

## THE LINKAGE BETWEEN INDIVIDUAL VALUE AND KNOWLEDGE CREATION IN HUMAN CAPITAL

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**Abstract.** This study aims to examine the relationship between individual value and knowledge creation in human capital. The effect of individual value on each element of knowledge creation – socialization, externalization, combination and internalization – is tested in this study. The study also tested the effect of each component of knowledge creation with human capital. Data were collected using an online questionnaire. A total of 286 questionnaires were sent to managers of medium-sized companies in the province of Bali, Indonesia. Of the 196 questionnaires that were sent, returned and filled out completely, 158 had responses that were utilizable, showing a usable response rate of 80.61%. Data analysis was carried out using variance-based structural equation modelling with a partial least squares approach (SEM-PLS) with WarpPLS 7.0. The results of the study found a significant positive effect of individual value on each element of knowledge creation: with socialization, with externalization, with combination and with internalization. This study also found that each component of knowledge creation has a significant positive effect on human capital: socialization, externalization, combination and internalization, respectively. This study shows that the value that is believed by individuals based on knowledge can be a strong factor of competitiveness for future of human capital.

**Keywords:** individual value, knowledge creation, socialization, externalization, combination, internalization, human capital.

**JEL Classification:** M12, J24, D83.

### Introduction

As a result of the rapid advancement of information technology and the high intensity of economic competition, globalization has caused changes in business strategy (Teece et al., 1997). Globalization has brought about a change in the perspective of knowledge-based competition as a strategic resource for organizations to create sustainable competitive advantages. Changes occur in the organization's strategic resources from tangible assets to intangible assets (Lado-González & Dopico, 2017). Intangible resources are managed by the organization through the resulting creative innovations (Madhani, 2012). According to Bontis et al. (2000), the management of organizational intangible assets in the form of individual resources is often called human capital. Human capital is a knowledge-based economic resource (Chaudhry et al., 2016) and has a strategic role in creating competitive advantage (Curado, 2008; Marr et al., 2004; Rastogi, 2000; Shih et al., 2010).

Human capital has a relationship with knowledge creation, because both are involved in the process of creating knowledge (Huang & Wu, 2010; Nonaka et al., 2000; Zhou & Fink, 2003). Knowledge creation is related to the process of creating innovation in accordance with the development of knowledge. Mitra et al. (2011) added that knowledge creation is very important and unique, because it involves the belief systems of the human capital (Afiouni, 2009). Hence, the emergence of knowledge does not just happen by chance as it involves the process of social interaction both inside and outside the organization. According to Gorman and Pauleen (2011), created knowledge is a very valuable organizational asset. Knowledge is a resource needed to create added value and competitiveness. As such, knowledge is a rare valuable resource that is difficult for competitors to imitate and unlikely to be replaced by other resources (Spender & Grant, 1996). Organizational ability in knowledge creation determines future success.

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Knowledge creation is inseparable from the belief system of human capital (Afiouni, 2009) as a value believed by individual organizations (Mutamba, 2016). The values in an organization become the criteria used in setting the priority scale of the knowledge management process (Delshab et al., 2019). According to Grube et al. (1994), value is a conception of the individual's mind and is used as an important basis for understanding individual attitudes and behaviour (Rokeach, 1968). Individual values reflect beliefs that are the basis for the strength of actions that show individual characteristics. Meglino and Ravlin (1998) indicated that individual values tend to be permanent (Schwartz, 2011). While in the process of creating knowledge, when individuals have determined values, it is not easy to change individual values quickly. Hence, the permanent characteristics of individual values become an obstacle in knowledge creation because individual values seem slow to adjust to the speed of change and uncertainty in the economic environment. Another obstacle related to the characteristics of individual values is that there are many different value concepts from many individuals in an organization. Differences in the concept of values result in unavoidable value conflicts, including conflicts on individual values. Individual value conflicts often limit individuals' ability to act objectively and rationally, thereby hindering and disrupting the process of knowledge creation and human capital management.

The results of the Society for Human Resource Management (2015) research indicate that the organization's need for human capital continues to increase and become a future business challenge. However, organizations have difficulty finding human capital involved in knowledge creation and innovation (Khadan, 2018). The basic principle underpinning human capital is the belief that individuals have a value that is comparable to other resources involved in knowledge creation and innovation (Mutamba, 2016). Furthermore, the findings of Khadan (2018) show that the occurrence of a mismatch of knowledge and competence in human capital is the most serious obstacle to improving performance and the main cause of low individual innovation. Therefore, it is important to conduct research to examine the model of the relationship between individual value and knowledge creation in human capital. Thus, this study is a novelty because it is the first attempt to build an empirical model of human capital through the role of knowledge creation and individual value.

