Human Capital Advantage Based on Dynamic Capability Through Digital Competency

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Abstract. This study aims to analyze the competitiveness of human capital based on dynamic capability with digital competency for the creative craft industry in West Java, Indonesia. Most previous studies have applied dynamic capabilities for organizations, but this research reveals the dynamics of capabilities applied to individuals as a business community. The study used descriptive and explanatory survey methods with proportionate random sampling on 341 creative craft industries spread across selected cities and districts of West Java. The data analysis technique used SEM with the support of PLS3. The results of the study, in general, dynamic capabilities affect human capital advantage. However, in particular, only adaptive capability and innovative capability affect human capital advantage, while absorptive capability is found to be insignificant. The existence of digital competence moderation has been proven to strengthen the relationship between absorptive capability and human capital advantage. Moderation of digital competence does not mean the relationship between adaptive capability and human capital advantage, and the moderation of digital competence weakens the relationship between innovative capability and human capital advantage.

Keywords: Absorptive Capability · Adaptive Capability · Digital Competency · Dynamic Capability · Human Capital Advantage · Innovative Capability

1 Introduction

Human resources are the key to a country's economic growth [1, 2]. A knowledgeable workforce is the most vital factor of production in winning global competence. The transformation of human resources into human capital is based on capabilities that must be continuously improved through Education and training [3]. Human capital must have high adaptability to the dynamic environment. Currently, the Industrial Revolution 4.0, which is characterized by data integration and transparency, requires human capital to have digital capabilities to be able to compete in the business industry. Industry 4.0 requires the organizational integration of many of the latest IT-based and digitized technologies throughout the value chain [4].

Human capital growth in developing countries, especially in Indonesia, does not yet have high literacy. The United Nations Development Program (UNDP) categorizes Indonesia in the middle-level HDI (Human Development Index), occupying 107 of 189

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countries [5]. Human capital growth and economic growth in Indonesia have not been balanced. The industry in Indonesia that is progressing is the creative craft industry. In the last five years, the progress of the increase has continued to increase at 8–9% per year [6]. The creative industry of the craft sub-sector has the potential to compete in the Industrial world because the Indonesian craft creative industry offers a lifestyle inspired by local wisdom with international tastes. Currently, handicraft is one of the three largest sub-sectors that contribute to GDP, exports, and employment. This creative craft industry will be able to continue to advance if it has adequate human resources and can diversify the economy [7]. Economic diversification requires sufficient human capital competence because it affects creativity and innovation as well as performance [8].

However, in reality, the development of the creative craft industry with the competitiveness of human capital has not provided optimal performance. The performance achievement is only around 96.23%. This is due to unequal levels of Education, lack of professional development and competitive human capital, and unfinished activities due to incompetent providers, resulting in delays or cancellation of contracts. In addition, the level of competence in technology can be seen in e-commerce users. Only 56.48%, or half of craft business actors, have implemented e-commerce in their business. This means that there are still 43.52% who have not used e-commerce technology literacy [9]. Based on this, the growth of the creative craft industry must continue to be improved by developing various human capital capabilities. The capabilities that are focused on in this research are dynamic capabilities and digital competencies.

Theoretically, there are still differences in dynamic capability. The concept of dynamic capability is the ability to create innovation and adapt to changes in the environment. The concept of dynamic capability has three basic elements: sensing, seizing, and transforming [10, 11]. Meanwhile [12] stated that this dynamic concept includes adaptive capability, absorptive capability, and innovative capability. In contrast to dynamic capabilities, it consists of sensing, learning, reconfiguration, and coordination & integration [13]. The elements of the dynamic capability concept, according to experts, vary according to the type of industry and changing environment. So analyzing dynamic capabilities still requires research development.

Before this, various research results on human capital have been found. Human capital with economic development is carried out [1] found agglomeration of human capital to be a determinant of regional economic growth. Human capital with competitiveness [14] has discovered that market orientation, absorption, and innovation are strengthened thanks to human capital's crucial moderating role. [15] has revealed that supply chain integration contributes to competitive performance. Human capital with innovation [15] shows that learning will encourage creativity and innovation to increase human capital. Likewise, previous research on dynamic capabilities shows that human resource systems are determined mainly by dynamic capabilities [16]. The balance between global standardization and local adaptation in human capital is primarily based on dynamic capabilities [17]. The company's competitiveness requires dynamic capabilities because it will affect strategic decisions within the company. The set of pre-existing knowledge, abilities, and attitudes known as "digital competence" (DigC) are essential for one's

personal and professional development in a variety of contexts. [18]. Research on digital competence [19] links digital competencies that can improve service development. Digital competence with strategic planning [20, 21] shows that digital orientation and adoption are needed simultaneously to increase digital competence in the regional or international economy. Digital competence as a determinant of skills in the 21st century explains that digital skills are not only related to a technicality but also content whose uniqueness depends on the individual background.

