

Adoption of Readiness Assessment Scorecard in Improving Competitiveness of Creative Industry in Central Java

Winarsih, Hendar Faculty of
Economics Universitas Islam
Sultan Agung Semarang,
Indonesia
winarsih@uissula.ac.id

Abstract—Readiness Assessment Scorecard is offered to measure the extent to which the readiness of creative industries has a competitive advantage. A specific measurement model of competitive advantage will make it easier to develop the creative industry.

The adoption of information technology (IT) can be studied from the perspective of readiness of users, which is the business actors for Micro, Small and Medium Enterprises (SMEs) creative industries in Central Java in adopting IT. The research design and model was developed by using Technology Readiness Index (TRI). The data used are primary data, and sample determination used rule of thumb from Hair et al (2006), with maximum likelihood method.

Data was collected by using survey method with questionnaire and analyzed using AMOS software. In general, the research findings indicate that SMEs in creative industries in Central Java have readiness to adopt IT. However, the research findings also indicate that perceptions of discomfort and insecurity are key issues that could potentially hamper IT adoption by SMEs creative industries in Central Java

Keywords: *Readiness Assessment Scorecard; Technology Readiness Index; competitive advantage*

I. INTRODUCTION

Creative economy in which includes creative industry is believed to be able to answer basic problems in the short and medium term, such as: 1) Low economic development post economic crisis (averaging 4.5% per year). 2) High unemployment (9-10%), 3) High poverty (16-17%), and 4) Low industrial competitiveness in Indonesia. In addition, the creative economy is expected to address some challenges such as global warming, renewable energy use, deforestation and reduced carbon emissions because the goal of developing creative industries is to create environmentally friendly products and services based on the intellectuals owned by Indonesia as a source of renewable energy (Pangestu, 2008, Ministry of Commerce of the Republic of Indonesia).

Some of the problems faced by Indonesia in developing the creative industries are: the readiness of creative human resources, competent educational institutions to produce creative Indonesian human resources, socio-cultural diversity, the readiness of government apparatus to encourage creative industries based on intellectual property

to face global free market, and financial institutions to capitalize creative industry. (Ministry of Trade of Republic of Indonesia, 2008)

Research on the competitive advantage of creative industry in Indonesia has been done by some researchers such as Fitriati et al (2013) on mapping the creative industry related to regional competitiveness, Aritenang (2013) on regional development or innovation, Naomi (2011) on dynamic competitiveness of industry creative and manufacturing. Later, Setyorini et al (2013) suggested that SMEs need to develop human resources and technological capabilities to improve innovation and competitiveness. Jerusalem (2009) concludes that to strengthen the role of triple helix (intellectual, business and government) as this is a factor the key to achieving competitive advantage.

Based on previous studies, it can be concluded about the importance of creative industries to have competitive advantage. Readiness to deal with competition is a major obstacle in the development of creative industries which is believed to have a major contribution to the improvement of the economy in Indonesia. Therefore the Readiness Assessment Model Scorecard is offered to measure the extent to which the creative industry's readiness has competitive advantage. A specific measurement model of competitive advantage will make it easier for intellectuals, businessmen, and government in doing its role to develop the creative industry. From this fact, the need for research that is specifically aimed at investigating the factors of readiness of competitive advantage as a determinant of success in facing competition becomes urgent.

II. LITERATURE REVIEW

A. *Creative Industries*

Berg and Hassink (2013) identified in early 2000 there was a debate among policy makers about the definition of the creative industry, especially about what sectors should be included and excluded. After this debate, from a wide range of discussions finally came a consensus based on the UNESCO definitions that included the following sectors (UNESCO 2007): publishing and literature, artistic performances, music, film, video and photography, broadcasting (television and radio), art visuals and crafts,

advertising, design, including fashion, museums, galleries, and libraries, and interactive media (web, games, mobile, etc).