## 1. Literature review and hypotheses

### 1.1. Resource-based view, knowledge-based view and belief system theory

Theories that contribute to the importance of organizational resources, both tangible and intangible, include the knowledge created for competitive advantage strategies; this is referred to as the resource-based view (RBV) (Barney, 1991). Grant (1991) adds that RBV is a managerial framework used to determine strategic resources that can

be utilized by organizations to achieve sustainable competitive advantage. RBV focuses managerial attention on the organization's intangible assets in an effort to identify knowledge resources. Likewise, Marr et al. (2004) mention that knowledge resources controlled by an organization enable it to understand and implement strategies that have the potential to provide superior competitiveness. The potential of knowledge is a valuable, rare, non-imitable and non-substitutable resource to create a sustainable competitive advantage (Spender & Grant, 1996).

The concept of knowledge-based competitiveness contributes to the resource-based theory, which sees organizations as a unique collection of individual resources (Barney, 1991; Marr et al., 2004). Extending the RBV, which identifies knowledge as an important organizational resource in facing sustainable competition, is a strong support for the knowledge-based view (KBV) Bontis (1999). Knowledge resources are integrated with other organizational resources to build unique competitiveness (Freiling, 2004). Furthermore, Teece et al. (1997) add that knowledge resources are the spearhead in an effort to win sustainable competition in the long term in the future. Knowledge is a fundamental resource for creating knowledge-based competitive strategies (Grant, 1991; Spender, 2009).

The belief system theory (BST) developed by Rokeach (1968) becomes a reference for understanding values as individual beliefs. Values are basic beliefs that shape attitudes and influence individual behaviours (Rokeach, 1968). Characteristics of values tend to settle in the psychological structure of individuals (Schwartz, 2011). Individual value is very important to increase individual motivation in creating superior competitiveness of the organization. Furthermore, Rokeach (1968) add that individual values consist of terminal and instrumental values. Terminal values are goals and final states that one really wants to achieve during life, while instrumental values are the behaviours more desirable to achieve the terminal value. Referring to Grube et al. (1994), BST is a thinking design that describes the relationship between attitude, value and behaviour. The relationship between behaviour and beliefs shows that behaviour results from values and self-concepts.

### 1.2. Individual value and knowledge creation

Individual values lay the foundation for understanding attitudes and motivations to achieve the desired goals. The goals to be achieved by individuals are in line with the process of achieving organizational goals. Therefore, if knowledge-based becomes an organization's competitive advantage strategy, then, the individuals in the organization must also have the value to create knowledge. According to Rokeach (1968), individual value consists of cognitive components related to something desired; affective components correlated with individual feelings about something to be achieved; and behavior components that show values that influence actions to achieve the desired. Individual value is recognized as a significant contributor

to the process of creating organizational strategies to facilitate knowledge-based individual behaviour (Delshab et al., 2019). This opinion shows that the value believed by individuals to carry out a form of activity is part of the knowledge creation process. Knowledge creation involves a unique belief system that is difficult to simplify which is created from individual values. Tiwana (1999) supports that the superior competitiveness of an organization can be created through knowledge creation carried out by individuals on an ongoing basis. A continuous knowledge creation process can only be done with unique characteristics and a strong belief in individual values.

There are four models in the knowledge creation process (Nonaka & Takeuchi, 1994), namely socialization, externalization, internalization and combination (SECI). Socialization is the process of converting tacit knowledge to tacit knowledge. Externalization is the process of converting tacit knowledge into explicit knowledge. Combination is the process of converting explicit knowledge into more complex and systematic explicit knowledge. Internalization is the process of converting explicit knowledge into tacit knowledge. Furthermore, Nonaka and Nishiguchi (2002) stated that every process in the SECI model involves belief systems from individual values and is carried out with strong beliefs to create knowledge as justified. Knowledge is created at the level of individual entities in the organization through the interaction of tacit and explicit knowledge effectively with cooperative mechanisms through the SECI process (Chou & Tsai, 2004). The findings of Delshab et al. (2019) support that the linkage of individual value to knowledge creation is an individual process in creating knowledge. The hypotheses that can be formulated from the above statement are as follows:

- H1: Individual value affects socialization.
- H2: Individual value affects externalization.
- H3: Individual value affects combination.
- H4: Individual value affects internalization.

### 1.3. Knowledge creation and human capital

Knowledge, according to Pojasek et al. (2001), is information with value that is easy to understand and apply and is the most difficult form to manage (Debowski, 2006). Knowledge management, according to Horwitch and Armacost (2002), is a process consisting of knowledge creation, knowledge sharing, knowledge acquisition, knowledge codification and knowledge retention and can provide support for competitive advantage strategies. Nonaka and Takeuchi (1994) mention that knowledge creation is the ability of an organization to develop a sustainable knowledge-based organization strategy through the SECI process (Nonaka et al., 2000; Nonaka & Nishiguchi, 2002). Furthermore, Teece et al. (1997) and Newman and Conrad (2000) state that knowledge creation aims to create new knowledge by managing the innovation potential of human capital at all levels of the organization (Scharmer, 2001). According to Debowski (2006), the knowledge creation process to identify, capture, manage and distribute

intangible assets is very important to improve the superior performance of the organization's human capital. Shih et al. (2010) and Mitra et al. (2011) add that the ability of knowledge creation has a relationship with human capital as an organization's competitiveness. Knowledge creation is an organizational strategy in developing human capital comprehensively to create a sustainable competitive advantage (Yu et al., 2017).

