) who argues that the Singaporean government goals are to extract creative energies in its pursuit of profitability in the creative economy with the emphasis on economic gains.

Locally created animation found to carry authentic Malaysian cultural characteristics. Local physical characteristics are usually rounded or oval-shaped face, medium eyes, no specific hairstyle and sometimes skinhead, nose shape like number three, no teeth or gap teeth, big head, short body, small feet and wearing slippers (Khalis, Mustaffa & Ali, 2016). Lent (2004) classified four major themes of animation in Malaysia i.e. fairytales, lifestyle, fantasy, and superhero to be claimed as locals. The realistic Malaysian village lifestyle is considered as a depiction of a fresh environment in comparison to today's modern and digital styles of cartoons (Khalis, Mustaffa & Ali, 2016). Khalis and Mustaffa (2017) report that there are cultural influences where the character's costume design is similar to the Sarawak traditional clothing. Ghani (2015) looks into the usage of Malaysian culture iconic visual styles such as backgrounds, lifestyles, character archetypes and narrative (storytelling) in the characters in Upin and Ipin. According to Salawati et al. (2013), the characters in Upin and Ipin represents the identity of

Malaysians, of which their sensitivity and acceptance of others through respecting and acknowledging other cultures despite their differences.

## **REVIEW**

### **Digital Economy in Malaysia**

According to Muthalib (2007), there has been an unprecedented production of animation for television and cinema since long-form animation began commercially in 1995. Nevertheless, it was not cost-effective to continue making animation even though foreign sales have been made, as the problem was further compounded with the large number of graduates entering the industry at that time. The creative industries have become a policy focus area with the launch of the National Creative Industry. Policy or Dasar Industri Kreatif Negara (DIKN) in 2009 (Barker and Lee, 2017). Massachusetts defines the creative industries to include without limitation the many interlocking industry sectors that centre on providing creative services such as advertising, architecture or creating and promoting intellectual property products such as arts, film, computer games, multimedia, or design (Commonwealth of Massachusetts, 2017).

According to MDEC, the creative industry only contributed 1.27% of the Malaysian GDP in 2011. In 2013 this figure increased to 1.34% and the latest statistics revealed that 2015 achieved 1.60%. MDEC has marked its 20th anniversary by announcing record high new investments and export sales achieved in 2015, and also changed its name from Multimedia Development Corporation (MDEC) to Malaysia Digital Economy Corporation (MDEC) (Avanti, 2016). MDEC is optimistic that Malaysia's digital economy will exceed its target of contribution to the country's gross domestic product (GDP) of 18.2 per cent by 2020 (Adilla, 2017). 2017 has been announced as 'The Year of Internet Economy (BERNAMA, 2016). Malaysia has been putting effort in escaping the middle-income trap. In 2000, Malaysia attempted to boost the TV and film industry with a RM3 billion E-village (Entertainment Village) Studio located in Dengkil, planned on a 200-hectare area and core component comprised of TV and film studio complexes as a flagship project of the Multimedia Super Corridor (MSC). It has been designed to be conducive to the development of high-value creative content to meet the demands of Internet users, filmgoers, television audiences, computer games enthusiasts and educationists (APUDG, 2000).

At RM14.66 billion, the InfoTech Cluster accounted for 44% of the total revenue of MSC Malaysia status companies; while the Shared and Services Outsourcing (SSO) cluster contributed 31% or RM10.45 billion. The Creative Multimedia Cluster (creative content and technologies) recorded revenues of RM6.99 billion (21% of the total). The remaining 4% came from Institutions of Higher Learning (IHLs) and incubators, which recorded revenues RM1.44 billion (Asohan, 2013). MDEC does offer grants and funds to help entrepreneurs. MDEC launched the MSC Malaysia Animation and Creative Content Center (MAC3) to help the industry towards the next phase. The MAC3 provide assistance in all areas of the eco-system, from talent, market access and IP development,

to funding and awareness. This is done through its MaC3 Fund, Bumiputera Content Industry Initiative Fund (BCi2) Fund, Creative Industry Lifelong Learning (CILL) Programme and the Digital Content Industry Fund under the Content Malaysia Pitching Centre (Lim, 2015).

