

Competitive Strategy of Creative Application Content in the ASEAN Economic Community: Software Development using SWOT Analysis in Indonesia

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ABSTRACT

The aims of this study is to identify strategies competitiveness of creative content applications created by Indonesia software developer by analyzing potential (strengths and opportunities) and problems (weaknesses and threats) to prepare them compete in ASEAN Economic Community (AEC). The method used in this study is a qualitative method, by conducting depth interviews and focus group discussions to the several CEO of software developer in Indonesia and other actors. Based on the results of the study, the collaboration of the actors in the quadruple helix model (government, academicians, industry, and community) can improve the competitiveness strategy of creative content applications in Indonesia. In addition, this study proposed the program of competitiveness strategy that can be implemented by the actors in quadruple helix in order to compete globally.

Keywords: Competitiveness Strategy, Content Application, Creative Industry, AEC, Software Developer, Quadruple Helix.

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INTRODUCTION

Industrial of creative content applications in Indonesia is progressing very rapidly. Based on data from International Data Corporation (IDC, 2010), the number of software houses in Indonesia in 2006 there was approximately 250 and continue to grow. Although there is currently no exact data on the number of software houses in Indonesia, but it is estimated to have reached more than 500 software houses. The local creative content application industry in Indonesia has the opportunity to compete at international level and encourage young entrepreneurs in this field. Software development is a form of creative business in which the business is usually run by just a few people who joined because it has the same interest in the information technology, especially for creating content applications. The result of innovation and creativity that they created, they turn into products and services which have economic values. The result of innovation and creativity that they created, they turn into products and services which have economic values. Currently, innovation and creativity is needed by every company in order to have a competitive advantage compared to its competitors.

Creative content application is a part of the creative digital industry. Based on data from the Ministry of Tourism and Creative Economy, in 2013 the creative economy accounted for 7.29% of the gross domestic product (GDP). Employment in the creative economy industry is quite high, reaching the range of the 11 million to 12 million workers nationwide (Central Bureau of Statistics, 2014). Based on research conducted by the Economic Research Institute for ASEAN and East Asia (ERIA) in 2012, total global content industry revenues reach USD 595 billion in 2011. And, its value is expected to continue to increase. However, the content industry revenues of Indonesia are still small, only accounts for approximately USD 3.750 million. This is because there is still a tendency of people to use the foreign application compared to local applications.

In addition, the ICT industry is also aware of the importance of the content applications development, for example, PT. Telkom Indonesia which is the largest telecommunications company in Indonesia launched the strategy of DNA (Device-Network-Application). DNA is an integration system between elements of devices, networks, and applications. Based on data from Central Bureau of Statistics (2014), the telecommunications sector's contribution to GDP decreased from 3.2% in 2013 to 3.1% in 2014. One reason is that the supply network is still not optimal. While on the other hand, aspects of the device and application have been growing towards the application of more advanced technology. The content application is one of the new growth engines into consumers appeal. Thus opening opportunities for cooperation between the ICT industry with the local software developer to develop creative content applications.

ASEAN member countries including Indonesia should make efforts to prepare to face the AEC 2015. One of instruments that need to be prepared is competitiveness mapping strategy. This study aims to identify the potential and problems of content application industry in Indonesia by analyzing issues related to the competitiveness of local content application in the face of AEC, and the role of actors in quadruple helix model (government, academician, industry, and community) in improving the company's competitiveness to create collaboration between actors and creating a conducive business climate.

This paper is organized as follows : Section 2 reviews the literature; Section 3 lays out the methodology; Section 4 contains a discussion of the empirical findings; and Section 5 provides conclusions and recommendations.

LITERATURE REVIEW

A. Competitiveness Strategy

According to David (2011), strategic management as an art and knowledge in formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its goals. The management strategy is about how to obtain and maintain a competitive advantage. According to David (2011), competitive advantage is everything that can be done much better by a company than its competitor. Competitive advantage represents a company that can create something that can not be made by competitors or have something very desired by a competitors. Obtain and maintain a competitive advantage is essential for long-term success of a company.