The hypotheses that can be formulated from the above statement are as follows:

- H5: Socialization affects human capital.
- H6: Externalization affects human capital.
- H7: Combination affects human capital.
- H8: Internalization affects human capital.

## 2. Methods

The research was conducted in 286 medium-scale companies in the Bali province, Indonesia (Central Bureau of Statistics, 2021). The sample size was determined using Slovin's formula, assuming a sampling error of 5%; the sample size of this study was 167. Data was collected from managers as individuals representing medium-sized companies as research respondents. Due to the COVID-19 pandemic situation, this research was conducted using an online questionnaire via Google Forms. Questionnaire links were sent to respondents via email. Assuming a response rate of 85%, 196 questionnaires were sent to respondents. Of the 196 questionnaires sent, returned and filled in completely, 158 gave a usable response rate of 80.61%. Data analysis was carried out using variance-based structural equation modelling with a partial least squares approach (SEM-PLS) (Hair et al., 2017) with WarpPLS 7.0 (Kock, 2020). The results of the demographic analysis of respondents in this study showed that men (65.80%) had a working period of > 5 years (64.60%) and had a bachelor's degree (77.20%).

The measurement of the questionnaire items in this study used a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Individual value is measured using two dimensions adapted from the research of Musil et al. (2009): (a) terminal values; and (b) instrumental values. Socialization was measured using four items adapted from the research of Yu et al. (2017): (a) cooperative; (b) uses apprentices and mentors; and (c) brainstorming retreats; (d) employee rotation. Externalization was measured using five items adapted from the research of Yu et al. (2017): (a) problem-solving system based on a technology; (b) groupware and other learning collaboration tools; (c) adopts pointers for expertise; (d) modelling based on analogies and metaphors; and (e) captures and transfers experts' knowledge. Combination was measured using four items adapted from the research of Yu et al. (2017): (a) web-based access to data; (b) uses web pages; (c) uses databases; and (d) repositories of information, best practices and lessons learned. Internalization was measured using three items adapted from the research of Yu et al. (2017): (a) adopts on-the-job training; (b) adopts

learning by doing; and (c) adopts learning by observation. Human capital is measured using two dimensions from the research of Lepak and Snell (2002): (a) human capital value; and (b) human capital uniqueness.

Table 1. Descriptive statistics of variables studied

Variable	Theoretical Score		Actual Score		Mean	SD
	Min	Max	Min	Max		
Individual value	1	5	2.89	4.22	3.72	0.41
Socialization	1	5	3.00	5.00	4.12	0.55
Externalization	1	5	3.20	5.00	4.06	0.51
Combination	1	5	3.00	5.00	4.15	0.54
Internalization	1	5	3.00	5.00	4.15	0.62
Human capital	1	5	3.18	4.91	4.20	0.51

Descriptive statistical results using SPSS 23 (see Table 1), with agreeable answers indicated by mean values of 3.72 (individual value), 4.12 (socialization), 4.06 (externalization), combination (4.15), internalization (4.15) and 4.20 (human capital), indicating a value close to 4.00. The average respondent agrees with the item being asked, meaning that there is no distance from the respondent's answer.

### 3. Results

#### 3.1. Measurement model analysis

The results of the goodness of fit evaluation (Table 2) refer to Hair et al. (2017) that this research model has an APC value of 0.544 with a p value of < 0.001 and an ARS of 0.729 with a p value of < 0.001 and AARS of 0.727. Meanwhile, AVIF is 3.554, which is smaller than 5 (Hair et al., 2017), that mean, there is no vertical and lateral

Table 2. Results of Goodness of Fit research model

Evaluation	Value	Criterion
APC	0.544*	significant if < 0.05
ARS	0.729*	significant if < 0.05
AARS	0.727*	
AVIF	3.554	acceptable if <= 5

Note: \*All significant at p < 0.001.

multicollinearity and the criteria of goodness of fit was met significantly in the research model.

