

The Role of Creativity and Mediation of Knowledge Management System on Sustainable Competitive Advantages in the Creative Industry

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There are facts shown that the Knowledge Management System (KMS) is important for business and industries which use tacit knowledge as the main element in their competitive advantage. This research examines the presence of creativity as the major element for the creation of KMS and Sustainable Competitive Advantage (SCA) in VCD companies, and also analyses KMS as the mediator in the relationship between creativity in increasing SCA. This is a quantitative research and uses cross-sectional cohort data. The population of the research consists of owners, managers, and creative designers of the VCD companies in Riau Province, Indonesia. The sampling method uses cluster sampling, with a sample size of 202. Data were collected by the questionnaire as the research instrument, which consists of 40 questions and analysed using AMOS SEM. The results of this research are that creativity can effectively support the creation and implementation of KMS in the business, and KMS in the business influences Sustainable Competitive Advantage. This research found that KMS mediate the relationship of creativity on SCA. Business KMS can be applied by emphasising aspects of knowledge acquisition and knowledge applications, while knowledge conversion and knowledge protection cannot be optimally executed. This research implies that VCD companies need to give independence to produce creativity widely. Creativity as an important element for the creation and implementation of business KMS and will create a significant impact on business SCA.

Key words: *Creativity, KMS, SCA.*

Introduction

Current environmental uncertainty makes companies need to design the right work patterns in facing the new economic era. The challenges of uncertain conditions, high competition intensity, low labour commitment, short product life cycles, and critical consumer behaviour make companies continually have to become learning organisations. Through knowledge management, companies can improve their adaptability and competitiveness in facing the challenges of changes that occur dynamically. Corso et al., (2006) states that knowledge management is a key factor for gaining and maintaining competitiveness.

VCD is the art and science of designing and providing the best solution concepts through visuals. VCD is related to activities combining visual, colour, composition, print, animation, and video making in detail so that it gives the right meaning. The main activity of VCD is related to creating new ideas that are interesting, right on target through the created visual design. Designers must have ideas that are different and unique from others so that the design can be commercialised.

Some opinions say that art must be free from market influence because it is destructive, affects the quality of art and is exploitative. But some opinions said that market demand should be considered in creating art. That opinion is correct and the explanation can be accepted. The role of ecosystems in the development of idea-based industries called creative industries is very important (Etzkowitz and Leydesdorff, 1995; Carayannis and Campbell, 2009; Yahya, 2017).

Riau Province is geographic, geo-economic and geopolitical, located on a very strategic route related to its location in the regional and international trade routes in the ASEAN Region through the collaboration of IMT-GT and IMS-GT. Riau is an area with economic activity that is dominated by the oil palm plantation industry, service industry, trade and property. So that the creative economic activities of the VCD sub-sector can support economic activities in Riau. VCD is one of the creative economic sub-sectors that are massively present in Riau.

The VCD business in Riau has generally been carried out both traditionally and in a modern way. Traditionally this business is managed by focusing on individual/business orders that occur accidentally, and in a modern way, because the VCD business is managed not only to focus on orders that occur accidentally but also have establish a network of collaboration with clients.

As a business organisation, the creative industry collaborates and uses explicit, implicit, and tacit knowledge in carrying out its business activities. Every element in the business performs its functions professionally. Changes occur dynamically to market demands and desires,



making the creative industries especially VCD businesses continue to improve knowledge related to trends, behaviours, and communication approach patterns that are appropriate to the communicant's target. VCD business must be able to produce various creations for alternative choices for various consumers. So that all parties in this business are involved in generating ideas and creativity in creating the most appropriate VCD.

Creativity in the creative economy business is the main resource in business activities. Creativity will affect the implementation of KMS from the VCD business. Creative ability is important knowledge needed by creative industries in generating ideas that have economic value. So that in VCD business organisations, KMS implementation not only produces VCD creations that are in line with market expectations, but also maintains business collaboration with its ecosystem, because having a sustainable competitive advantage is largely determined by collaboration with visual communication designers and all parties involved in this business. This study examines work patterns in the creative economy and the business of VCD sub-sector. How does creativity influence KMS and SCA businesses? Does KMS business mediate the relationship of creativity to SCA?

