Trust as a Key Factor in Knowledge Transfer and Innovation Capabilities

Nikolas F Wuryaningrat1, Paulus Kindangen2 Ardianus L Paulus3
1 Faculty Economics and Business, Universitas Negeri Manado, Indonesia
2 Faculty Economics and Business Universitas Sam Ratulangi Manado, Indonesia
3 Faculty of Business Universitas Katolik Widya Mandala Surabaya, Indonesia

Abstract. The era of knowledge-based economy has created rapid changes in the business environment. Maintaining a business in that era requires innovation to maintain its competitiveness. Innovation requires knowledge resources, where knowledge transfer plays an essential role in creating new knowledge that can be utilized to improve innovation capabilities. However, knowledge transfer is considered not a simple process because of the stickiness of knowledge, but on the other hand, knowledge transfer can be regarded as something that can happen instantly. Trust is therefore considered as the factor to strengthening the causality relationship between knowledge transfer and innovation capabilities. This study used a survey approach with Partially Least Square (PLS) data analysis techniques. The respondents in this research are SMEs of the creative industry handicraft sub-sector in the Province of DIY, Bali and North Sulawesi, which are justified as representations of Indonesia. Based on the 201 data collected, it was found that trust significantly moderated the causality relationship between knowledge transfer and innovation capabilities. Hence, knowledge transfers are needed for developing SMEs of the creative industries innovation capabilities which strengthened by the trust.

Keywords: Knowledge transfer, innovation capabilities, trust, SMEs Creative industry

1 Introduction

The era of knowledge-based economy, it has created rapid changes in the business environment. The changes made are sole to maintain the competitiveness of the business. Based on Schumpeter's opinion, to maintain sustainability competitiveness large business or small and medium enterprises (SMEs) are required to have an entrepreneurial spirit shown through innovation activities [1]. Innovation is a way companies need to create and maintain the sustainability of the company's competitiveness [2] as well as the key to business success [3].

Based on the IMD World Competitiveness Ranking survey in 2022 (https://www.imd.org/centers/world-competitiveness-center), Indonesia's competitiveness was ranked 44th in the world out of a total of 63 countries surveyed. The ranking in 2022 decreased by five levels from the 2021 ranking, which was ranked 37th. Compared to other ASEAN countries, such as Singapore in third place and Malaysia ranked 32nd, Indonesia is still far behind in terms of ranking. Hence, if competitiveness is related to innovation, it can be assumed that Indonesia's innovation ability has decreased and is still inferior to Singapore and Malaysia.

Knowledge-based view theory explains that transferable knowledge resources are fundamental to a company's innovation capabilities [4]. In addition, previous research explains that knowledge transfer has a positive influence on the innovation capabilities of large and small businesses [5] [6] [7] [8] [9]. However, the two opinions have very contrasting differences in the study of knowledge transfer. The first opinion explains that knowledge transfer is a 'sticky' process, because it is constrained by the possibility of differences in understanding between the giver and the recipient of knowledge it may cause ambiguity [6]. Meanwhile, in other opinions, it explains the process of productivity and business development through knowledge transfer and diffusion of technology is possible into a 'one shot', instant, and low-cost process [11].

The theory of communication revealed by Shannon and Weaver, 1949 [12] explained that communication can be carried out well if the two sides understand each other and what is being discussed. In addition, the existence of a behavior to hide what he/she knows to others or the desire to keep knowledge for himself, becomes an obstacle. If such a scenario of circumstances occurs, then what Szulanksi calls as knowledge ‘stickiness’ makes sense. On the other hand, if individuals already have a mutual trust in the organization, then it is not impossible that individuals can be very open with their knowledge. The existence of
trust between individuals or individuals and their organizations also helps the knowledge transfer process in the organization [13]. Further explained by Davenport and Prusak in knowledge transfer there must be a commonality of language, culture, mind [13]. In other words, what Davenport and Prusak call as common language. Ideally the organization needs employees who are willing to cooperate in everything that involves their duties and work. Therefore, the organization ideally in recruiting employee is trying to find suitable and trustworthy people. In this case, an individual's suitability with his work, organizational environment, or organizational characteristics is very important. In other words, when the organization can get individuals who can fit to the organization, it is not impossible for knowledge transfer in the organization to be easier and even possible to occur faster or instantly [14]. If this second scenario goes then what Nelson [11] calls knowledge transfer is a "one shot" process also makes sense.