### **Review on the Current Status of Creative Content Development**

The Malaysian creative content industry mainly involved in the areas of post-production, animation, game development, e-learning, mobile and interactive content (Kitnan, 2009). The Malaysian creative content industry has created over 10,000 jobs. There were currently 330 active local creative multimedia content (creative content and technologies) companies and over 50 Multimedia Super Corridor (MSC)-status creative firms involved in game development (Hanifkuala, 2014). Animation companies number 111 out of it and had combined revenue of RM200 million (Lim, 2015). Firms involved in games, new media, and visual effects recorded the highest growth in total MSC in 2015, boasting revenue amounting to RM7.23 billion (Sani, 2016). In 2015, the animation sector posted 52% growth in exports, underpinned by firms like Animonstra, Giggle Garage, Tau Films and Les Cospaque (Mahalingam, 2016). In 2015, the animation film industry grossed RM101 million in export revenue, and RM127 million locally (Mohsen, The Sun Daily, 1 November 2016). A good showcase of Malaysia's home-grown capabilities is "Saladin". Another Malaysian-made production, "Upin and Ipin", also broke many box-office records in Malaysia as the production company, Les Cospaque, managed to generate RM6 million within two months of its launch and the film is now set to enter Indonesia (Kitnan, 2009).

Within the creative content industry, there are local game outsourcing companies such as Passion Republic and Streamline Studios that have progressed along international game companies. Passion Republic worked with Naughty Dog for Uncharted 4: A Thief's End game, a critically-acclaimed top-selling game worldwide, and Streamline Studios collaborated with Square Enix for FINAL FANTASY XV ("MDEC and UOA Holdings Sign MoU to Set Up Game Hub in Bangsar South", 18 Nov 2016). Streamline had also announced that their team was involved in creating assets of Street Fighter V (Frank, 2016).

Recently, Bandai Namco Studios Inc. has opened Bandai Namco Studios Malaysia, partnering with Malaysia's leading CGI studio Lemon Sky Animation to focus on the development of content for their customers in the world, indicating Malaysian potential to develop into a world-class creative hub (Aniza, 2016). Having this encouraging development, MDEC estimated that the growth of the gaming market in Malaysia is expected to grow 20% to RM868.70 million by the year 2017, and the South-East Asia region to grow 30% by 2018 - the fastest growth of any geographical region ("MDEC and UOA Holdings Sign MoU to Set Up Game Hub in Bangsar South", 18 Nov 2016)

The local creative industry has gained a lot of interest in the international market, recording 60% growth in exports to RM817 million in 2015. The value of domestic sales for the animation industry reached RM127million in 2015. The global animation and

gaming market is expected to grow from US\$122.2bil in 2010 to US\$242.93bil by 2016, according to a report by KPMG. Home-grown Creative Content Technologies studios have been bagging international projects including for famous games titles such as Uncharted 4: A Thief's End, Mortal Kombat X, Call of Duty and FIFA as well as from big vendors such as Microsoft, Disney, Sega Square Enix and Sony. Also, their own IP animation series aired in global channels like Disney, Netix and ZooMoo. Under Global Acceleration and Innovation Network (GAIN), MDEC's Creative Content and Technologies team (CCT) who work closely with these companies have identified some of the most globally-competitive creative companies which include Giggle Garage Sdn Bhd, Lemon Sky Animation Sdn Bhd, MFX Sdn Bhd and Passion Republic Sdn Bhd. (The Star, 15 November 2016).

Multimedia Super Corridor (MSC)-status companies recorded a steady 18% growth in export sales, contributing RM19.1billion in revenue in 2016. Companies of the creative content and technology (CCT) cluster involved in digital animation and intellectual property works garnered the highest growth in export sales, with a contribution of RM1.17 billion to the total export sales in 2016. Malaysia Digital Economy Corp (MDEC) said the CCT cluster contribution was a sizeable one, seeing that it surpassed the RM1 billion mark last year (Toh, 2017).

The success of local animation project Ejen Ali by WAU animation which was said as one of Malaysia's biggest services exports through the creative media industry. It has been exported to more than 25 countries. The export of Ejen Ali around the world grossed about RM10 million in 2016 (Jaswa, N. (2017). Local animation companies, whose intellectual properties (IPs) have made an impact locally and even managed to grow globally. "Animasia Studio, for instance - the company behind Chuck Chicken - actually managed to sell their IP, to get their broadcast rights into Singapore and China. Animonsta Studios had the biggest local animation movie hit last year with Boboiboy: The Movie. And Les Copaque - our Upin & Ipin IP owner - they have also managed to sign a contract to bring the Upin & Ipin brand into China as well.