This article is arranged systematically in accordance with scientific writing. The article will be presented with an introduction, literature review, description of theoretical developments and hypotheses, methodology, discussion of research results, and an explanation of the research implications and agenda for further research.

Literature Review

Creativity

Creativity is the ability or expertise to create, to realise the existence of life, to invest in new forms, to produce through imaginative features and to create or provide something new (Ünay and Zehir, 2012; Bujor and Avasilcai, 2016). According to Bardin (2006) creativity requires different psychological aspects that can be collected in cognitive factors (intuitive, sensitive and global ways to process information), conative factors (motivation, emotions, personality traits) and environmental factors (cultural, professional, social, economic context). According to Altshuller (1984) creativity is the ability to solve problems, especially unusual or non-routine problems. Saulais and Ermine (2012) in their paper entitled “Creativity and Knowledge Management”, defines creativity as the ability to correct non-routine problems in new ways that are appropriate to the context. Creativity is related to the capacity that makes ideas possible. Creativity is a change in perception that enables new ideas to emerge, which means that things that are changed are not reality but a point of view.

Creativity is the most basic and most critical element in the innovation process. Udvardia (1990) highlights creativity as a central issue in innovation management, presents a model to advance understanding of the dynamics of creativity in organisational settings, and places creativity in the innovation process. Karlqvist (1997) suggests that creativity is the capacity for creation. Tierney et al. (1999) show that creativity is the pursuit of usefulness, uniqueness, and results (Bettiol et al., 2012). Amabile (1988) suggests that the main factors that trigger creativity are the profession, creative thinking skills, intrinsic work motivation, and social context. Amabile (1995) argues that creativity consists of new thoughts or material developed through various human behavioural activities (Wu et al., 2012). Creativity is an expression of adaptability, and is an application of integrative experience transformation, individual subjective awareness, motivation, knowledge, and experience (Feist and Runco, 1993; Lau, 2016). Yeh and Wu (2006) suggest that creativity is the beginning of developing innovative products. Sternberg and Lubart (1999) suggest that creativity requires knowledge support.

In this research, creativity will be described in four dimensions (Amabile, 1988; Shalley and Gilsonb, 2004; Woodman et al., 1993; Zhou and Shalley, 2003), namely personality, skills, experience and motivation. Overall creativity is measured by 13 question items. These questions include 4 question items to measure motivation dimensions, 3 question items to measure personality dimensions, 3 question items to measure experience dimensions and finally 3 question items to measure skill dimensions.

Knowledge Management System

Organisational knowledge is not enough without collaborating with the knowledge of creative practitioners in the business that make ideas, expertise, and skills as producers of wealth for organisations such as the creative industry. Creative practitioners acquire knowledge, on a self-taught basis, namely knowledge in the form of expertise acquired from the learning process. Knowledge is obtained through observations obtained from an expert and through experience from projects that have been completed. Creative practitioners' knowledge is derived from the perseverance that shapes the talent; it has to be of high selling value. Not all knowledge possessed by creative practitioners can be converted into explicit knowledge, but even though it can be converted into explicit knowledge, it cannot replace itself (the knowledge owner). So that creative practitioners' knowledge leads to tacit knowledge. Tacit knowledge can be converted into explicit knowledge; however tacit knowledge tends to be exclusive (Ginting, 2020a).

Knowledge is an asset and a valuable resource for each organisation (Said, 2015). Knowledge management is implemented by referring to the company's strategic goals such as innovation, performance improvement, competitive advantage, success, knowledge, and understanding of the experience of the lesson learned from the organisational process. Knowledge management

is generally defined as the acquisition, storage, retrieval, implementation, generation and review of an organisation's knowledge assets in a controlled manner (Brelade and Harman, 2003; Pathirage et al., 2008; Kebede, 2010; Ajmal et al., 2010; Pitt and Tucker, 2008), although precise definitions depend heavily on the context and relevance of certain business sectors where their application is applied. Knowledge management emphasises changes in the relevance of information according to the context and needs. The essence of knowledge management is the relationship between two dimensions, people and information, which is mediated by systems and processes.