B. Competitive Advantages

Porter (2008) "competitive advantage is the heart of industrial performance in a competitive market situation". In addition, competitive advantage means having a low cost, differential advantages, or a successful focus strategy. Wingwon, Boonthawan (2012) describes the competitive advantage of Small and Medium Enterprises (SMEs) into 5 aspects as follows. (1) increase market share, (2) firm asset growth (3) general competitiveness (4) lower cost than competitor and (5) product uniqueness as explained by Porter (2008).

C. Balanced Scorecard and Its Development

Chapman et al (2009) on the basic concept of Balanced Scorecard (BSC) introduced by Kaplan and Norton (1992) explains the roots and motivations of BSC and innovations that relate to the management literature. Kumari (2011) further said that BSC can be used as a management strategy system that will clarify and translate strategic vision and strategy, communication and networking objectives and strategic measurements, plan and prepare targets with strategic alliance initiatives, improve strategic feedback and learning. Thus Nzuve and Nyaega (2013) recommend a balanced scorecard used by the company in its strategy implementation and as a performance measurement.

The results of Chan and Hiap review (2012) recommend four BSC perspectives but less focus on customer relationships in the perspective of consumers and customer management on the internal business process perspective. Further suggested recommendations relating to this gap, a list of key performance measures for the construction industry in Malaysia has been selected by linking each trust strategy with relevant performance measurements. Gomes and Romao (2014) combine various tools and approaches to prepare for corporate strategic alliances as replace the statistical evaluation framework.

Divandri and Yousefi (2011) extend the BSC to measure the competitive advantage of port users especially in container terminals. It is concluded that the use of BSC is helpful in scheduling more efficient equipment ie reduction of time used by ships in ports and increasing terminal productivity. Wegmann (2008) using BSCs that connect two theories as background, strategic control approaches and knowledge management theory. In the other hand Cheng et al (2010) integrates Corporate Social Responsibility with Balanced Scorecard for the development of the company's sustainability.

D. Readiness Assessment

Readiness assessment has been studied by previous researchers such as Ramayah et al (2007) studied 300 SMEs in Penang, Kedah and Perlis. His findings explain that SMEs in northern Malaysia are ready to implement e

business, e commerce, and the internet in general. It also explains that in general the commitment of management and infrastructure and technology has a significant influence on the readiness of SMEs. Furthermore Hourali et al (2008) said that the concept of readiness assement for SMEs still get little attention in the literature. His research investigates the e readiness assessment model offered by several countries and then tries to develop a model for measuring readiness assumptions for SMEs with exploratory studies.

Then Janom and Zakaria (2010) studied to find out in general in developing the value of internal and external barriers indicators of the impact of B2B e-commerce development on agricultural-based SMEs. A process hierarchy analysis (AHP) is used in this study to create ranking list so that the key elements can be determined. The use of AHP results in more accurate and more consistent assessment. Thus the company can identify the level of readiness to implement B2B e-commerce and every aspect needed to improve before implementing this application.

Kirori and Achieng (2013) report on research findings related to readiness access of SMEs and financial institutions in Kenya in using information technology and challenges. Furthermore Chanyagorn and Kungwannarongkun (2011) explain the readiness model of information and communication technology information especially designed to measure readiness level of benefits and penetration on SMEs in developing countries. This technology assessment model includes 15 important indicators, mathematical models, development factors and interpretation guidelines for readiness of information and communication technology.

Alam and Noor (2009) evaluated the relationship between ICT adoption and the five factors that resulted in benefits, costs, ICT knowledge, external pressure and government support. The results of this study illustrate that three factors are significantly important in ICT adoption in determining adoption. This study resulted in a better understanding of SMEs' perceptions of ICT adoption in their business services. While Nezakati et al (2012) found that the technical knowledge of e-commerce is significantly no difference between Malaysia, Singapore and Thailand both in manufacturing and service industries, but in technical knowledge and skills have the same challenge that is the influence of e-commerce in these countries.