Evaluation of validity measurement instruments (Table 3) refers to Fornell and Larcker (1981), consisting of: convergent validity with an average variance extracted (AVE) value greater than 0.5 indicating the validity of the indicator variables, namely: individual value of 0.596, socialization of 0.536, externalization of 0.567, combination of 0.542, internalization of 0.659 and human capital of 0.596. Discriminant validity criteria can be met because the value ( $\sqrt{AVE}$ ) of all research latent variables is greater than the correlation coefficient of latent variables, i.e., individual value of 0.631, socialization of 0.732, externalization of 0.684, combination of 0.737, internalization of 0.807 and human capital of 0.705. For predictive validity, all research variables are measured from the q-square value of the endogenous variables of the research model, namely: the socialization variable of 0.723, externalization of 0.628, combination of 0.746, internalization of 0.690 and human capital of 0.850, which is greater than 0 (zero), thus fulfilling the predictive validity criteria. The reliability criteria according to Fornell and Larcker (1981) were measured by the value of composite reliability and the value of Cronbach's alpha greater than 0.7. The measurement instrument reliability criteria have been met in the study (see Table 3), as shown by the composite reliability value (individual value: 0.910, socialization: 0.821, externalization: 0.808, combination: 0.825, internalization: 0.848 and human capital: 0.912), and Cronbach's alpha value (individual value: 0.893, socialization: 0.708, externalization: 0.700, combination: 0.716, internalization: 0.728 and human capital: 0.891). Evaluation of multicollinearity measurements between indicators as measured by full collinearity VIP (Hair et al., 2017), in this study (see Table 3) also has a value that has met the criteria with a Full Collinearity VIP value < 3.3 (individual value: 3.212, socialization: 3.197, externalization: 2.685, combination: 2.720, internalization: 3.270 and human capital: 2.250), so that the data analysis process can followed by the evaluation of the structural model.

Meanwhile, convergent validity was also shown by the combination of loadings and cross-loadings in this study (see Table 4). Reflective constructs that have a value above 0.70 and a significant p-value (<0.05) meet convergent validity (Hair et al., 2017). The outer loading value in this study i.e., for individual value, socialization,

Table 3. Validity and reliability test results

	AVE > 0.5	Q-square > 0	Sq.r AVE	Composite reliability > 0.7	Cronbach's alpha > 0.7	Full Collinearity VIP < 3.3
Individual value	0.598		0.631	0.910	0.893	3.212
Socialization	0.536	0.723	0.732	0.821	0.708	3.197
Externalization	0.567	0.628	0.684	0.808	0.700	2.685
Combination	0.542	0.746	0.737	0.825	0.716	2.720
Internalization	0.659	0.690	0.807	0.848	0.728	3.270
Human capital	0.596	0.850	0.705	0.912	0.891	2.250

Table 4. Combined loadings and cross-loadings results

	IV	SO	EX	CO	IN	HC	P value*
Tv1	<b>0.730</b>	0.431	-0.453	0.098	0.062	0.674	< 0.001
Tv2	<b>0.748</b>	0.092	-0.189	0.396	0.186	0.249	< 0.001
Tv3	<b>0.737</b>	-0.456	0.238	-0.571	-0.100	0.112	< 0.001
Tv4	<b>0.790</b>	0.474	0.167	-0.145	0.196	-0.253	< 0.001
Tv5	<b>0.774</b>	-0.710	0.345	0.619	0.049	-0.549	< 0.001
Tv6	<b>0.969</b>	0.580	-0.305	0.182	0.108	0.551	< 0.001
Tv7	<b>0.759</b>	0.400	-0.277	-0.120	0.029	0.209	< 0.001
Tv8	<b>0.747</b>	-0.841	0.122	-0.409	-0.061	0.436	< 0.001
Iv1	<b>0.734</b>	0.093	0.212	-0.703	0.239	-0.174	< 0.001
Iv2	<b>0.773</b>	-0.375	-0.094	0.225	0.132	-0.633	< 0.001
Iv3	<b>0.721</b>	-0.721	-0.025	0.4531	0.560	-0.240	< 0.001
Iv4	<b>0.781</b>	-0.899	-0.324	0.523	0.527	-0.377	< 0.001
Iv5	<b>0.731</b>	0.532	-0.140	0.554	0.196	0.600	< 0.001
Iv6	<b>0.743</b>	0.138	-0.042	0.375	-0.348	0.076	< 0.001
Iv7	<b>0.717</b>	0.103	0.440	0.557	0.039	-0.116	< 0.001
Iv8	<b>0.711</b>	-0.058	0.370	-0.714	-0.233	0.173	< 0.001
So1	-0.491	<b>0.711</b>	-0.510	0.249	0.176	0.641	< 0.001
So2	-0.887	<b>0.831</b>	-0.017	0.354	0.317	0.150	< 0.001
So3	0.317	<b>0.760</b>	0.237	-0.103	-0.840	0.158	< 0.001
So4	0.300	<b>0.716</b>	0.308	-0.563	0.231	-0.954	< 0.001
Ex1	0.297	-0.573	<b>0.740</b>	0.163	0.033	0.111	< 0.001
Ex2	-0.106	0.111	<b>0.736</b>	-0.161	-0.261	0.245	< 0.001
Ex3	-0.082	0.190	<b>0.846</b>	0.093	0.426	-0.518	< 0.001
Ex4	0.330	-0.331	<b>0.850</b>	-0.400	-0.686	-0.049	< 0.001
Ex5	-0.680	0.559	<b>0.779</b>	0.291	-0.386	0.423	< 0.001
Co1	0.553	-0.517	0.172	<b>0.746</b>	0.277	-0.089	< 0.001
Co2	-0.325	0.501	-0.322	<b>0.761</b>	0.216	0.576	< 0.001
Co3	-0.901	0.518	-0.075	<b>0.795</b>	0.266	0.239	< 0.001
Co4	0.599	-0.762	0.279	<b>0.734</b>	-0.919	0.289	< 0.001
In1	-0.353	0.168	-0.173	0.060	<b>0.789</b>	0.167	< 0.001
In2	0.453	0.334	0.208	-0.441	<b>0.726</b>	0.085	< 0.001
In3	-0.056	-0.418	-0.017	0.304	<b>0.897</b>	-0.216	< 0.001
Hcv1	0.182	-0.717	-0.062	-0.688	-0.439	<b>0.725</b>	< 0.001
Hcv2	-0.615	0.406	-0.404	-0.241	0.168	<b>0.732</b>	< 0.001
Hcv3	-0.306	0.451	-0.100	0.023	0.142	<b>0.791</b>	< 0.001
Hcv4	0.182	-0.734	0.242	-0.219	-0.800	<b>0.712</b>	< 0.001
Hcv5	0.098	0.108	0.302	0.109	0.307	<b>0.710</b>	< 0.001
Hcv6	0.015	-0.693	0.430	0.403	0.252	<b>0.713</b>	< 0.001
Hcu1	-0.974	0.475	-0.291	0.383	0.199	<b>0.730</b>	< 0.001
Hcu2	-0.711	0.124	-0.057	0.382	0.184	<b>0.806</b>	< 0.001
Hcu3	0.682	-0.825	0.123	-0.304	-0.889	<b>0.709</b>	< 0.001
Hcu4	-0.500	-0.259	-0.080	0.083	-0.390	<b>0.714</b>	< 0.001
Hcu5	-0.677	0.084	-0.104	0.154	0.590	<b>0.731</b>	< 0.001