According to Alavi and Leidner (2001) the application of Knowledge Management can be supported by technological infrastructure so that the application of KMS is through combining: creating and capturing new knowledge, supporting and facilitating content management, and sharing and reusing knowledge to produce value. The term KMS in the creative industry emphasises the interaction of knowledge from various elements or entities that can influence the achievement of the objectives of each element in general and specifically the creative industry to achieve SCA. So if the literature mentions the process of knowledge creation in organisations with the term knowledge management, then in the creative industry it would be very appropriate if the process of knowledge creation is called the KMS because knowledge of creative industries is a collaboration of knowledge from interacting elements or entities. This means that creative industry knowledge comes from processes and knowledge that are fully created from knowledge collaboration for the purpose of producing high-value creative products that reveal identity or a reflection of territorial and social contexts.

KMS will be described with four dimensions adopted from Alavi and Leidner, (2001); Gold et al., (2001), namely knowledge acquisition, knowledge conversion, knowledge application, and knowledge protection. To measure KMS, 20 item questions were used (Nguyen and Neck, 2008). The question consisted of 5 question items to measure the knowledge acquisition dimension, 5 question items to measure the knowledge conversion dimension, 5 question items to measure the knowledge application dimension, and finally 5 items a question to measure the dimensions of knowledge protection.

Sustainable Competitive Advantage

SCA is the main goal to be achieved by the company that is to continue to exist and grow in the market. Through an analysis of the external and internal environment, companies can map the strengths, weaknesses, opportunities, and threats in order to build effective and efficient business activities to be able to achieve the planned goals and objectives (Gibbs, 2009; Masurel, 2007; Santiago, 2013).

Among entrepreneurs, the response to the issue of sustainability is different. Some of them will take a more introverted approach by complying with government regulations (Baumgartner, 2009). There are entrepreneurs who will take an extroverted approach by highlighting their achievements in the sustainability report. Others might take a conservative approach by focusing on environmentally friendly practices such as energy conservation and waste management. This is a visionary strategy that originates from entrepreneurs who integrate sustainability issues to be applied in business operations (Walley and Taylor, 2002).

In another article, research is related to reinterpreting Schumpeter's creative destruction theory (Schumpeter, 1942), which states that the long-term viability of the economic system depends on its ability to create and maintain sustainable economic processes that involve value creation and current needs without compromising the needs of future generations (Ghisetti et al., 2015; Lopes et al., 2016).

In another different perspective, sustainability is related to creating competitive advantage in market conditions with rapid and unpredictable changes; the resource-based view (RBV) and knowledge-based view (KBV) are used in dynamic market conditions (Eisenhardt and Martin, 2000; López, 2005). In a research conducted by Nguyen and Neck (2008) it was stated that in dynamic market conditions with high competition intensities, knowledge-based resources are a way for companies to have different competitive advantages. Knowledge Management implementation, can change, update and exploit knowledge-based resources representing knowledge related to the company's dynamic capabilities. Knowledge Management creates a corporate spiral of knowledge, so companies do not only generate new knowledge but upgrade the state of knowledge-based resources (Nielsen, 2006). In the face of dynamic conditions, the process of creating organisational knowledge will always be followed by upgrading and exploitation of knowledge to attain SCA.

SCA is described in two dimensions, namely the basic dimensions of competing, and the dimensions of strategic competitiveness (Carayannis et al., 2015; Dosi et al., 2008; Schaltegger et al., 2012). Overall SCA was measured using 8 question items (Agha et al., 2012; Kucukvar et al., 2014). There are as many as 4 question items to measure the basic dimensions of competing. A total of 4 question items to measure the dimensions of strategic competitiveness.

Theoretical Development and Hypothesis

Relationship of Creativity, KMS, and SCA

In this research creativity formed the VCD business KMS in Riau. Creativity is the ability that directs efforts to create superior competitiveness. In the idea-based industry, creativity is

a major ability in business activities. Ideas and creativity live in business and support businesses. So the implementation of KMS must be able to direct creative resources so that they can sustainably have superior competitiveness (Ginting et al., 2019). In the creative economy, creativity is an ability as well as a major force of business that results from skills, experience and a long learning process experienced by individuals (Polanyi, 1958). So in the idea-based industry, creativity is not formed within the organisation but from the process of relationships and social interaction.