Competitive strategy is the activity of creating a competitive advantage in each business unit in which the company competes. Company's survival is affected by the implementation of decisions and policy strategy. Strategy means all activities in a corporate environment including the allocation of all company's resources. The basis of organizational competitiveness has shifted from physical and tangible resources to knowledge (Wong and Aspinwall, 2005). According to Cruz and Rugman (1992), competitiveness can be studied in three levels: country, industry/sector, and company. Those three competitiveness levels are interrelated, but the company's competitiveness is the one that actually faces direct competition and compete in the market (Porter, 1998).

George A. Steiner in his book "Management Policy and Strategy" stated the strategic planning is the process of selecting the company's objectives, determining policies and programs needed to achieve certain targets in order to achieve the objectives and the establishment of methods to ensure that the policy and the strategic program implemented (Stoner *et al.*, 1996). According to Anggadwita and Dhewanto (2013), an organization needs to set the vision, mission, strategies, and values of the organization to establish the identity and culture. Thus, the benefits of company's strategy are one of the ways to anticipate future problems and opportunities in the environmental conditions change rapidly, giving a clear picture of the direction and objectives of the company in the future, minimizing the risk and make the manager's job easier. In maintaining the competitiveness, organizations face many pressures and constraints due to limited resources, skilled labor and advanced technology that they have. In addition, the organization also must have a strategy to spur the development of innovation and able to adapt to environmental changes (Anggadwita and Dhewanto, 2013). According to Porter (1998), strategies should be adjusted with organization's resources, changes in the market environment, and customers' lifestyle. The approach is more natural and beneficial in the company's strategy is to increase the knowledge and skills required by the company to maintain and improve its competitiveness.

Competitive advantage is affected by the choice of strategies that can be done by the company to gain competitive advantage. According to Porter (1986), there are three strategies that can be done by the company to gain competitive advantage, such as: cost leadership, differentiation, and focus. Companies can gain a competitive advantage higher than competitors if the company can provide a cheaper price than its competitors with the same value/quality of product or services (Porter, 1986). Customer loyalty can affect on demand and lead to higher profit margins for producers (Aulakh *et al.*, 2000). And, the last strategy is the focus, which can be applied to gain a competitive advantage in accordance with the expected market segmentation. Focus strategy based on cost leadership or differentiation or a combination of both (Karnani, 1984). Companies that use focus strategies typically serving specific segments in terms of geography, customer characteristics, and do it more effectively or efficiently than competitors. According to Voudouris *et al.* (2000), the company's strategy can be started by adopting a strategy focused but acquire a dominant position in the global market.

B. Quadruple Helix

Triple helix model developed by Etzkowitz and Leydesdorff (2000) which emphasizes three helixes, the collaboration among helixes generates national innovation systems academician/universities, industry, and state/government. Currently, triple helix models developed into a quadruple helix, and even future models will continue to evolve with involving other helixes. Carayannis and Campbell (2012) proposed a quadruple helix model that identifies the fourth helix as "public-based media and culture" and "civil society". Knowledge flows to all areas of society in a country with an advanced economy. Thus, quadruple helix model emphasizes that people must be integrated into the innovation system to better understand the knowledge and application innovation (Carayannis and Campbell, 2009; Colapinto and Porlezza, 2012; Danilda *et al.*, 2009; and Lindberg *et al.*, 2012).

The definition of public in the context of the Quadruple Helix leads to community-based media and culture. Organizations and institutions can encourage the development of creative knowledge environment. Innovation culture is the key to promote knowledge-based economy. Through public discourse, it is very important for the community to set priorities to innovation and knowledge (research, technology, and education). In the context of the quadruple helix model, creative industry is part of the engine of economic growth which involves collaboration and synergy of the various sectors in which creativity is relevant to all sectors. An advanced economy is a knowledge economy, innovative economy, and creative economy at the same time causing the higher demands of creativity (Dubina *et al.*, 2012). Figure 1 below is a quadruple helix model referenced in this study to define strategy objectives in delivering the program proposals related to collaboration and synergy between actors.