Note: \*All significant at  $p < 0.001$ .

externalization, combination, internalization and human capital is above 0.70 and is significant ( $p < 0.001$ ). So, the convergent validity for the reflective construct in this study was met.

### 3.2. Structural model analysis

The results of testing the research structural model is shown in Figure 1.

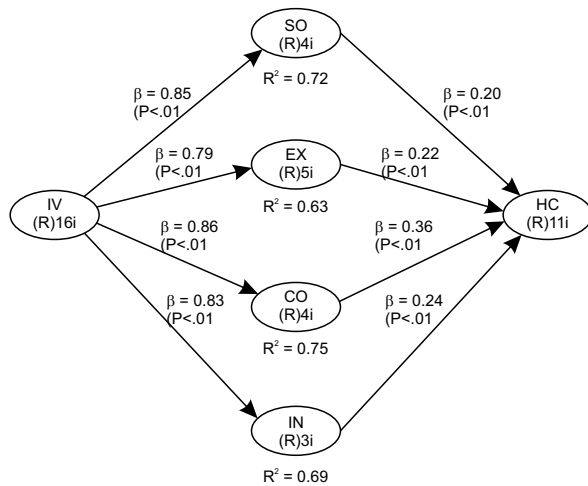


Figure 1. Research model testing results

The results of testing the research hypotheses are shown in Table 5.

Table 5. Path coefficient

	Socialization	Externalization	Combination	Internalization	Human capital
Individual value	0.851	0.794	0.865	0.833	
Socialization					0.200
Externalization					0.219
Combination					0.356
Internalization					0.236

Note: All significant at  $p < 0.001^*$ .

The test results shown in Figure 1 and Table 5 prove the following: with H1, there is a significant influence of individual value on socialization ( $\beta = 0.851$ ;  $p < 0.001$ ), and with H2, individual value has a positive and significant effect on externalization ( $\beta = 0.794$ ;  $p < 0.001$ ). H3, which stated that individual value had a positive and significant effect on the combination, was found to be true, thus proving the other hypotheses in the study ( $\beta = 0.865$ ;  $p < 0.001$ ). H4 was also proved to be true, indicating that individual value has a significant positive effect on internalization ( $\beta = 0.833$ ;  $p = 0.017$ ). H5, which states that socialization has a positive effect on human capital and

significantly, was proven to be true in this study ( $\beta = 0.200$ ;  $p < 0.001$ ). H6, which surmised that externalization has a positive effect on human capital, was proven to be significant ( $\beta = 0.219$ ;  $p < 0.001$ ). H7, which stated that the combination has a positive and significant effect on human capital, was also found to be true ( $\beta = 0.356$ ;  $p < 0.001$ ). H8, namely, the hypothesis regarding internalization, was proven to have a significant positive effect on human capital in this study ( $\beta = 0.236$ ;  $p < 0.001$ ).