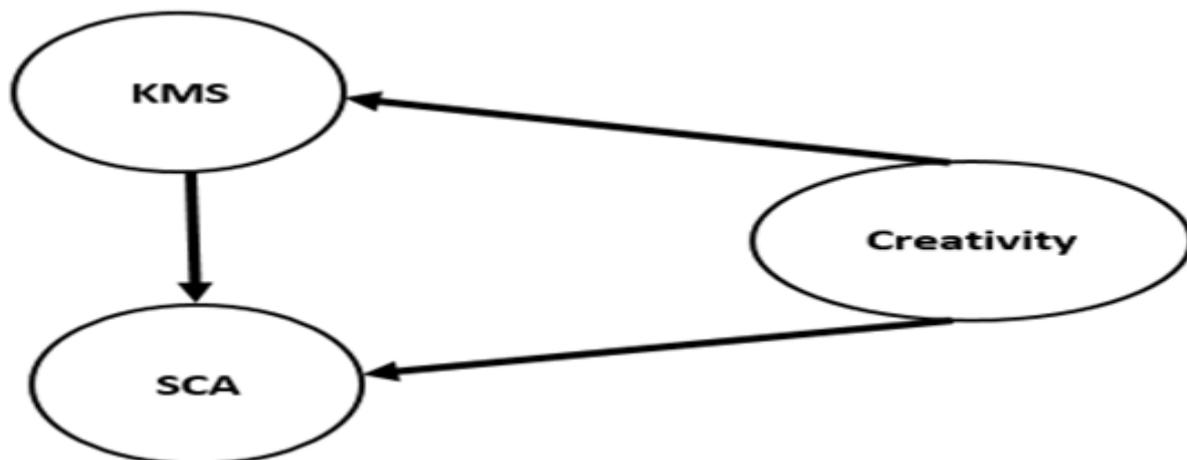
Several sources explain creativity generally associated with the production of new and useful ideas on products, practices, services or procedures that are both new and potentially beneficial to the organisation and the main factors that trigger creativity are the profession, creative thinking skills, intrinsic work motivation, and social context (Oldham and Cummings, 1996; Shalley and Gilsonb, 2004; Amabile, 1988; Ford and Gioia, 2000; Madjar et al., 2002). Creativity is a process of thinking and creativity is activated and triggered (Majaro, 1988). Runco (2000) suggests that creativity is an expression of adaptability, and is an application of integrative transformation of experience, an individual's subjective awareness, motivation, knowledge, and experience. Yeh (2000) suggests that creativity is the pathway of developing innovative and valuable products by individuals in certain fields, and such a way involves the integration and effective application of cognition, affectivity, and skills.

Creativity in the creative economy business is an ability and knowledge that is used as input for businesses in achieving SCA. The knowledge and creative abilities of designers and other related parties collaborate and through the implementation of a business KMS, the collaboration of knowledge will be directed towards achieving SCA. Through the implementation of a business KMS, knowledge collaboration from various parties involved in business activities is accepted, and adjusted to the organisation's potential, implemented and protected through contractual agreements or work agreements. So that through KMS, creativity and knowledge collaboration is modified to fit the organisation's long-term vision. So that in this research creativity will affect the implementation of KMS of business in increasing sustainable competitiveness. Thus the business KMS will mediate the relationship of creativity to the sustainability of business competitiveness excellence.

On the other hand, researchers try to see from a different point of view that when creativity without KMS directly affects the competitiveness of sustainable business (SCA). This is based on the assumption that creativity is an ability that is embedded and possessed by someone. Creativity is built from ideas originating from social processes and interactions to produce creative products that are in accordance with the expectations of the social context of society. So that the implementation of KMS has been integrated with creativity and can directly create superior business competitiveness in a sustainable manner. Therefore, this

research will also look at the effect of creativity on SCA without the mediating role of the KMS. Based on the explanation and theoretical development above, the hypothesis and research framework can be developed into a research model that can be seen below (Figure 1).