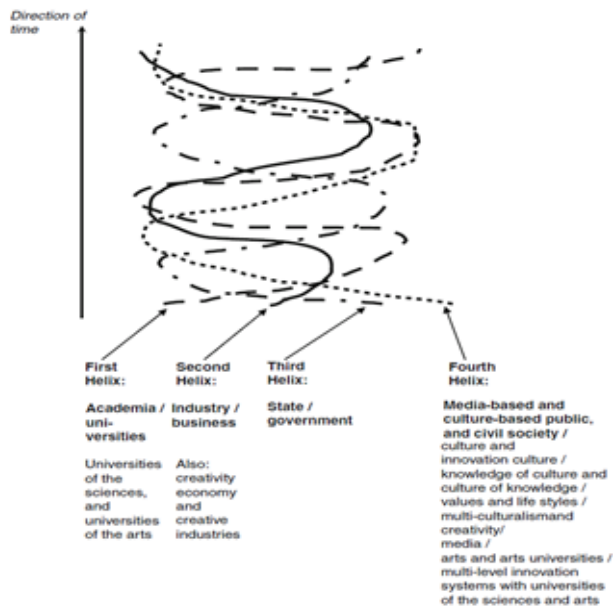


Figure 1 The Conceptualization of the “Quadruple Helix” (Source : Carrayanis and Campbell, 2012)

METHODOLOGY

In this study, respondents who selected are informants who are knowledgeable and able to observe the phenomenon with focus and view it from different perspectives. This information may include actors’ organizations from different hierarchical levels, functional areas, and groups.

There are three sources of data used in this study: (1) semi-structured interviews with actors in the quadruple helix model, (2) observation, and (3) secondary sources (eg literature review, internet articles, and other documents). The question posed to the respondents related to the topic of research, interviews were recorded and documented.

Here are the actors involved in this study:

1. Government actors are some departments including information technology, economics, trade and creative industries.
2. Community/association actors are some communities chairmans who is engaged in the information technology and creative content applications, as well as open-source software community.
3. Academic actors are some lecturers from universities in Indonesia who are experts in the information technology and creative content applications. Additionally, the lecturers are also a practitioner in the field of information technology.
4. Business actors are the CEO of several software development, including:

Table 1 Software Developer Company

No.	Company	Description
1.	Company SK	IT Consultant
2.	Company BC	Digital Agency
3.	Company PM	Creative Mobile Application
4.	Company IX	Software Developer
5.	Company QW	IT Consultant
6.	Company PE	Creative Education Application
7.	Company CC	Creative Mobile Application
8.	Company ZA	Enterprises Application
9.	Company AF	Creative Mobile Application
10.	Company KS	Musical Equipment Application

To assess the quality of this study, the researchers tested the validity of the data include: (1) triangulation of data as an approach that utilizes various data sources, some informants, and several methods to gather different perspectives on the same issues so as to gain a greater understanding of the phenomenon; (2) Expert validation that all stakeholders chosen to be involved in some of the interviews or focus groups interactive discussions to evaluate or validate the findings.

The data obtained was then analyzed internal and external conditions using SWOT (Strength-Weakness-Opportunity-Threat) analysis techniques. Internal analysis consists of assessment of the strengths and weaknesses factors. Meanwhile, the external analysis consists of assessment of opportunities and threats factors. This study used SWOT matrix qualitative approaches which was developed by Kearns (1992).

FINDING AND DISCUSSION

The software industry is one of the spaces in the creative industry which can be done by a lot of people; with the capital is relatively not as a high as other business (Ministry of Tourism and Creative Economy Indonesia, 2014). The next few years, the development of the software industry in Indonesia is believed to increase sharply. The opportunities for the software industry are now more open and promising. Indonesian has great potential as expert software developers for world's software industry.