Table 6. Effect size and R-squared

Effect Size	Socialization	Externalization	Combination	Internalization	Human capital
Individual value	0.723	0.630	0.747	0.694	
Socialization					0.169
Externalization					0.181
Combination					0.309
Internalization					0.193
R-square	0.723	0.630	0.747	0.694	0.852

Effect size refers to Hair et al. (2017) with 0.02 (weak); 0.15 (moderate); and 0.35 (large) to measure the effect of latent predictor variables on the structural research model. Table 6 shows in this study the effect size value of individual value on socialization is 0.723, individual value for externalization is 0.630, individual value for combination is 0.747 and individual value for internalization is 0.694. This value shows a large effect size means that individual value has an important role from a practical perspective in increasing knowledge creation in this study, namely socialization, externalization, combination and internalization. Meanwhile, the effect size of socialization on human capital is 0.169, externalization of human capital is 0.181, combination of human capital is 0.309, internalization of human capital is 0.193. This value indicated the moderate category, meaning that the knowledge creation in this study proves that socialization, externalization, combination and internalization are the determinants in creating the competitiveness of human capital. To measure the percentage of variance of the endogenous latent variable which is influenced by exogenous variables referring to Chin (1998), the R-squared value is 0.67 (substantial); 0.33 (moderate); or 0.19 (weak). In this research model (see Table 6), the socialization variable is 0.723, the combination is 0.747, internalization is 0.694 and human capital is 0.852 indicating the fulfillment of the criteria for the R-squared value at a substantial level. The results of this study are in accordance with Henseler et al. (2009) that if the endogenous latent variable depends on several exogenous latent variables, the R-squared value should at least show a substantial level.

#### 4. Discussion

The research succeeded in proving the influence of individual value on knowledge creation, which is further related to the creation of superior competitiveness of human capital. Support for the H1 hypothesis, which states that individual value is positively related to socialization, is in accordance with the findings (Delshab et al., 2019). Medium-scale companies in Bali definitely recognize values as beliefs that underlie individual attitudes and behaviour. Belief in the behavior of individuals in the company becomes the basis for increasing socialization activities through cooperative collaboration, uses apprentices and mentors programs and employee rotation and can contribute to the quality of the knowledge creation process. The company's support for individual values ensures that the socialization process can run well and ensures the creation of cooperation in knowledge creation in the company. Company support for individual values strengthens the important characteristics of individuals in the form of creative and productive behaviour (Rokeach, 1968). Belief in individual values shows high motivation, which makes individuals contribute positively to the knowledge creation process through socialization. Referring to Nonaka and Takeuchi (1994), the socialization process is carried out from tacit knowledge to tacit knowledge. Socialization, as a knowledge conversion process, is carried out by social interaction and sharing experiences between individuals in the company (Yu et al., 2017). Understanding the value and use of tacit knowledge as the most valuable asset is a challenge for companies that want to continue to create knowledge.

The positive influence of individual value on the externalization process significantly. The findings of this study indicate that the support of medium-scale companies in Bali on individual values is the basis for the formation of new company knowledge. Business practices carried out by individual companies are able to become substantial determinants in the knowledge creation process with indicators of problem-solving systems based on a technology, adopts pointers for expertise, captures and transfers experts' knowledge. Thus, for the company, individual value is a very useful added value in the knowledge creation process. The ability to create knowledge is an important indicator of the value of the company's competitiveness in the future (Shih et al., 2010). Furthermore, Shih et al. (2010) indicated that the evaluation of a firm's individual value focuses on the ability to systematically integrate knowledge-creating capabilities as a core competitive advantage. The process of creating new knowledge through externalization is the process of converting tacit knowledge into explicit knowledge (Nonaka & Takeuchi, 1994). As per Yu et al. (2017), the externalization process underlies the establishment of a stable cooperative relationship with the company's strategic partners. The findings of this study support Delshab et al. (2019), who found the relationship between individual value and the externalization process in knowledge creation. The company's support for

the role of individual value in teamwork in the knowledge creation process is a momentum for sustainable corporate value creation.

This study noted similar findings to Delshab et al. (2019), where the relationship between individual value and knowledge creation were shown to be related to the combination process. The support of medium-scale companies in Bali for individual values reflects support for the combination process. Individuals in the company believe that the knowledge creation process produces a combination of explicit knowledge and tacit knowledge by using web-based access to data, uses web pages and uses databases. The combination of processes carried out to create knowledge on business organization management practices with the aim of strengthening competitiveness in facing knowledge-based competition. The combination process is the conversion of explicit knowledge into more systematic and complex explicit knowledge (Nonaka & Takeuchi, 1994). Explicit knowledge is collected from outside and inside the company, combined to form new knowledge and distributed to individuals within the company. This process is facilitated by an information technology-based communication network by detailing the company's vision into business concepts and product concepts. With the involvement of individual values in the knowledge creation process, the knowledge management system in the company comprehensively contributes to creating a competitive advantage strategy (Yu et al., 2017). This finding is in accordance with the arguments of Memon et al. (2017), which indicate that individual value support in the knowledge creation process spurs changes in technology, which will force companies to engineer competitive strategies.