Figure 1. Research Framework



Source: Conception of the researcher, adopted from Nguyen & Neck (2008), Ford & Gioia (2000), Udwadia (1990)

Hypothesis 1: Creativity influence KMS of the creative industry

Hypothesis 2: KMS of creative industry influence SCA

Hypothesis 3: Creativity directly affect SCA

Hypothesis 4: Creativity in SCA is mediated by KMS.

Methodology

This research analysed the influence of creativity on the SCA and the role of the KMS Business of VCD in mediating that relationship. This research is quantitative, testing hypotheses using survey methods using a questionnaire. The measurement instrument for each variable was adapted from the relevant literature using 5 Likert scale scales from 1 (strongly disagree) to 5 (strongly agree). The accuracy of the instruments was analysed using validity and reliability testing. The hypothesis testing technique uses Structural Equation Modelling (SEM) with the assistance of AMOS software as the statistical package.

The population in this research were the owners, business managers, and workers of the creative economy business in Riau. This research used the probability sampling method and the sampling technique used is cluster sampling. The respondents in this research were owners and business workers of VCD in Pekanbaru, Indonesia. The sample size used was 202 respondents. Data was collected through a questionnaire consisting of 40 questions.

The distribution and collection of questionnaires was carried out directly in December to January 2020. This is due to the business location of the research context which is not located in one concentrated area. In the pilot study with 50 respondents, we first distributed a questionnaire that contains 47 questions. However, after we validated the questions, there were four questions that needed to be removed and excluded from the questionnaire. So, we finally distributed the questionnaire to the respondents of the research which contained 40 questions.

For the purpose of data analysis, we operated a normal statistical procedure, which first involved the following steps: [a] assessing sample characteristics, [b] identifying normality of the data, [c] undertaking confirmatory factor analysis, [d] proposing measurement model and construct validity, and [e] developing and estimating the structural model.

Result

We first conducted this research by examining the respondents of the research. For descriptive statistics to the respondents, it is known that: [a] male 72.3 % and female 27.7 %, [b] married 34.16 %, unmarried 65.35 % and single parents 0.5 %, [c] age 21-25 years (41.1 %), age 26-30 years (25.25 %), age 36-41 years (4 %), [d] self-owned capital 76.5 %, funding from banks and financial institutions 9.4 %, joint venture/cooperation 9.4 %, bank / financial institution accompanied by own capital 4.7 %.