The trust factor may become the missing key in bridging the difference between the two opinions. When there is a good form of trust between all elements in an organization, it can be indicated that the transfer process is possible to run more easily within the organization. According to Levin et al. [15], trust is a crucial factor for developing the activity of various knowledge. Tsai [16] found empirical evidence that an good informal relationship significantly affects knowledge sharing. Minbavea [17] explains that the characteristics of the giver and recipient of knowledge positively affect knowledge transfer. The close relationship between the giver and the recipient of knowledge positively impacts knowledge transfer.

Based on the results of previous studies it can be explained that trust is seen as a predictor of knowledge transfer [13] [18] [19] [20]. It can be interpreted as trust is a predictor variable of knowledge transfer in an organization. However, in the view of researchers, trust is a very common factor (see next section) that is assumed to be a key factor in many. Thus, trust may not only be assessed as a predictor of knowledge transfer, but it may also be a factor that strengthens or weakens a causal relationship between knowledge transfer and innovation capabilities. Therefore, in this research trust is positioned as a moderating variable rather than an independent variable.

This study aims to obtain empirical evidence regarding the trust factor as a key element of the influence of knowledge transfer on innovation capabilities. This research was conducted in the small and medium enterprises (SMEs) sector because SMEs have a significant role in a country's development and economic growth. A research study on the competitiveness of SMEs in Indonesia issued by BAPPENAS [21] explains that SMEs have a considerable contribution in expanding employment opportunities, GDP, and providing social safety nets, especially for low-income people to carry out productive economic activities.

### 2 Research Methods

This research was designed with quantitative associative research methods with a survey approach. The survey was conducted to confirm causality's relationship or influence already described in the previous section. The object of this study is SMEs of the creative industry sector in Indonesia. As a representation of Indonesia, the Provinces of the Special Region of Yogyakarta (DIY), Bali and North Sulawesi were chosen as the research object. Province of DIY is a representation of western Indonesia, Bali as a representation of eastern Indonesia and North Sulawesi as a representation of Eastern Indonesia. The three provinces were chosen based on the assumption that the Provinces of DIY and Bali are the barometer of progress from the creative industry in Indonesia, while North Sulawesi was chosen based on economic growth in the last three years (2019-2021) always above the average national economic growth (BPS North Sulawesi, 2019, 2020, 2021).

There are more than 21000 total members of the population of SMEs in the three provinces. Thus, it will need sampling. The sampling used non-random purposive sample method because it was difficult to obtain real and valid data on the real numbers and address of the creative industry in Yogyakarta, Bali and North Sulawesi. Often the data present in the Offices of Cooperatives and SMEs of each Province does not reflect the correct data in the field. For example, business location address data only lists incomplete addresses, making it difficult to find respondents if this research has to use a random sample technique. The criteria for selecting respondents in this study are as follows: 1). SME creative industry that has existed for more than 3 (three) years. It takes more than three years to assume that the creative industry already has make innovative activity. 2). Industry creative SMEs which have a fixed number of employees of 4-15 people. 3). The creative industries used in this research are those engaged in the handicraft product sub-sector. 4). For creative industries engaged in handicraft products, SMEs that have their own products, not just retail.

Respondents were selected from various creative industry centre locations in DIY, Bali and North Sulawesi Provinces to ensure population representation from the selected sample. Then the proportion of sample data distribution is taken at 1% of the number of population members in each Province. In table 1, you can see the number of research sample targets with total of 214 data. This number of samples considered enough due to in this study uses a non-parametric approach (see next discussion).

The unit of analysis in this study is an organization represented by the owners or managers of SMEs in the handicraft sector in the provinces of Yogyakarta, Bali

<table>
<thead>
<tr>
<th>Province</th>
<th>Number of Population</th>
<th>% Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIY</td>
<td>8324</td>
<td>83</td>
</tr>
<tr>
<td>Bali</td>
<td>8456</td>
<td>84</td>
</tr>
<tr>
<td>North Sulawesi</td>
<td>4672</td>
<td>46</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21452</strong></td>
<td><strong>214</strong></td>
</tr>
</tbody>
</table>
and North Sulawesi. The owner or manager was chosen to represent the company because in SMEs the manager or owner is the main actor in the duties and responsibilities to the development and innovation of the company (Stanworth and Curran, 1976) [12]. Therefore, by studying the perception of managers or owners of SMEs, it can be assumed that they can already obtain an overview of the overall organization.