The difference between previous research and now is that previous research has revealed the use of dynamic capabilities in large companies or organizations. Meanwhile, human capital research is mainly related to performance and sustainability. This study will reveal an analysis of dynamic capabilities with human capital applied to individuals and small and medium-sized companies in the creative craft industry in West Java, Indonesia.

Based on the explanation above, the purpose of this research is to analyze the dynamic capability relationship represented by adaptive capability, absorptive capability, and innovative capability to the competitiveness of the human capital of creative craft industry implementers and moderated by digital competence. Will there be a relationship between dynamic capabilities on the competitiveness of human capital? Moreover, will that relationship be strengthened by digital competence? Therefore, this research takes the title "Human Capital Advantage Based on Dynamic Capability Moderated by Digital Competence".

1.1 Hypothesis Development

Dynamic Capabilities and Competitiveness of Human Capital

Skills in human capital will change activities and find intelligence in managing operations and influencing markets in the industrial era 4.0 [22]. Dynamic capabilities make managers or business actors very helpful in the value creation process, especially innovation [23], has the potential to solve problems systematically [24]. Tamer has researched that market dynamism moderates the mediated relationship between human capital and competitive advantage through market-sensing capabilities [25]. Therefore, it is hoped that dynamic capabilities can provide efficient and effective competitiveness creation [26]. Accordingly, we propose the following three hypotheses:

1. H1: adaptive capability will be positively related to human capital advantage
2. H2: absorptive capability will be positively related to human capital advantage
3. H3: innovative capability will be positively related to human capital advantage

Dynamic Capabilities, Digital Competence, and the Competitiveness of Human Capital

The application of dynamic capabilities allows companies to more quickly modify or revise activities that are adapted to respond to the challenges of the times [27]. The phrase human capital advantage is defined as having talent, superior performance, productivity, flexibility, innovation, and serviceability [28]. The challenges of the times in the Industrial Revolution 4.0 are very close to technology. Human capital capabilities are not yet

perfect without digital competence. Digital competence is a set of knowledge, skills, attitudes, abilities, strategies, and awareness needed when using ICT and digital media to perform tasks; solve the problem; convey; manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, independently, flexible, ethically, reflectively for work, leisure, participation, learning, socializing, consuming and empowering [29]. The effect is that digital competence can strengthen the influence of dynamic capabilities on the competitiveness of human capital. Accordingly, we propose the following three hypotheses:

4. H4: digital competency will moderate the relationship between adaptive capability and Human capital advantage
5. H5: digital competency will moderate the relationship between absorptive capability and human capital advantage
6. H6: digital competency will moderate the relationship between innovative capability and human capital advantage

2 Methods

The subject of this research is the creative craft industry in West Java. The object of this research consists of three variables, namely, dynamic capabilities represented by adaptive capability (X1), absorptive capability (X2), innovative capability (X3), digital competence (M), and human capital advantage (Y). This research method uses descriptive and verification using descriptive surveys and explanatory surveys. According to Sekaran & Bougie, it describes profiles, characteristics, relevant aspects, and variables in research relating to humans, organizations/industry [30].

The data respondents are the owners of the craft industry in West Java. Based on the calculation of the Slovin formula, as many as 431 people were distributed using the cluster proportional random sampling technique. The method of analysis is descriptive analysis and quantitative analysis with Structural Equation Modeling (SEM) assisted by analysis tools with PLS 3.

3 Results and Discussion

3.1 Statistical Study

The results of F Square or the magnitude of the influence between the effect size variables show that X1 to Y, X2 to Y are included in the neglected category, while X3 to Y and M to Y include low influence, it is based on the category of f square value of 0.02 including the small category, 0.15 medium category, and value 0.35 large category [31]. Values below 0.02 can be disregarded or assumed to have no effect (Fig. 1).

As for R square or coefficient of determination, if the value of R Square is 0.75, it indicates that the model is strong, 0.50 is moderate, and 0.25 is weak (Sarstedt et al., 2017). The results of the data processing show that the R Square of 0.542 means that the exogenous constructs (X1, X2, and X3) on the endogenous construct Y have a moderate effect. The criteria for model fit, seen from the Standardized Root Mean Square (SMSR) value of $0.061 < 0.10$ or < 0.08, means that the model belongs to the good fit category,