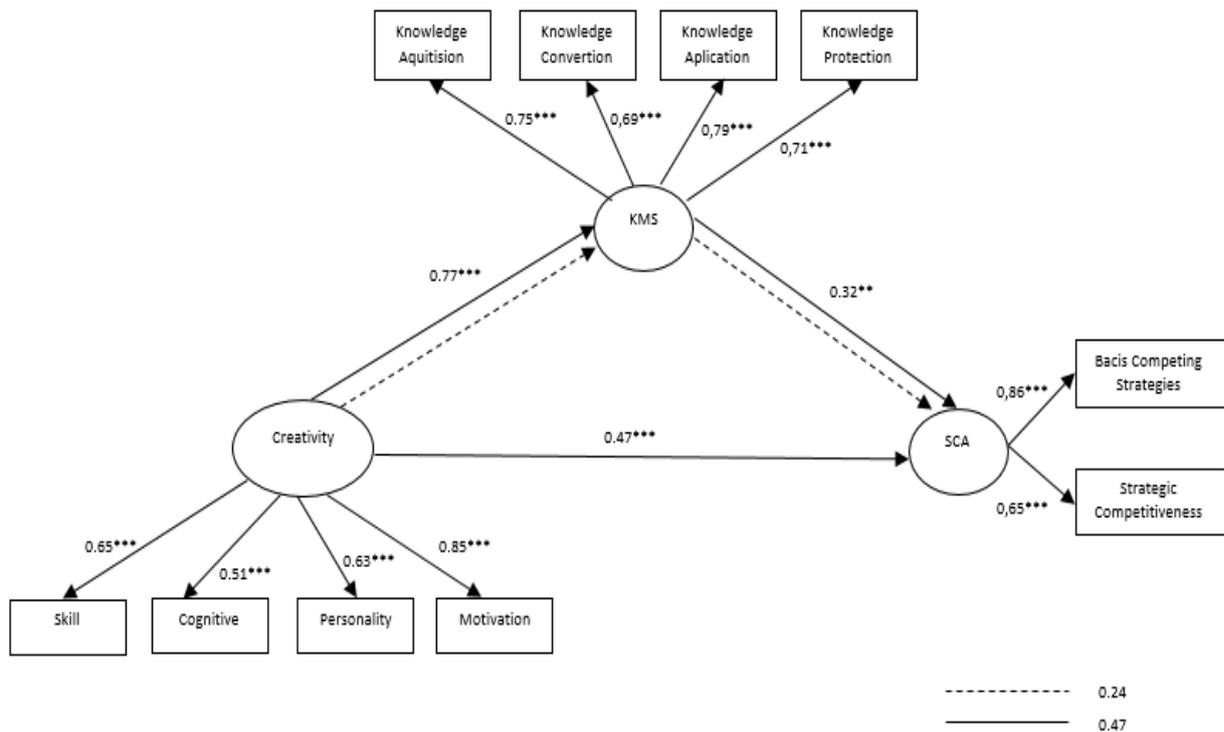
Using the values of the kurtosis from the five variables of the research, we found that they do not exceed the absolute value of 2 for skewness and 7 for the kurtosis index. As Hair et al., 2014 and Kline 2011 did, we further consider the data of this research as to have normal distribution, and the maximum likelihood. The measurement of goodness of fit model which was obtained by operating Chi-Square shows the value of 37.205; P-value is 0.114; CCMIN / df value is 1.329; GFI value is 0.965; AGFI value is 0.931; TLI value is 0.982; CFI value is 0.989; NFI value is 0.958; IFI value is 0.989; RMSEA value is 0.040. The results of the indicators have further proven that the fit model assessment of the research is in a good position and they can further be used as the basis for hypothesis testing through the regression analysis.

The results of AMOS SEM have further showed us that [a] creativity affects the KMS (CR 8.017) at a 0.05 level of significance (***), [b] the KMS affects SCA (CR 2.077) at a 0.05 level of significance (P = 0.038**), and [c] creativity affect SCA (CR 2.924) at the 0.05 level of significance (P = 0.003 ***).

Based on the results obtained by the dimensions of creativity consisting of skill, cognitive, and personality, motivation as a whole is a dimension of creativity with a significant level at

0.05 (***) with the highest standardised regression weights in the motivation, skill, personality, and cognitive dimensions. The dimensions of the KMS which consists of the acquisition process, the conversion process, the application process, and the protection process are dimensions of KMS with a significant level of 0.05 (***) with the highest standardised regression weights in the dimension application process, acquisition process, protection process, and the conversion process. Dimensions of SCA which consist of basic competing dimensions, and strategic competitiveness dimensions can be accepted as dimensions of SCA at a significant level of 0.05 (***) with the highest standardised regression in the basic competing strategies dimension, and then followed by the strategic competitiveness dimension. The size of the standardised regression directly effects the creativity to SCA 0.47. Whereas the standardised indirect effects of creativity to SCA through KMS mediation is 0.24. Those above-mentioned results are further drawn into a model as shown in figure 2 as follows.

Figure 2. Model of KMS in Mediating the Relationship of creativity to SCA



Source: Data analysis, processed

Discussion

This research empirically examines the effects of [a] creativity on the KMS of business of VCD [b] creativity on the SCA [c] KMS on SCA [d] KMS mediation on the relationships of creativity to SCA. The findings of the research are [a] creativity influence the KMS of

business of VCD [b] creativity directly influences SCA [c] KMS influences the SCA when the creativity is an independent variable [d] KMS partially mediates the relationship between creativity to SCA.