This research uses theory, namely Technology Readiness Index (TRI) which adapted from Parasuraman (2000). The reason for using the theories is because it is relevant to explain the issue and purpose of research, that is measuring and predicting the level of readiness of information technology adoption by creative industry. Technology Readiness Index (TRI) adapted from Parasuraman (2000). TRI measures the tendency of a person to accept and use technology to accomplish goals in domestic life or at work. The constructs in the TRI model are an overall thought statement that results from the mental of the impulse and inhibitor that collectively determines the tendency to use new technology. TRI is a framework that explains the

relationship of individuals with technology, namely the relationship of individual characteristics and beliefs to various aspects of technology. The relative strength of each characteristic indicates one's openness to technology (Parasuraman, 2000). TRI defines four main constructs of individual readiness adopting IT based on common personality characteristics and motivator or inhibitor factors on new technologies. Here are the constructs in the TRI model (Parasuraman, 2000). 1) Optimism, which is a positive view of technology. Positive beliefs about technology can improve control, flexibility, and efficiency in life because of technology. 2) Innovation innovativeness, the tendency to become the first user of a new technology. 3) Inconvenience, ie overwhelming feelings and inability to control new technology. 4) Insecurity, ie distrust of new technology for security and privacy reasons. Based on the explanation of theoretical basis, it can be concluded that TRI can explain and predict the degree of readiness of individual adoption in receiving IT.

III. RESEARCH METHOD

Data collection methods used in this study are Focus Group Discussion (FGD) and field survey. FGDs are intended to verify validated readiness assessments scorecard of creative industry competitiveness and to generate initial concept implementation methodologies of the scorecards that have been produced. While the field survey conducted by distributing questionnaires to a number of potential respondents which is creative industry players in creative industries centers in Central Java region as much as 267 respondents.

IV. RESULT AND DISCUSSION

Based on the data and the results of verification of researchers on the number of creative industries in Central Java in 2017, there are 500 companies. Of the 300 questionnaires distributed, 267 are returned and can be further processed. The following is a creative industry type of 267 samples is described in Table 5.1.

TABLE I. TYPES OF CREATIVE INDUSTRY

Types of Industry	Frequency	Percentage
Craft	30	11.24
Advertising	20	7.49
IT Software and Services	15	5.62
Design	20	7.49
Apparel Design	10	3.75
Film/video/photography	5	1.87
Music	5	1.87
Architecture	10	3.75
Antique and Artistic Goods	2	0.75
Batik	65	24.34
Bed linen, pillowcases	25	9.36
Gray Fabrics	20	7.49
Publishing and Printing	10	3.75
Interactive games	15	5.62
Art Performance	5	1.87
Others	10	3.75
Total	267	100

Based on Table I that batik shows the greatest results, but for the next craft in the next sequence. The type of technology used is as follows:

TABLE II. TYPES OF IT USED

Types of TI	Frequency	Percentage
Website	131	49.06
Email	6	2.25
Handphone	67	25.09
Telephone	52	19.48
Fax	11	4.12
Total	267	100

Based on the table shows that the type of information technology used by the largest creative industries is the website. This means web is primarily used as a means of communication. These findings indicate that the growth of creative industries based on information technology in Central Java is quite good and the selected samples are distributed equally and relevant in the adoption of information technology.

Key findings identified through interviews from key person and employees of the creative industries are as follows:

1. Understanding of information technology shows that most businessmen do not have difficulty in its use.
2. An innovative is aware of the progress of technology and the rapid development of technology, so the information technology system is relatively brief
3. The use of information technology is based on the amount of contribution earned
4. The perception of convenience and usability by adopting information technology

V. CONCLUSION

From the research that has been done, it can be drawn the conclusion as follows:

1. The low competitiveness of creative industries in the global market is due to the low level of information technology usage that is limited to the domestic market
2. Ready to adopt information technology that is predicted to facilitate easy use and perception usability, character of innovation, optimism and insecurity.
3. Potential development of creative industry is very big, so it need assistance and supervision from various parties involved

VI. LIMITATION

Limitations of this study are as follows:

1. The object of research is a creative industry that is diverse in industry sector, so that the focus is not supported by deep explorative study
2. Focus only on the Central Java region therefore it doesn't provide condition of other region

VII. SUGGESTION

1. Further research should meet the coverage of research findings.
2. The results of this study after reverification and established implementation methodology, can be used by companies for the adoption of information technology in obtaining competitive advantage

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