We identify the strengths, weaknesses, opportunities, and threats faced by the software developers in developing creative content applications in Indonesia. The following will discuss the analysis of the study's findings.

1. Strength

The strength of Indonesia's content application industry in facing AEC is the high number of creative human resources. Based on data from (Central Bureau of Statistics, 2014), the number

of workforce in Indonesia reached 125.3 million, with the percentage of graduate diploma program at 2.65% and 7.49% of university graduates. Sizeable human capital is one of the strength of the creative industries in Indonesia. Creative human resources who pursue the field of creative content applications are not only those who has information technology educational backgrounds, but also other variety of disciplines, including architecture, design, science, etc. Creative content application is a synergy of various fields, and information technology is one of the main support tools in creating creative content application. The quality of human resources is determined by the quality of education that supports the formation of human resources who have the expertise and quality in their respective fields, including the creative ability of human resources in content application information technology.

2. *Weaknesses*

The weakness of Indonesia's content application industry in the education sectors are still many educators who have not mastered information technology so that their understanding of information technology is limited. As a result, the knowledge transfer of information technology is low. In addition, education in Indonesia has not involving practitioners actively in the learning process as well as the limitations of cooperation in various disciplines. It has an impact on the quality of graduates in the real working environment. Beside the education, research and innovation related to the creative content application are relatively low so that the industry is still unable to compete with other countries.

Currently, the entrepreneurial climate in the sector of creative information technology industry shows the development, marked by the increase of university graduates who become software developers and have their own software house. However, the limited ability of entrepreneurship, especially in management and business, as a result many content application businesses should through the ups and downs. The lack of business entities mapping of content applications thoroughly cause the number and spreading cannot be predicted. Other weakness is the lack of research and development toward market needs analysis about what application they need, so that sometimes the application that created not in line with market expectations.

On the financing side, content application industry has difficulties in accessing venture capital loans to banks and non-bank financial institutions. This is because the content application industry has not been recognized as a productive economic activity by financial institutions, especially banks. Limited access to finance make the creators of creative work difficult to sell their ideas. So, it is necessary to establish institutional investors, such as angel investors or start up fund to help finance the creative ideas. The industry is also certainly related to internet networks as the main proponent industry, but the Internet network infrastructures are not yet fully meeting the needs of consumers in Indonesia.

3. *Opportunities*

The opportunities for Indonesia's content application industry is labor costs are relatively competitive, though internally, the programmer labor remains difficult to find. Programmer is

someone who has special expertise in making computer programming languages, translate them into a program or application that is easily operated by the user. The opportunities of content applications market can be seen from the vast of the domestic market potential, both public and private market. The local application developers can utilize it to create applications in Indonesian language for health, education, economy, SMEs, and tourism. By creating applications in Indonesian language with global qualities, the local applications developers can dominate the Indonesian domestic market which has been dominated by foreign applications. The government role is very substantial in marketing processes of content applications, especially the promotion to international market and active participation from Indonesian ambassadors to promote Indonesian products. To expand the relationship and introduce local creative works, especially the content of applications, the application developers should participate actively in seminars, exhibitions and competitions both nationally and internationally level. Active involvement of application developers in these events opens great opportunities to get investors or in collaboration with various stakeholders with a broader scope of cooperation.

4. Threat

The threats of content applications industry in Indonesia are the high number of brain drain phenomenon, this phenomenon born naturally because driven by the needs factor, that job offers from foreign companies are more promising to fulfill their economic needs. It can be a threat because Indonesia lost the intellectuals who became an important source of ideas and product development, especially in the field of content application. In addition, price instability of original software that is influenced by the US Dollar exchange rate is also a threat that causes the widespread of pirated software usage by software users in Indonesia. Another threat that leads to less competitiveness of Indonesia's local content application is the high numbers of communities' establishment which is loyal to foreign software application products. Currently, Indonesia software market is also still dominated by foreign application software products. These things lead to difficulty for local content application to compete with foreign applications.