In the new economic era, which is characterised by uncertainty, changes occur dynamically, to be able to adapt business organisations' need to implement knowledge management. Knowledge Management is an activity that is implemented by an organisation to be able to adapt sustainably by adjusting business work patterns to face changes that always occur in the external and internal environment, so that businesses can achieve sustainable competitive advantage and be more flexible and have higher performance (Agha et al., 2012). Lopes et al., (2016) in their research proved that the implementation of knowledge management affects business sustainability by using new knowledge in the form of ideas and practices that can expand business.

In the creative economy, creativity is the ability and competency to produce ideas of commercial value. This knowledge is very important in producing attractive and unique visual communication design products so that the message delivered can be well received to the target audience.

The knowledge and creative abilities possessed by the designers are not from the process of management activities related to the analysis of the opportunities and potential of the company. This ability is formed from the process of interaction and social relations outside the company. This ability is obtained through interaction with the outside world. So in the work pattern of an idea-based industry, creativity is an input for the company. Through KMS, creativity is directed to bring the company to the achievement of its long-term vision. The owner of knowledge and creative ability integrates with the company's ability to build corporate value.

The profile of respondents in this research shows that many VCD businesses are involved in young people between the ages of 16-30 years, with the characteristics of young people who have high productivity in producing creativity. Based on observations made, the parties involved in the VCD business are mostly male and when carrying out their responsibilities, they are very sensitive and concentrate fully on adjusting symbols, colours, sizes, themes, and message content that is appropriate to convey to the communicant.

The designers, in general, are understanding of the social environment of people in Riau that are very diverse in characteristics. So that they can conceptualise community activities precisely based on the background of social activities undertaken. Besides profit and non-profit organisations, private and government institutions also collaborate with VCD businesses in work engagement to produce VCD products that support their work programs.

In general, VCD business is managed in a traditional and modern way. Traditionally this business is managed by focusing on individual/business orders that occur accidentally, and in a modern way because the VCD business is managed not only to fulfill requests that occur accidentally but also has formed a network of collaboration with clients.

In addition, the VCD business also plays a very important role in supporting activities related to Riau's culture and tourism that are being developed. Currently the cultural and tourism sector has become the focus of attention of the Riau regional government. So that the characteristics of Riau through the character of local motifs when creating visual messages, in general, are often inserted as messages of Malay cultural values.

Different to other business sectors such as plantations, property, and the service industry in accessing capital, the VCD business, in general, is an independent business. Based on observations made, VCD business capital comes mostly from self-owned capital. The government has not maximally made efforts to strengthen this industry. The provision of training, capital, exhibitions and contests has not been carried out and the seriousness of the local government in developing this VCD sector has not yet been obtained by VCD practitioners. Regulations relating to VCD business do not yet exist, such as building centres for VCD business activities and also making work units tasked with monitoring and helping develop business have not yet been made, while the VCD business is very strategic and has the potential to support Riau's economic activities.

Conclusion and Implication

This research concludes that creativity influences the formation of KMS. The literature has discussed that Knowledge Management is a key factor for gaining and maintaining competitive advantage (Corso et al., 2006; Nguyen and Neck, 2008); this also applies to idea-based industries such as VCD (Ginting et al., 2019). In the VCD business, creativity provides added value and economic benefits to the business. Creativity is knowledge and ability that is embedded in a person, expressed, and used as valuable input in creating high-value design products. Creativity in the VCD business is very important and has an impact on business competitiveness. Collaboration of various types of explicit, implicit and tacit knowledge held by business owners, business managers, and creative/technical workers will form business KMS that can manage creative knowledge collaboration to produce competitive VCD outputs.

The influence of creativity on KMS has been studied and discussed in this research. Further research can discuss how creativity affects KMS business in the creative economy in other sub-sectors (for example sectors related to cultural heritage), whose speed of change tends to be slow because the commercial elements are history/fairy tales, habits, values, and culture.



KMS partially mediates the relationship of creativity to SCA. The implementation of KMS in the CVD business should focus on aspects of knowledge acquisition and application knowledge for creativity. Creativity in the VCD business is applied freely and independently on each party to achieve the common goal of having sustainable competitive advantage. KMS cannot replace or regulate the abilities and skills of parties involved in business in generating sustainable competitive advantage. So, KMS in this research is a knowledge collaboration activity.

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