### **Review on the Industry Incentives**

The Government offers Film in Malaysia Incentive (FIMI) incentive of 30 percent production rebate to the film production industry. As a result, Les Copaque Studio's Upin-Ipin, Animonsta's BoBoiBoy, Silver Ant Studio's Seafood, Animasia's Bola Kampung and Supa Strikas, Inspidea's Akis and Tripod Entertainment/Finas/MSC's 3-D movie War of the Worlds: Goliath are some of the high-profile animated series and feature projects produced by Malaysian studios in the recent years (Zahed, 2013). Besides government grants, Bank Simpanan Nasional (BSN) provides Creative Industry Loan as a financial support to the industry.

Rhythm and Hues (R&H)'s John Hughes was the Visual Effects Director of Life of Pi (2012), the Academy Award-winning visual effects company. Tau Films is the sister studio of John Hughes Institute (JHI). Through the experience of Les'Copaque



Production (LCP), Ali et al. (2011) found animation started with animation done for documentaries and public service filmlets by the Malayan Film Unit, and close link between CI products and services and culture in Malaysia. Furthermore, LCP's Upin and Ipin animation has successfully promoted Malaysian folklore culture and has significantly portrayed the art of Malaysian values (Ghani, 2015). Copyright law protects Les' Copaque characters and stories. Licensing its characters has been another successful way for Les' Copaque to bring in more brand awareness. The studio is also trying to develop a theme park. (ASEANIP, 2013). Upin & Ipin is the biggest character IP in the country with strong brand recognition in the Southeast Asia region, and the Upin & Ipin Demi Metromillemium has bagged the Digital Indonesian League 2016 award in the games category at the Mobile Developers Gathering 2016 (Frank, 2016). Les' Copaque has been working with national and international authorities as their icons, for instance, UNICEF (ASEANIP, 2013) and Merdeka 57th celebration Ghani (2015).

KRU Studios, founded in 1992, this company is known to be among the first Malaysian companies to use computer graphics interface (CGI) elements and other new high technology applications in their featured movies. The company uses a combination between culture and creativity in their products in developing creative ideas, though their creative ideas have significant Western influence, such as Cicakman (2005), Cicakman 2 (2007), Magika (2010) and Merong Mahawangsa (2011) (Isa, et al., 2012). Successful industry players are fully utilising intellectual property rights and expanding from the success of the animation series to film, and move on to games, licensing and merchandising (L&M) (Lee, 2015). Malaysian animated film BoBoiBoy the Movie, produced by Animonsta Studios, has become the highest grossing locally produced animated feature in the country, according to local outlet CinemaOnline. The CG feature took in RM 8 million (about \$1.96 million USD) in its first 11 days of release. The producers are hoping that the film will maintain momentum and reach its box office goal of RM 13 million (just over \$3 million USD). The film is also playing in Brunei and Indonesia (Milligan, 2016). Ideally, the revenue from any successful animation show such as BoBoiBoy would have 75% of its revenue coming from licensing and merchandising (L&M) (Karamjit, 2015). Animonsta went into partnership with a 1337 Accelerator graduate team Spaceup Entertainment for the development of the game. Aside from its existing L&M business from BoBoiBoy, Animonsta is hoping to see a food and beverages spin-off. As for the industry, Anas hoped that more content producers register their Intellectual Property and bring their content further into other global markets (Lee, 2015). Furthermore, successful industry players have been building up their reputations and expanding with overseas collaborations. For instance, Animonsta Studios forged collaboration with Japan's premier toy manufacturer, Tomy Co Ltd ("Local animation producer working with Japanese toy firm", 29 August 2014).

Beside progress in animation series and films, Malaysia home-grown companies are gaining popular on mobile apps games. Wau Animation's animated series, Ejen Ali has expanded into the mobile game. Media Prima Lab's Ejen Ali, an award winning mobile game, registered over 700,000 downloads in 2016 ("36-hours-non-stop-gaming-war-sea-game-jam-2016", 8 November 2016).