2.1 Measurement

Trust is defined as the degree to which the individual is willing to put his trust by acting based on the words, actions and decisions [44]. The construct is a reflective construct measured by a questionnaire developed by McAllister. There are 11 (eleven) items consisting of 6 (six) statements of the cognitive trust dimension, and 5 (five) statements for the affective trust dimension. The focus is on the manager/owner's assessment of the level of trust between members already formed in their organization. Statements in the closed questionnaire were made using a likert scale of 1-5 (1 = strongly disagree to 5 = strongly agree).

Knowledge transfer is defined as the process of exchanging tacit or explicit knowledge to produce new knowledge [40]. The construct of knowledge transfer is measured by 6 (six) statement items for the dimension of donating knowledge and 4 (four) statement items for the dimension of collecting knowledge. The focus of this measurement is to find out the respondents' agreement or disagreement about knowledge transfer activities that have been carried out within the company which are assessed based on the perceptions of SME managers/owners. Statements in the closed questionnaire were made using a likert scale of 1-5 (1 = strongly disagree to 5 = strongly agree).

The operational definition of innovation capability is the ability to create a newness aimed at creating and maintaining sustainable competitiveness [2]. Innovation capability is measured by 6 (six) statement items. This measurement aims to show the level of innovation that the company were making. Statements in the closed questionnaire were made using a likert scale of 1-5 (1 = strongly disagree to 5 = strongly agree).

2.2 Instrument Validity and Reliability

The instrument testing was carried out to test whether the research instrument used was able to measure the research construct. These stages include face/content validity, convergent validity, and reliability tests.

2.2.1 Face Validity

The research instrument was answered by respondents of SME owners/managers to describe the state of their firm. This own answer may occur subjective statement [56]. To reduce social desirability bias, replace the sentence 'I' from the original questionnaire with the word 'we". In this way, the respondent's statement will be able to describe the actual situation of his company rather than his personal feelings. The step taken to have acceptable face validity is to use an instrument that is justified to measure the research construct [57]. The next step is to translate the original language of the questionnaire into Indonesian and assess each instrument item by a competent panel of experts and pre-test.

2.2.2 Construct Validity

After the face validity was completed, statistical validity testing can be done. The validity test used is a construct validity test with the Confirmatory Factor Analysis (CFA) method, which includes convergent and discriminant validity[57].

An important consideration in determining convergence validity is accumulating variable items in their constructs. Convergent validity can be judged from the value of factor loading that collects in one factor [58] [59]. Then the next consideration is the Average Variance Extracted (AVE) value. Variable instrument items can meet their convergent validity if the loading factor ≥ 0.5 and do not experience cross-loading problems and the Average Variance Extracted (AVE) value ≥ 0.5 [58]. Then after carrying out convergent validity the next stage of discriminant validity. This validity is carried out to determine the extent of the differences between the research constructs. The validity of the discriminant was assessed based on instruments that did not experience cross-loading problems and collected on their constructs [58].

This study uses internal consistency methods, including Cronbach's alpha and composite reliability. The instrument can be said to be reliable if the Cronbach alpha value ≥ 0.6 (Hair et al., 2010:695), and the composite reliability value ≥ 0.7 [60] [58]. Table 2 shown the results of validity and reliability.

<table>
<thead>
<tr>
<th>Construct</th>
<th>AVE Score</th>
<th>Cronbach Alpha</th>
<th>Composite Reliability</th>
</tr>
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<tbody>
<tr>
<td>Knowledge Transfer</td>
<td>0.565</td>
<td>0.813</td>
<td>0.854</td>
</tr>
<tr>
<td>Innovation Capabilities</td>
<td>0.508</td>
<td>0.735</td>
<td>0.835</td>
</tr>
<tr>
<td>Trust</td>
<td>0.510</td>
<td>0.809</td>
<td>0.858</td>
</tr>
</tbody>
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2.3 Technique of Analysis Data

A variant-based Structural Equation Model data analysis technique was chosen to test the research hypothesis, namely Partially least square (PLS) with the SmartPLS 2.0M3 statistical program. PLS is a 'silver bullet' because PLS has good statistical power to test hypotheses with relatively small sample sizes and robust on the issue of classical assumptions. After all, it is a non-parametric statistical test [58]. Furthermore, PLS-SEM could test multidimensional processes with a variety of tiered relationship patterns. PLS-SEM is also a multivariate technique combining multiple regression aspects and analytical factors to simultaneously test
theory relationships. In testing the PLS hypothesis using the Bootstrapping technique, the hypothesis can be supported if the critical ratio (CR) or T-Stat value ≥ 1.96 is equivalent to a confidence level of 95% or a p-value of 0.05.

