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## Article

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## Mejorando el intercambio de conocimientos a través de colaboraciones basadas en la confianza y liderazgo transformacional

### *Improving Knowledge Sharing through Trust-based Collaboration and Idealized Influence Transformational*

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#### RESUMEN

El objetivo de la presente investigación es examinar el efecto de la colaboración basada en la confianza y el liderazgo transformacional idealizado en el intercambio de conocimientos. También se examinó el efecto del liderazgo transaccional de recompensa contingente sobre la colaboración basada en la confianza y el intercambio de conocimientos. Los datos utilizados en la presente investigación son primarios y proceden de cuestionarios distribuidos a encuestados seleccionados. La población está formada por todos los profesores de las universidades privadas de Java Central, Indonesia, que poseen la calificación A en la acreditación institucional. La muestra forma parte de la población. La técnica de muestreo utilizada es el muestreo no probabilístico, no toda la población tiene la misma oportunidad de ser seleccionada. La razón es que la población es homogénea por naturaleza. La

muestra analizada es de 162 encuestados y los resultados de la investigación indican que la influencia idealizada del liderazgo transformacional afecta positivamente a la colaboración basada en la confianza. La colaboración basada en la confianza tiene un efecto positivo en el intercambio de conocimientos. La investigación no logra demostrar el efecto del liderazgo transaccional de recompensa contingente sobre la colaboración basada en la confianza y el intercambio de conocimientos. Así, la presente investigación contribuye a la literatura relativa a la importancia de la colaboración basada en la confianza para aumentar el intercambio de conocimientos. Se trata del primer estudio que examina el papel de la colaboración basada en la confianza en la relación entre el liderazgo transformacional de influencia idealizada y el intercambio de conocimientos. La colaboración basada en la confianza es la novedad de la investigación, es decir, la derivación de las dos teorías. El hallazgo refuerza una de las principales corrientes de la literatura y aporta más pruebas empíricas sobre la relación entre el liderazgo transformacional y el intercambio de conocimientos de que la relación entre los dos es de naturaleza indirecta.

#### **PALABRAS CLAVE**

Liderazgo transformacional; colaboración basada en la confianza; intercambio de conocimientos.

#### **ABSTRACT**

The aim of the current research is to examine the effect of trust-based collaboration and idealized transformational leadership to the knowledge sharing. It also examined the effect of contingent reward transactional leadership to trust-based collaboration and knowledge sharing. Data used in the current research are primary ones derived from questionnaires distributed to selected respondents. All lecturers of private universities in Central Java Indonesia having A qualification in institutional accreditation are the population. The sample is part of the population. Sampling technique used is non probability sampling, not all population has the same opportunity to be sample. The reason is that population is homogeneous in nature. The sample analysed is 162 respondents. The research finding indicates that idealized influence transformational leadership positively affects to trust-based collaboration. Trust-based collaboration has a positive effect on knowledge sharing. The research fails proving the effect of contingent reward transactional leadership to trust-based collaboration and knowledge sharing. Thus, the current research contributes to literature concerning the importance of trust-based collaboration in increasing knowledge sharing. The study is the first study examining the role of trust-based collaboration to the relationship between idealized influence transformational leadership and knowledge sharing. Trust-based collaboration is the novelty of the research, that is derivation of the two theories. The finding strengthens one of main flows in literature and gives more empirical evidence about the relationship between transformational leadership and knowledge sharing that the relationship between the two is indirect in nature.

#### **KEYWORDS**

Transformational leadership; trust; based collaboration; knowledge sharing.

Clasificación JEL: I22, J22

MSC2010: 91C99

## 1. INTRODUCTION

Knowledge is one of importantly intangible resources owned by organization. It can contribute to the gaining of competitive advantage. It is in line with (J. Chen et al., 2016) that knowledge is a pivotal resource for organization to develop competitive advantage in dynamic and competitive organization environment. In the context, knowledge management will be important for an organization (Davenport et al., 2003).

One important thing in knowledge management is knowledge sharing. Knowledge sharing is a component and important step in knowledge management (Mansoori et al., 2012). It is supported by (Du et al., 2007) that knowledge sharing constitutes one of important process of knowledge management referring to knowledge communication, experience and skill of employees in group or organization. Knowledge sharing not only gives opportunity to maximize organizational capability to meet its need but also creates effective solution to gain competitive advantage (Reid, 2003).