Here is a SWOT mapping obtained from the interviews and discussions with the actors involved in the development of content applications, especially software developers:

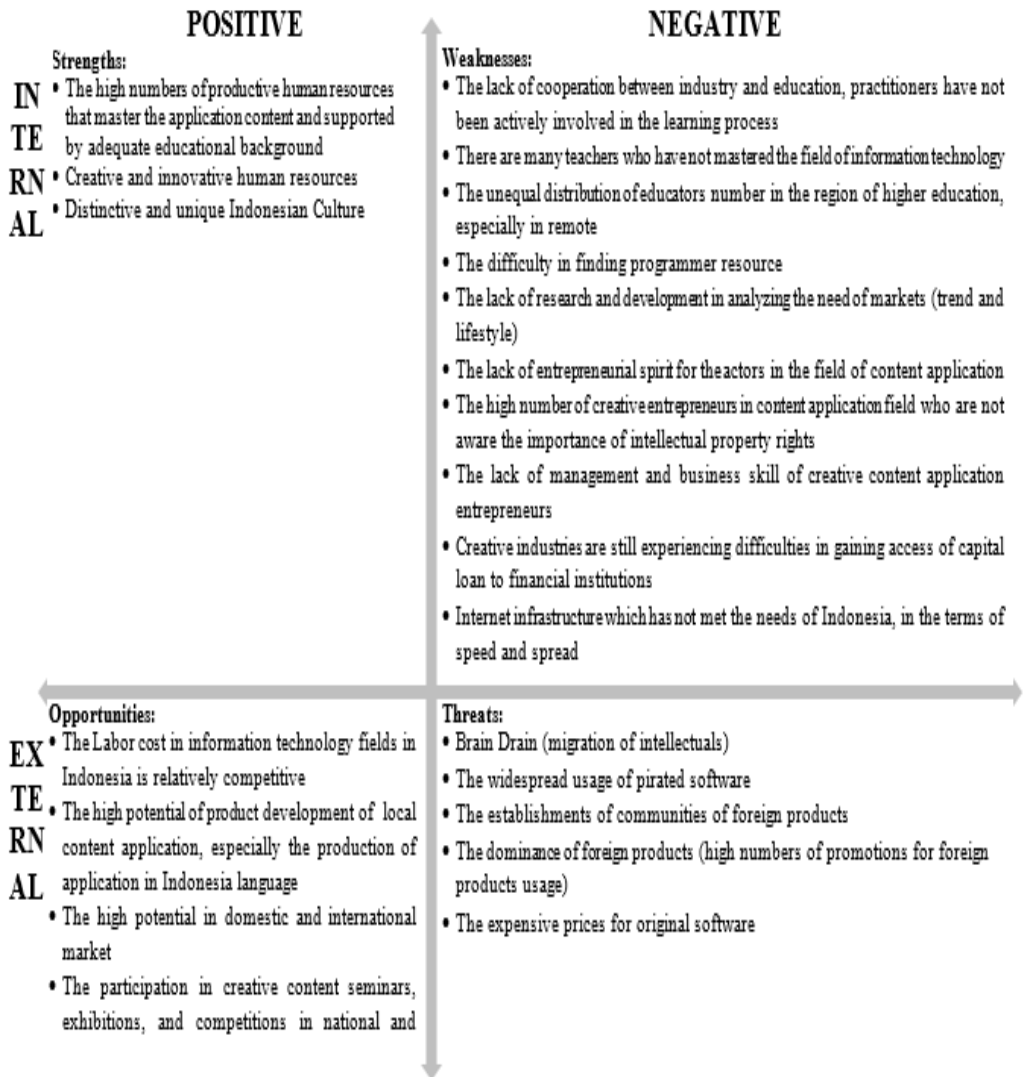


Figure 2 SWOT Analysis of Creative Content Application Industry

Competitiveness Strategy

Based on the mapping, we have identified several strategies that can be applied to improve the competitiveness of the content application industry in Indonesia. The active involvement of stakeholders is the key to success in the implementation of the competitiveness strategy proposed in this study. We used the concept of quadruple helix model as the involvement of stakeholders, which in this concept; community is one of stakeholders who have important roles in the development success of Indonesia’s creative content application.