In order to include the moderating effect, its nature must be precise. Definition of a moderator as a variable is the strength of the relationship between an independent or predictor variable and a dependent or criterion variable [61]. That one construct moderates the direct relationship between two other constructs [62]. In testing, the moderation effect usually has to meet the assumption that the independent variable's main effect on the dependent variable must be significantly met, so that the moderation effect test can be carried out [61].

2.4 Data Collection

Data distribution in North Sulawesi are located in Manado City, Tomohon City, Pulutan Village, and Leilem Village as handicraft SME product centers. Province of DIY, data dissemination centres are in creative industry centres in Yogyakarta, Bantul and Imogiri. Then for Bali Province, the data was collected directly by researchers in the SMEs center area of the creative industry in Bali, namely Ubud and its surrounding area.

3 Results and Discussion

Referring to the results of the validity and reliability test, it can be concluded that this research data is feasible to continue to test the hypothesis. The rule of thumb used is to look at the critical ratio value of t-stat. A t-stat value higher than 1.960 (two tailed) or equivalent to a p-value of 0.05, can be interpreted as a significant result or the hypothesis is acceptable.

The result refers to a t-stat value of 8.084 values higher than 1.960. This result means that knowledge transfer directly influences the innovation capabilities of SMEs in the creative industry of the handicraft sub-sector in Indonesia.

Trust as moderating effect test, a t-stat value of 2.425, which is higher than 1.960. Thus, it can be concluded that the trust constructs strengthened knowledge transfer's influence on SMEs innovation capabilities. Hence, it can be said that the hypothesis is acceptable. The implication of the research results will be explained further in the next section.

3.1 Knowledge Transfer and Innovation Capabilities: Direct Effect

Referring to the results, knowledge transfer directly makes positive impact in the innovation capabilities. This means that knowledge transfer has a real influence on improving the innovation ability of SMEs in the creative industry of the handicraft sub-sector in Indonesia. These results confirm most of the results of previous research. The organization’s knowledge creation can be a for innovation movement [60]. Wang and Wang [52] provide empirical evidence that knowledge transfer can facilitate corporate innovation. Knowledge transfer between members of the organization should tend to generate new ideas to develop process and product innovations [54]. In addition, knowledge transfer is able to increase innovation and competitive advantage, and help small and medium-sized businesses become more creative and innovative [55] [64]. In addition, Yeşil e. al. [65] found empirical evidence that knowledge donation and collecting positively affected the ability and performance of innovation in both large and small companies.

Research in Indonesia also suggests that knowledge transfer supported by the ability to absorb knowledge will provide positive benefits for increasing the innovation capabilities of SMEs in the production sector in North Sulawesi [8]. Moreover, small and medium-sized batik companies show that knowledge donation and collecting significantly affect innovation capabilities [9]. Then knowledge transfer supported by transformational leadership will encourage knowledge transfer activities which in turn will encourage the improvement of SME innovation capabilities in Indonesia, especially in Eastern Indonesia [66].

As previously explained, knowledge transfer as social activity [39] provides the output of a new knowledge. With new knowledge there will be new abilities, skills, expertise, ideas, experiences, and suggestions. The outcome of new knowledge is what can add to the capacity of individuals and companies to be able to endorse innovation. Companies can directly use this innovation to maintain their existence or competitiveness. On the SMEs side, knowledge transfer is able to increase innovation, and provide small and medium enterprises become more creative and innovative which in turn increased the chance to raised organizational performance.

3.2 Trust as Moderating Effect

With a t-stat value of 2.425, it can be said that trust can significantly strengthen the causality relationship of knowledge transfer and innovation capabilities. In other words, when strong trust has been developed, the significant influence between knowledge transfer and innovation capabilities will be even stronger, and will make better possibilities that knowledge transfer will produce better innovation for SMEs.