## **Review on Proliferation of Creative Content and Technology Firms**

There are a total of nine higher learning institutions in Penang offer creative multimedia courses (Ong, 2015). These are Cosmopoint International College of Technology, Creative Academy Penang, Disted College, Equator Academy of Arts & Design, Excelpolitan International College, Han Chiang University College, Inti International College Penang, KDU University College, and The One Academy. It has been successful in capacity building in Penang.

Since its inception in 2015, Penang Accelerator for Creative, Analytics & Technology (@CAT) / Penang @CAT at Wisma Yea Chor Ee has served as Penang's catalyst in accelerating emerging tech start-ups & entrepreneurs to gain access to our 3 main pillars:- (1) co-working space & shared facilities, (2) tech community events, (3) accelerator / entrepreneurship development programs. Moving forward Penang @CAT will be taking this initiative a step forward towards the digital future by launching a host of permanent programs to bridge corporate with start-ups, entrepreneurs & techies for innovation and partnerships & solutions. (Penang State Government, 2017). Penang has horizontally expanded its economic activities to include Creative Content & Technologies (CCT), attracting over 10 CCT companies that produce mobile games digital art design and animation. Penang-based CCT Companies based on MDEC Directory: Akeetoons, Tech Multimedia, Dream-X Technologies, Game Pro International, Imagine Animation Works, IMCS, Kakitooon Animation Studios, Pixeries, UBCT Interactive, and ZOD Design. Penang also attracted other local studios that have been producing for international clients such as Nelvana, EA, Microsoft and Bandai Namco to set up operations in Penang (Ong, 2015). Well-known start-ups @ Penang are such as (i) PIKTOCHART founded in 2011 (co-founder, Goh Ai Ching). Piktochart is an intuitive, easy-to-use infographic platform that helps non-designers create stories from data; and (ii) DeliverEat, an online food delivery v system with three apps co-founded by Leong Shir Mein and her husband, Tan Suan Sear, developed an automated food delivery system with three apps. Today, DeliverEat is Penang's market leader in food delivery (Chia, 2017).

The creative industry also has footprints in Johor and Perak. Pinewood Iskandar Malaysia Studios in Johor will grow the local film industry. Under the Iskandar Malaysia Creative Industry talent development programme, Pinewood works together closely with the Department of Skills Development (DSD) on National Occupational Skills Standard (NOSS) by taking people who already have the basic skills, and teaching them to cross-skill them into the film industry through intensive 8-12 week courses in 7 areas, on top of master classes for the producers, directors, and writers (Mahpar, 2013). Malaysia Animation Park Studios (MAPS) was opened for business in Ipoh from 26 June 2017. The promotion of the creative industry is also expanded to Sabah and Sarawak. Sabah Animation & Creative Content Centre (SAC3) funded by the Federal Government through the Sabah Economic Development and Investment Authority (SEDIA) was established at University College Sabah Foundation (UCSF) in Sabah Development

Corridor as an incubator facility, and it has an excellent track record of being active in film-making and the making of their own IPs (Intellectual Properties) (“UCSF’s animation centre wows BIMP-EAGA group”, 16 December 2015). Sarawak has approved an allocation of RM30 million to develop an incubator for local business start-ups to explore growth opportunities in the digital economy at the hi-tech park in the Sama Jaya Free Industrial Zone (Povera, 2017).

### **Challenges of the Industry**

Based on Ch’ng (2015), more movie directors are incorporating special effects and computer graphics in their movies, making the line that divides animation from live action a blur. Barker and Lee (2017) argue that there seems to be little emphasis given to addressing problems in how creative industries are structured, regulated, or operate. According to the Economic Transformation Plan, there is a lack of awareness of intellectual property rights and lack of competency and capacity as the local content creation companies must reach out to the global market to ensure sustainable growth. The key challenges faced by the creative sector are low level of industry exposure, profile and reputation, lack of awareness and regulation enforcement (Harris et al., 2012). More recently, after building up capacities, the industry in Malaysia faces different challenges. Based on Abdullah and Ishak (2010), there is concern of limited creative talent pool in Malaysia. Specifically, content producers like Animonsta says the talent pool is ‘top-heavy’ with most executives having strong technical production skills, as opposed to talent needed i.e. those with art skills, story writing, directing, etc. (Karamjit, 2015). As for animation production house producing TV content for families and children like Giggle Garage, Malaysia is lacking a TV channel that caters primarily for children (Ch’ng, 2015). As for the market players, COO of Animonsta Studios advised digital animators to be discipline, have lots of hard work and do not give up (Loh, 2015).