This research proves that there is a relationship between individual value and internalization. This finding supports that of Delshab et al. (2019). Medium-scale companies in Bali support individual value through motivation in the process of creating new company knowledge. The value of individual behavior in the knowledge creation process becomes an important indicator of the value of the company's competitiveness in the future. So that the knowledge creation process for individual companies is a momentum for sustainable corporate value creation. Relevant practices for the knowledge internalization process are for example creating a culture that emphasizes increasing knowledge, utilizing existing knowledge, storing, utilizing, and redistributing knowledge through on-the-job training programs, learning by doing and learning by observation. In this way, the quality of the new knowledge created is better and difficult for competitors to imitate. Knowledge creation is carried out through an internalization process, which is the conversion of explicit knowledge into tacit knowledge (Nonaka & Takeuchi, 1994; Yu et al., 2017). Knowledge creation occurs when explicit knowledge formed throughout the company is converted by each individual into tacit knowledge in the form of individual behaviour motivation. Knowledge creation involves an internalization process, i.e., individual interaction and organizational collaboration in facilitating the creation of

knowledge effectively (Chou & Tsai, 2004). Therefore, the internalization process is very important, because it involves an individual value system related to the process of creating innovations according to the development of knowledge.

H5, which states that socialization has a relationship with human capital, has been proven in this study and this finding is similar to Mitra et al. (2011). Medium-scale companies in Bali effectively support socialization as part of the knowledge creation process through brainstorming, process reengineering, innovation, motivation, commitment and competence to create competitive human capital. Although the impact of socialization is not substantial on human capital, socialization activities in the knowledge creation process cannot be ignored. Because the socialization process carried out by the company can build human capital value as an instrumental for creating innovations. Socialization is also a significant process in the process of creating customer value, directly affecting organizational efficiency and productivity as well as being instrumental for making process improvements. Socialization is a process to create resources in the form of company knowledge to bring future economic benefits. According to Nonaka et al. (2000), the knowledge creation process consists of sharing tacit knowledge, creating concepts, having a proof of concept, building a model and disseminating knowledge. Socialization is carried out in a correlational manner involving the human capital belief system and plays an important role for a superior performance system that is unique, not easy to imitate and difficult for competitors to simplify. Socialization is a systematic and dynamic process to create knowledge (Yu et al., 2017) and increase the added value of human capital as a resource for the company's competitive strategy. The results of this study show similarities with the findings of Shih et al. (2010) in that knowledge creation is a process needed to create competitive human capital that reflects the company's collective ability to achieve a competitive advantage.

The significant positive path on the effect of externalization on human capital shows that externalization, as part of the knowledge creation process in medium-scale companies in Bali, supports efforts to increase the capability, commitment, knowledge and experience as well as the competitiveness of the company's human capital. This finding indicates that the company still pays more attention to the competitiveness of human capital through the process of knowledge creation, especially externalization. This is because the company realizes that human capital as a resource cannot be secondary when viewed from a business perspective. Because the company is a unique unit of knowledge so it would be very difficult to replace, are not available to competitors, distinguishing from our competition. So the existence of human capital is knowledge that is supported by the knowledge creation process to establish relationships with outside parties. This is in accordance with Mitra et al. (2011), who state that the company has a commitment to the knowledge creation process as the basis for the formation of new knowledge to build the

best human capital competencies in line with increasing competitive advantage. This is related to the findings of Chen and Huang (2009) in that there is a significant positive relationship between human capital and competitive advantage. Changes in companies' strategies in managing business due to changes in industrial globalization, developments in information technology and intense competition have forced them to manage intangible resources with knowledge-based processes. The companies' involvement in creating knowledge by facilitating the exchange of knowledge among individuals will be able to provide a competitive and conducive environment for the externalization process (Yu et al., 2017). Externalization, as per Nonaka and Takeuchi (1994), is the process of converting tacit knowledge into explicit knowledge. Human capital management directs the attention and behaviour of individuals in the knowledge creation process to achieve the companies' sustainability goals. This refers to Marr et al. (2004), who discuss the importance of knowledge assets supporting the core competencies of corporate human capital as the agenda of most companies today. Companies with competent individuals have enhanced competitive advantage and will subsequently achieve higher success than their competitors (Hitt et al., 2001).

H7, which states that the combination as part of the knowledge creation process has a positive and significant effect on human capital, has been proven in this study. This finding is similar to that of Mitra et al. (2011), which indicates that knowledge creation is the heart that underlies the development of the company's human capital. This finding shows that medium-scale companies in Bali support a more complex and systematic combination by collecting and combining explicit knowledge from inside and outside the companies to form new knowledge, which is then distributed to individual companies. Combination, according to Nonaka and Takeuchi (1994), is the process of converting explicit knowledge into more complex and systematic explicit knowledge. Combination creates stable cooperative relationships between individuals and strategic partners that can drive competitive advantage for the company (Yu et al., 2017). Furthermore, Davenport and Prusak (1998) add that in the process of creating knowledge, knowledge is interrelated with one another and is used to increase the strategic competitiveness of human capital. The results of this study support the findings of Rastogi (2000), Zhou and Fink (2003) and Shih et al. (2010), which show that conceptually, knowledge management has a relationship with human capital, because both include a series of processes of creating knowledge. The findings of Seleim and Khalil (2007) strengthen their support by stating that when the knowledge creation process is used to develop human capital, knowledge will become a resource for achieving the company's competitive advantage.