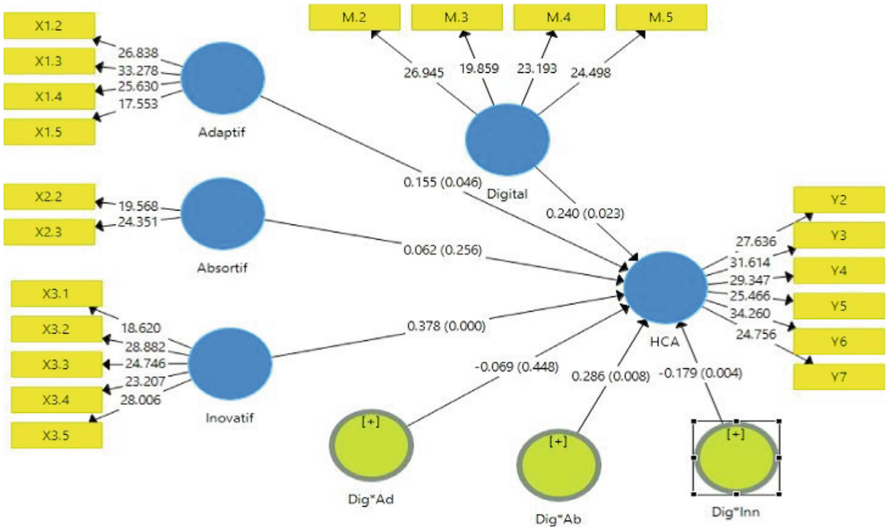

Fig. 1. Results of data processing with PLS 3

that is, it fits data, or the data can explain the model. In addition, the blindfolding value of Q2 HCA is 0.310, meaning that the exogenous adaptive capability (X1), absorptive capability (X2), and innovative capability (X3) variables can predict and have relevance to the competitiveness of human capital.

The results of hypothesis testing from the PLS-SEM bootstrapping analysis show that H1 is accepted because the p-value is $0.046 < 0.05$. This means that the effect of adaptive capability on human capital advantage is statistically significant or significant. The absorptive capability will be positively related to Human capital advantage. H2 is rejected because the p-value is $0.256 > 0.05$. This means that the effect of absorptive capability on human capital advantage is not significant or not statistically significant. H3 is accepted because the p-value is $0.000 > 0.05$. This means that the effect of total innovative capability on human capital advantage is statistically significant or significant. H4 is not accepted because the p-value is $0.448 > 0.05$. This means that the moderating effect of digital competency on the relationship between adaptive capability and human capital advantage is neither significant nor statistically significant. H5 is accepted because the p-value is $0.008 < 0.05$. It means that the moderating effect of digital competency on the relationship between absorptive capability and human capital advantage is statistically significant or significant. H6 is accepted because the p-value is $0.004 < 0.05$. It means that the moderating effect of digital competency on innovative capability on human capital advantage is statistically significant or significant.

3.2 Discussion

Previous research stated that dynamic capabilities would be suitable to be carried out in organizations, not individuals who are part of the organization because dynamic capabilities require an organizational learning culture. On the whole, it is not enough

for only some people because dynamic capabilities are created from a combination of individual leadership and organizational routines [32]. This research proves, in general, that dynamic capabilities can be applied to individuals as creative industry players who have a learning spirit. However, in particular, human capital advantage can increase if business actors can adapt and have the ability to innovate. It is proven that adaptability has an effect on human capital advantage in particular. According to findings on adaptability, it will make it easier for companies to cross international borders [21]. Likewise, dynamic capabilities, proven as part of the innovation process and the creation of innovations that adapt to changes in the environment [10], can increase the special human capital advantage. This is by [28] statement that innovation is part of special human capital advantage so that when it is proven by the dynamics of capability on the innovation capability dimension, it gets significant results. As for the absorption ability, it has not been able to increase specifically for human capital advantage. Absorption capability can be a moderator and is proven to affect the quality of the ability that can result in effective knowledge transfer when the company has a higher level of organizational learning intention [33]. Absorptive capabilities related to leadership, organizational structure, research, and development, it cannot be done alone [32]. It takes a competent team and culture to absorb knowledge so that it becomes a product.

The existence of digital competence in strengthening the relationship between variables only occurs in the influence of absorptive ability on human capital advantage because absorptive requires digital competence for teamwork in conducting research and development. While the adaptive capability does not require digital competence because the adaptive capability itself includes learning to adapt to the environment. The existence of digital competence in the innovative relationship to human capital advantage in this study was proven not to strengthen. Their existence weakens the human capital advantage, it can be caused by the convenience and availability provided by technology so that which limits creativity for innovation. This study concludes that the relationship between innovative capabilities will be stronger if there is no digital competence.

4 Conclusions

The conclusions from the discussion above are: first, dynamic capabilities will help increase the competitiveness of human capital by increasing dynamic capabilities and innovative capabilities, but absorptive capabilities cannot be done individually because dynamic capabilities require teams with the same learning culture. Second, digital competence is needed and will strengthen the influence of absorptive capabilities because it requires research and development from the team. While adaptive does not require digital competence and innovative digital capabilities, the competence will weaken the ability to think creatively and innovatively because actors will assume everything has been provided by technology. Future research can dig deeper into the influence of the dynamics of capability at the individual stage with other variables such as networking ability or performance.

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