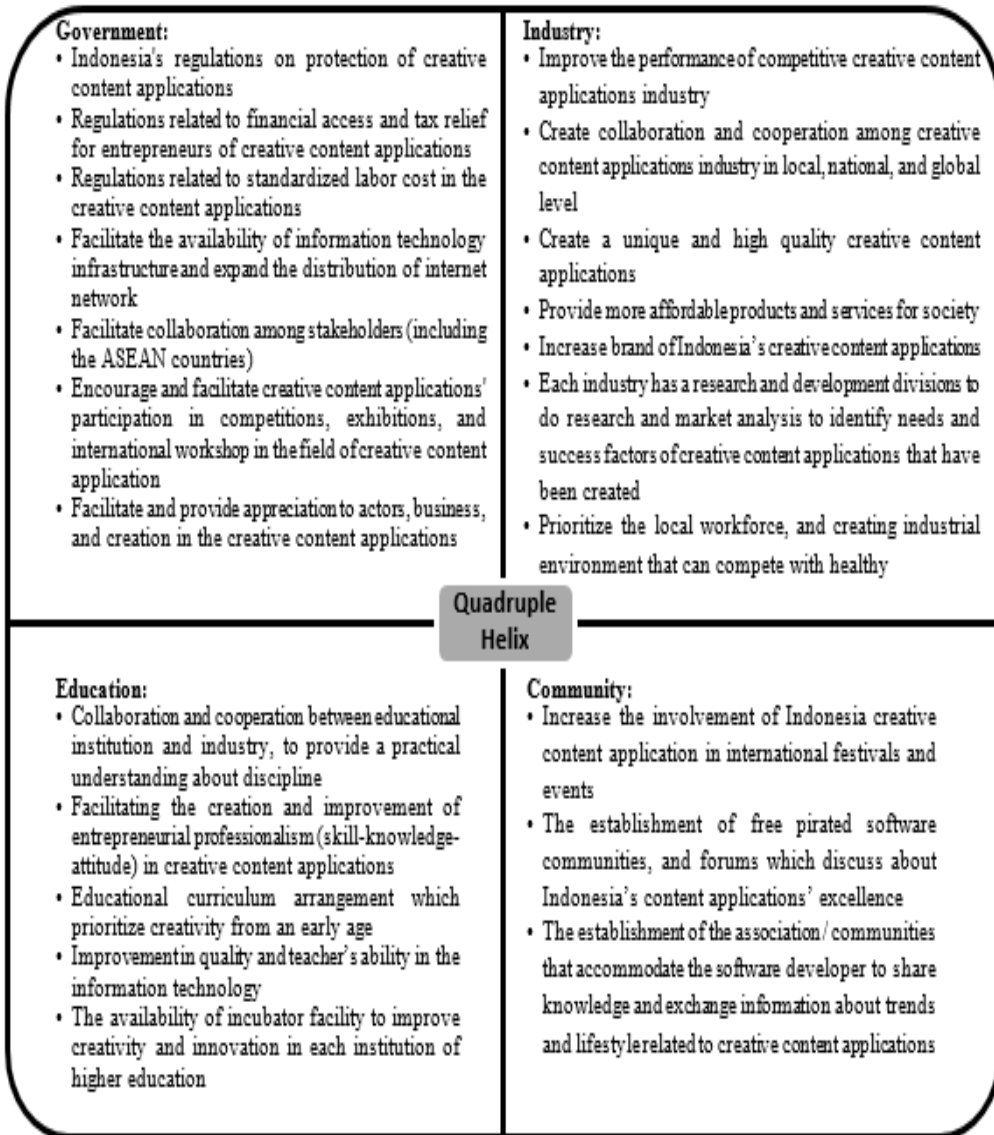


Figure 3 Competitiveness Strategy Mapping Based on Quadruple Helix Actors

Based on the mapping of competitiveness above, there are several strategies that can be implemented stakeholders in Indonesia, especially the software developers to be able to compete in the AEC market. The strategy mapping is based on SWOT analysis that has been done after interviews and focus group discussion (FGD) with actors in quadruple helix model.