### **CONCLUSION**

Before the Fourth Industrial Revolution (4IR), major source to the digital economy is very much contributed by the InfoTech Clusters. In last two years, tremendous export growth has been recorded in the CCT cluster. The progressive CCT companies are those with close partnership with foreign partners and clients. The focus of economic growth in Malaysia is transforming. With Malaysia’s ambition to be a developed country by 2020, Malaysia will actively pursue to have a part in the lucrative and booming e-commerce business. With the first Digital Free-Trade Zone (DFTZ) at Port Klang Free Zone (PKFZ) by Alibaba Group’s regional logistics hub, it will revolutionise its retailing and associating sectors in Malaysia.

It is encouraging news that companies of the creative content and technology cluster involved in digital animation and intellectual property works garnered the highest growth in export sales with a contribution passing the billion ringgit mark. Based on outputs, incentives provided to the industries have recorded success in last few years as the

industry players have been utilising intellectual property rights fully and expanding to film, mobile apps games, licensing and merchandising. The creative content and technology firms have also expanded beyond Cyberjaya to regions such as Penang, Perak, Johor, Sabah and Sarawak. Nevertheless, the companies have to stand on own feet without relying on the government incentives.

Even though the industry has been developing well especially on the export market, there are still challenges that need much attention such as awareness and enforcement issues. Nevertheless, in the creative industry, human capital is still an essential area of concern on the creative aspects, and the discipline work hard for achievement. The baseline is developing the technology education employing latest 4IR technologies so that the graduates will be made familiar with the latest technology and meets the industry demand. Finally, Malaysia has to invest to ride on the digital economy and move on to create value and be continue to be competitive in the flat world.

## REFERENCES

- 36-hours-non-stop-gaming-war-sea-game-jam-2016. (2016, November 8). *Digital News Asia*.
- Abdullah, F. and M.S.A. Ishak. (2010). Pembangunan Sektor Animasi di Malaysia: Pendidikan dan Latihan Animasi di Institusi Pengajian Tinggi Awam. *Malaysian Journal of Media Studies*. 12 (2): 69-82.
- Adilla, F. (2017, March 20). M'sia best suited for testing, launching FinTech solutions in Asean: MDEC. *New Straits Times*.
- Ali, A., Isa, S.Suriawati and Isa, S.Salwa (2011). Development of Creative Industries in Malaysia as Experienced by Les'Copaque Production. The Case Study. *IEEE Symposium on Business, Engineering and Industrial Application (ISBEIA)*. Langakawi.
- Andalan Pangripta Urban Design (APUDG). (2000) *E-Village*. Retrieved from <http://www.apudg.com/e---village.html>
- Anizam, A. (2016, September 8). Bandai Namco Studios Malaysia Opens, Partners with Local CGI Studio Lemon Sky. *Creative Newswire Portal (kr8tifexpress)*. Retrieved from <http://kr8tifexpress.com/article/477>
- ASEAN Intellectual Property (2013). *Malaysia: Animating an International Brand*. Case Study.
- Asohan, A. (2013, May 22). MSC revenues grow nearly 6%, MDEC touts quality. *Digital News Asia*.
- Avanti, K. (2016). MDEC marks 20th anniversary with record high new investments, export sales, and changes name. *CIO Asia*. Retrieved from <https://www.cio-asia.com/tech/industries/mdec-marks-20th-anniversary-with-record-high-new-investments-export-sales-and-changes-name/>
- Bandai Namco Studios Malaysia is Officially Open for Business. (2016, September 5). *New Straits Times*.
- Barker, T and Lee, Y.B.(2017). Making Creative Industries Policy: The Malaysian Case. *Kajian Malaysia*. 35(2): 21–37.