The results of this study prove that there is a positive and significant path on the effect of internalization on human capital. These findings indicate that medium-scale companies in Bali support the internalization process as



part of the knowledge creation process, where the explicit knowledge formed is disseminated throughout the company and converted into tacit knowledge. Tacit knowledge internalized by human capital will become a valuable asset for the company to create competitiveness. Knowledge creation reflects the process innovation capability and product innovation capability that can affect the achievement of the company's sustainable competitive advantage (Yu et al., 2017). Furthermore, Salzer-Morling and Yakhlef (1999) and Marr et al. (2004) add that the ability to create knowledge will greatly determine the success of the company in increasing creativity and innovation of human capital. Likewise, Bontis et al. (2000) and Malhotra (2000) assert that human capital is an intangible asset of a company that has high economic value in the form of a combination of knowledge, skills, innovation and the ability to create added value for the company's sustainable revenue in the future. The results of this study are in accordance with the findings of Mitra et al. (2011) in that there is a relationship between knowledge creation and human capital.

## Conclusions

This study found a substantial and significant effect between individual values and four knowledge creation processes – socialization, externalization, combination and internalization. These findings indicate that individual values as beliefs function as behavioral standards that explain, evaluate individual attitudes towards strengthening the knowledge creation process. Individual value requires cognitive and affective understanding that are interrelated with the knowledge creation process to distinguish terminal value as normative ideal value and instrumental value, factual value of created knowledge. Strong belief in the individual value of the company's human resources becomes a successful strategy in the knowledge creation process. So that employee empowerment by appreciating individual value as the most valuable asset is one of the key indicators of strategy formulation for medium-scale companies in Bali. The strategic role of individuals as human resources in the company is very important. When compared to other company resources, human resources are the only resources in the company that are able to create intangible assets in the form of knowledge. Knowledge created by human resources becomes a unique characteristic and superior competitiveness of the company. This finding is very relevant to the current and future business and economic conditions that require business organizations to prepare strategies in dealing with knowledge-based competition to create sustainable competitive advantages.

This study also found a significant effect between knowledge creation and human capital. Although the impact is not substantial, the findings of this study still show that knowledge creation plays an important role in creating the competitiveness of human capital in business organizations. Because knowledge creation is not only a compilation of facts, but is a unique process involving belief

systems in the form of individual values that are difficult to simplify and imitate. Knowledge does not just appear, but there is a process in knowledge creation. Innovations will continue to develop in accordance with the development of human capital knowledge in the organization. The activities of business organizations in the knowledge creation process must be viewed as investments in human capital. Knowledge created in an integrated manner strengthens human capital as a valuable asset for a business organization. A business organization can continue to grow if the knowledge of human capital is continuously valued. The competitiveness of human capital continues to grow in line with the dynamics of the business environment and advances in science. Business organization as a unit of knowledge and skills of human capital is a unique set that can distinguish it from competitors. Therefore, the company places the knowledge creation process as a priority for its human capital competitiveness strategy in increasing future competitive advantage.

An important contribution of this research is to provide understanding for companies about human resource management practices and knowledge management to create competitive advantage. The study also provides an understanding that to achieve competitive advantage, the role of human capital cannot be ignored. Human capital is capital that facilitates all activities in the knowledge creation process as well as a strategy for sustainable company competitive advantage in today's knowledge-based competition. Another contribution of this research is to add to the current conceptualization of knowledge management by proposing an integrated model that examines the role of individual value and knowledge creation with human capital.

## Implications

The findings of this study have managerial implications for medium-scale companies in Bali in particular and business organizations as a whole to understand the strategic determination of individual values possessed by human resources in business practices in managing the knowledge creation process to strengthen the superior competitiveness of human capital. Business practitioners must understand and view human capital management strategies through the knowledge creation process carried out by individuals in business organizations. When the human capital management strategy has been empowered, knowledge can be created to build the superior competitiveness of the company's human resources and can maintain the sustainability of the competitive advantage of business organizations. Thus, this study provides evidence that individual value and knowledge creation and human capital management play an important role in the company. The theoretical implications of the findings of this research for academics, scholars and the development of science as well as subsequent studies related to a deeper study of human resource issues related to knowledge management and their contribution to the superior competitiveness of

the company's human capital continue to be developed. So that in the future we can broaden our understanding of the integrative mechanism of research concepts related to human capital management, knowledge management, especially knowledge creation and human resource development strategies, especially individual value.

### Limitations and future research

This study has limited generalizability because it was conducted among only medium-sized companies. Further research should be conducted on companies of other sizes. This study did not examine the direct relationship between individual value and human capital. Future academic research can examine this direct effect to examine the same of individual value on human capital. This study also does not examine the mediating role of knowledge creation on the influence between individual value and human capital. Therefore, future research can examine the role of this mediation to examine knowledge creation's role as a full or partial mediator on the relationship between individual value and human capital.

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