Every actor in quadruple helix having their respective roles in developing the content application industry in Indonesia. The government have roles in creating regulations and policies associated with the development of creative content application industry. In addition, the government also encourage and facilitate the creation of a conducive environment in the creative content application industry. The community and academician have roles in developing

the creative content application industry through the creation of skilled human resources, idea development, sharing knowledge, and improvement process of products and services produced by content application industry so as to have high competitiveness. Meanwhile, the industries of creative content application have a role in moving the economy of the community, and improve the competitiveness of the industry both nationally and internationally. The industry plays a role in implementing the results of the creativity and innovation in the product and service in accordance the policy and government regulation.

Some strategies to achieve competitive advantage according to Porter (1986) can be applied by Indonesia's content application industry: cost leadership, differentiation, and focus. The price of the original software is quite expensive, the cost leadership strategy that provides an affordable price for consumers is expected to attract Indonesian society to use local products. In addition, differentiation should be the concern of the software developers, the Indonesian cultures can be unique characteristics, for example, make an dictionary application into Indonesia's local languages (such as: Sundanese, Javanese, Bataknese language, etc.); create a cultures map which presents Indonesia's culture to gain international recognition, etc. And other competitiveness strategy is focusing, which contents application industry creates products based on the targeted market segmentation (Porter, 1986).

Some strategies to achieve competitive advantage according to Porter (1986) can be applied by Indonesia's content application industry: cost leadership, differentiation, and focus. Cost leadership strategy can be applied by content application industry in Indonesian by providing the affordable price of software for consumers. Considering the price of the original software are quite expensive so this strategy is expected to attract Indonesian society to use local products. In addition, differentiation should be the concern of the software developers, Indonesian culture can be a unique characteristic to the local content application, for example by creating a international dictionary into local languages Indonesian (such as the Sundanese, Javanese, Bataknese, etc.), create a cultures map which serving places of Indonesia's culture to gain international recognition and increase the attractiveness of international tourist visits, and other applications. And other competitiveness strategy is focus, where the content application industry create products in accordance with the targeted market segmentation and to reach a niche market (Porter, 1986).

Another strategy that must be implemented in order to support the development of software industry in Indonesia is the availability of a business incubator facility to improve the ability of the business and the performance of the content application that has been created. Currently, some government agencies, education, and industry has provide business incubator. However, not many software developers who take advantage of that facilities. One reason is, the recruitment process and requirements that are difficult to get into the business incubator.

CONCLUSION AND RECOMMENDATION

This study identifies the competitiveness strategy based on the collaboration of the four pillars, quadruple helix (government, community, academician, and industry). The collaboration of all stakeholders should be fundamental to realize programs that related to the competitiveness improvement of creative content application industry in Indonesia, so that all stakeholders in creative content application industry can take the next step as an effort to improve the competitiveness of the industry.

Some recommendations based on the results of this study are the availability of government's initiative to conduct a national archiving associated with creative content applications created by Indonesian people. Although there have been the initiation to conduct data collection of software application products, that has been done by Software Association of Indonesia, but not all application developers in Indonesia register their works. Archiving is needed as an appreciation for Indonesia software developer and can be used for promotional or educational purposes.

In addition, to face AEC 2015, the supportive regulations are needed to create a climate conducive industry, for example, the ease for the software developers in registering of intellectual property rights, and the regulation of tax relief incentives for local content applications developer. Strengthening of regulations has an important role in supporting the competitiveness of works and actors in creative content applications.

Further studies should conduct empirical studies on the factors that affect the competitiveness strategy of Indonesian creative content applications; thereby it will strengthen the results that have been done.

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