- Ghani, D.B.A. (2015). Upin & Ipin: Promoting Malaysian culture values through animation. *Historia y Comunicación Social*. Vol 20(1): 241-258
- ICT Sector displays splendid performance in 2016. (2016, December 28). *BERNAMA*
- British Council (2012). *What are Creative Industries and Creative Economy?*
- Chia, L. (2017, January 26). A Silicon Valley of the East: Penang's thriving start-up community. *Channel News Asia*.
- Ch'ng, C.C. (2015). Does Malaysia's Animation Industry Have A Future? *Penang Monthly*. April. <http://penangmonthly.com/does-malaysians-animation-industry-have-a-future/>
- Chung, P.C. (2008). The Creative Industry of Singapore: Cultural Policy in the Age of Globalisation. *Media International Australia*.
- Commonwealth of Massachusetts. (2017). *Creative industries*. Retrieved from
- Frank (2016, Mar 16). Malaysia at GDC 2016 – Interview with MDEC's Hasnul Hadi Samsudin. *Inside Games Asia*.
- Gibson, C & Kong, L. (2005). Cultural Economy: A Critical Review. *Progress in Human Geography*. 29(5): 541-561.
- Gwee, J. (2009) Innovation and the creative industries cluster: A case study of Singapore's creative industries. *Innovation: Management, Policy & Practice*.11: 240–252.
- Hanifkuala, N.H.M. (2014, December 12). MDEC to make Malaysia hub for interactive media. *New Straits Times*. Retrieved from <https://www.nst.com.my/news/2015/09/mdec-make-malaysia-hub-interactive-media>
- Harris, H., Aziz, K.A., Norhashim, M. (2012). Success Strategies of Small-Medium Enterprises (SMEs) in the Creative Sector in Malaysia: A Case Study of Les Copaque. *International Journal of Management Practice*. 5(3): 287-299.
- Hesmondhalgh, D. and A. C. Pratt. 2005. Cultural industries and cultural policy. *International Journal of Cultural Policy*. 11(1): 1–13.
- ICT Sector displays splendid performance in 2016. (2016, December 28). *New Sabah Times*. <http://www.newsabahtimes.com.my/nstweb/fullstory/12210>
- Isa, S.Salwa, Isa, S.Suriawati, Yusof, W.Z.M., Ali, A. (2012). E-Research of the Creative Economy Development in Malaysia as Experienced by KRU Studios. *Art and Design International Conference 2012 (AnDIC 2012)*. Concorde Hotel, Shah Alam. 18–19 April, 2012.
- Jaswa, N. (2017, June 20). Malaysia to expand digital, creative industries to drive growth. *Free Malaysia Today*.
- Karamjit, Singh (2015, Mar 16). Animonsta overcomes challenges to grow. *Digital News Asia*. Retrieved from <https://www.digitalnewsasia.com/startups/animonsta-overcomes-challenges-to-grow?page=1>
- Kaul, D. 1995. *The Development of a Digital Superhero*. Thesis, The Ohio State University.
- Khalis, F.M. and Mustafa, N. (2017). Cultural Inspirations towards Malaysian Animation Character Design. *Malaysian Journal of Communication*. 33(1): 487-501.