Hence, referring to the results of previous studies that placed trust as a predictor (see introduction section) and trust as a moderating effect in this study. Nevertheless, trust is increasingly convincing to emerge as a key player for knowledge transfer that produces positive results on the innovation capabilities of large and small firm.

Continued the discussion in the previous paragraph and compared the results of this study with previous research. Then perhaps the question arises, which is more appropriate: is trust a predictor or a moderating variable? The answer to the question may lie in the trust
A collaborative work environment that encourages employee-company relationships can foster a constructive and mutually beneficial trust. In organizations, trust demands expectations in individuals and stimulates knowledge transfer. Thus, organizational trust is a moderator developing trust capabilities of SMEs [67].

Involatile, trust can improve organizational interactions by transmitting diverse information to provide superior innovation performance [68]. According to the opinion, trust among organizational members will reduce the level of suspicion and because of that, trust will make coworkers give his/her tacit knowledge without worrying that someone will be deceived or betrayed.

Another also considered as a general construct that exists in every management system, social life, and many disciplines [69] [70]. Any management system requires communication, whereas good communication needs strong trust [69]. For instance, communication between superiors and subordinates will run well and two-way communication occurs if trust strengthens it. On the contrary, weak trust between superiors and subordinates, making communication run in one way and is only like command button. Trust is also could assessed by the level of trust in individual, team and organizational of as well as trust in referent [71]. That is way the high level of trust will probably provide different results, including interventions on the relationship of causality of knowledge transfer and innovation capabilities.

Trust can strengthen relationships even in uncertain conditions. For example, when a crisis occurs, individuals who believe in positive impact on the knowledge transfer will be more willing to obey and follow [72]. In times of crisis, trust can play an essential role by strengthening the relationship between the giver of information and the recipient of the information in exchanging knowledge, thereby leading to innovation.

The trust variable in this study is a predictor (strengthen) of the relationship of knowledge transfer behavior in SMEs, which is essential for organizations and individuals [73]. Thus, the innovation capability of the SMEs will occur through a strong belief in creating shared value. Trust as a moderator can develop trust between individuals and stimulate knowledge transfer. In organizations, trust demands expectations in relationships and behavior. Thus, organizational trust is a conviction that each party's abilities and future actions are constructive and mutually beneficial. Trust in an employee-company relationship can foster a collaborative work environment that encourages innovation [74].

Thus, trust can also be regarded as a construct that strengthens or weakens a causality relationship. By not distinguishing the trust factor because trust or are forced to trust, trust is trust, and trust in this research is empirically proven to provide strengthening of social knowledge transfer activities to the innovation capabilities of SMEs.

4 Conclusion

In general, the results of this study provide an explanation that the improvement of innovation capabilities of SMEs creative industry handicraft sub-sector were influenced by knowledge transfer which is strengthened by trust. Thus, the competitiveness of SMEs will refer to how the innovation capabilities of SMEs themselves are. However, the ability to innovate cannot develop instantly, a process of knowledge transfer activities is needed by the business itself to produce new knowledge for developing innovation capabilities. Therefore, encouraging knowledge transfer in SMEs is not just a discussion between workers but encourages information, ideas, suggestions, skills and suggestions learned by the employee and owners from various sources, which can be shared for the benefit of business progress. This is where the trust plays its role, knowledge that may have been embedded in the human mind by the establishment of trust, employee and owner willing to give their knowledge without worried of losing his knowledge. In addition, if trust could build well in SMEs, it may make knowledge not only considered private property but also the knowledge stock of the company itself.

For the development of science, the results of this research indicate that trust can also be regarded as a moderation variable, not just a predictor. Then from the results of previous research and this research, it further strengthens trust as a key factor for knowledge transfer activities in SMEs which are useful for increasing innovation capabilities. The results of this research are useful for SMEs to continue to be actively involved in training, and mentoring either held by company or held by other parties. Thus, when the owner and the employee get new knowledge as a result of training or mentoring, it opens up to be willing to share new knowledge from the results of their training and mentoring. In addition, for SMEs, owners can play an important role in creating work harmonization and comfortable work relations, so that it is possible for trust to be built in the company and open the possibility of knowledge transfers going well based on trust.

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References