- Khalis, F.M., Mustaffa, N and Ali, M.N.S. (2016). The Sense of Local Identity Characteristic in Malaysian Animation. *International Journal of Arts & Sciences*. 9(3): 485-496.
- Kitnan, R.B. (2009, October 5). Najib Invites International Content Community to Participate in MSC. *South-South Information Gateway*. Retrieved from <http://www.ssig.gov.my/blog/2009/10/05/malaysia-invites-international-content-community-to-participate-in-msc/>
- Kumar, A. (2017, February 24). Deep Dive into Malaysia's Digital Economy with MDEC CEO Dato' Yasmin Mahmood - Part 1. *Computer World*.
- Lee, L. (2015, March 27). Success in animation series propels animonsta into gaming. *Deal Street Asia*.
- Lee, T. (2004). Creative shifts and directions. *International journal of cultural policy*, 10 (3): 281–299.
- Lent, J.A. (2004). The "Sleeper" Status of Southeast Asian Animation. *Screening Southeast Asia*. 24(2): 9-17.
- Lim, W.H. (2015, June 29). Animation industry at tipping point. *The Star*.
- Local animation producer working with Japanese toy firm. (2014, August 29). *The Sun Daily*. Retrieved from <http://www.thesundaily.my/news/1154736>
- Loh, S. (2015, July 14). 6 surprising insights from a 3D digital animator. *EduAdvisor*. Retrieved from <https://eduadvisor.my/articles/6-surprising-insights-from-a-3d-animator/>
- Lu, A.S. (2008). The Many Faces of Internationalization in Japanese Anime. *Animation an Interdisciplinary Journal*. 3(2): 169-187.
- Mahalingam, E. (2016, April 14). MDEC bullish about investment, export sales growth. *The Star*.
- Milligan, M. (2016, March 16). 'BoBoiBoy' Is Malaysia's Top Local Toon. *Animation Magazine*. <http://www.animationmagazine.net/features/boboiboy-is-malysias-top-local-toon/>
- Mohsen, A.S. (2016, November 1). Aim for the stars, local animation industry told. *The Sun Daily*. Retrieved from [http://www.thesundaily.my/print/405442\\_1/2](http://www.thesundaily.my/print/405442_1/2)
- Musa: Malaysia should Embrace Creative Economy. (2016, November 15). *The Malaysian Reserve (TMR)*.
- Muthalib, H.A. (2007). From mousedeer to mouse: Malaysian animation at the crossroads. *Inter-Asia Cultural Studies*. 8(2): 288-297.
- Oakley, K. (2009). The disappearing arts: Creativity and innovation after the creative industries. *International Journal of Cultural Policy*. 15(4): 403–413. <https://doi.org/10.1080/10286630902856721>.
- Omar, M.A.M. & Ishak, M.S.A. (2011). *Understanding Culture through Animation: From the World to Malaysia*. *Malaysian Journal of Media Studies*. 13(2): 1-9
- Ong, W.L. (2015). Making Full use of a creative economy. *Penang Economic Indicator*. July.
- Ooi, C.S. (2007). *The creative industries and tourism in Singapore*. In: G. Richards and J. Wilson, eds. *Tourism, creativity and development*. London: Routledge, p. 240-251.

- Ooi, C.S. (2010). Political pragmatism and the creative economy: Singapore as a City for the Arts. *International Journal of Cultural Policy*. 16(4): 403-417. DOI: 10.1080/10286630903118071
- PEMANDU (xxxx). *Economic Transformation Plan (ETP)*
- Penang State Government. (2017, March 17). Penang @CAT Programme Launch Wisma Yeap Chor Ee. *Speech by Chief Minister of Penang*.
- Povera, A. (2017, March 4). Sarawak to develop incubator for digital economy start-ups. *New Straits Times*.
- Putting life into creative content. (2016, November 15). *The Star*.
- Salawati M.N. N., Hassan, H. (2013). The Language Identities of Malaysians as Portrayed in Upin and Ipin, *Journal Technology Social Sciences*. 65(2): 109-114.
- Smoodin, E. (1993). *Animating culture: Hollywood cartoons from the sound era*. New Brunswick, NJ: Rutgers University Press.
- Sani, R. (2016, April 18). Chasing the dream in animation. *New Straits Times*.
- Tor, K.I. (2017, March 17). MSC firms post 18% growth in export sales. *The Star*.
- UCSF's animation centre wows BIMP-EAGA group. (2015, December 16). *Daily Express*.
- UNCTAD (2008). *Creative Economy Report 2008*, UNCTAD/DITC/2008/2, Geneva, Switzerland
- United Nations Development Programme (UNDP)(2013). *Creative Economy Report 2013*. NY, USA.
- Wahab, J.A., Anuar, M.K. and Farhani (2012). Global Media Product and Construction Of “Japanese Identity”: A Case Study Of Anime On Malaysian Television. *Malaysian Journal of Communication*. 28(2): 1-19.
- WIPO (2012) Economic Contribution Analysis 2012.
- Yamato, E., Eric Krauss, S., Tamam, E., Hassan, H. and Nizam Osman, M. (2011). It's part of our lifestyle: Exploring young Malaysian's' experiences with Japanese popular culture. *Keio Communication Review*. 33: 199-223.
- Yoshimoto, M. (2003). *The Status of Creative Industries in Japan and Policy: Recommendations for Their Promotion*, Social Development Research Group, NLI Research.
- Yue, X. (2006). Cultural Governance and Creative Industries in Singapore. *International Journal of Cultural Policy*. 12(1), 17-33.
- Zahed, R. (2013, November 27). A Malaysian Snapshot. *Animation Magazine*. Retrieved from <http://www.animationmagazine.net/events/malaysian-snapshot/>