Considering the pivotal role of knowledge sharing in organization, knowing factors supporting knowledge sharing will be urgent. To promote knowledge sharing behavior, the next research is important to conduct concerning the role of factors, such as: leader characteristics, social network, social cost, trust, culture, etc. (S. Wang & Noe, 2010). The current research observes the effect of leader characteristics on knowledge sharing. A leader is main determinant of many importantly organizational outputs. He also has decision making role in all organization activities. Based on literature review, transformational leadership constitutes one of the most effective leadership (Thomson et al., 2016).

One of dimensions of transformational leadership is idealized influence. Characteristics of idealized influence transformational leadership is that a leader is as role model. He is respected and trusted. Besides, he prioritizes the collective interest beyond individual one. (Al-husseini & Elbeltagi, 2018) found that idealized influence transformational leadership positively affects to knowledge sharing. A leader showing the behavior has capability to give added value to institution activities, through creating, sharing, codifying, and integrating knowledge. Transformational leadership using the dimension is able to build trusted-based culture. In such culture, sharing knowledge will be conducive.

Beside transformational leadership, transactional leadership also has effect to knowledge sharing. (L. Y. Chen & Barnes, 2006) investigates the effect of transactional leadership on knowledge sharing in professional service firms in Taiwan and US. Research finding shows that contingent reward transactional leadership significantly affects to internal and external knowledge sharing. (Bradshaw et al., 2015) conducts research about transactional leadership. The finding indicates that contingent reward dimension positively affects to two dimensions of knowledge sharing. In the research, contingent reward transactional leadership has effect as big as transformational leadership has. The result supports the recently theoretical development of (Vera & Crossan, 2004) proposing contingent approach to leadership and knowledge sharing. Wholly, the research finding shows that both transformational and transactional leadership are important for knowledge sharing process. Creation of successful knowledge sharing is how well a manager combines the behavior of transformational and transactional leadership.

Based on previous research findings about the relationship between transformational leadership and knowledge sharing, it is known that there are many different findings. Some of research findings find that transformational leadership has positive effect to knowledge sharing (Akpotu & Tamunosiki-Amadi, 2013); (Al-husseini & Elbeltagi, 2018); (Allameh et al., 2015); (Rawung et al., 2015); (Le & Lei, 2018). While the other research findings, transformational leadership does not affect to knowledge sharing (Masa'deh et al., 2016); (Boateng & Agyemang, 2015); (Agyemang et al., 2017).

The previous research findings that are not consistent are indications that theory building of the relationship between transformational and knowledge sharing is not robust yet. Other indication is that there is moderating or mediating variable role between them. The indication is in line with suggestion of (S. Wang & Noe, 2010). Following up the research in the topic will be urgent to conduct because empirical research concerning the relationship between transformational leader-

ship and knowledge sharing is still limited. Knowing how mechanism and process the leadership affects to knowledge sharing will be important research agenda. The current research proposed trust-based collaboration as a mediating variable connecting between idealized influence transformational and contingent reward leadership to knowledge sharing. Thus, the aim of the research is to examine a model proposed concerning the effect of idealized influence transformational and contingent reward transactional leadership to trust-based collaboration and knowledge sharing. Trust-based collaboration is the novelty of the current research functioning as mediating variable to the relationship between transformational leadership and knowledge sharing.

From the previous elaboration, the research questions of the article are whether idealized influence leadership has positive effect on trust-based collaboration, whether idealized influence leadership has positive effect on knowledge sharing, whether contingent reward leadership has positive effect on trust-based collaboration, whether contingent reward leadership has positive effect on knowledge sharing and whether trust-based collaboration has positive effect on knowledge sharing.

## 2. REVIEW OF LITERATURE

### 2.1 Trust-based collaboration in resource dependence theory

Resource dependence theory specifies corporation as an open system, depending on external environment. Resource dependence theory recognizes external factors from organizational behavior. However, a manager can minimize uncertainty and environmental dependency (Reitz et al., 1979). Dependent feature supports an organization to collaborate with others. (Hillman et al., 2009) gives basic argument from resource perspective. One of the argumentation is that dependent pattern produces strengths among organization, internally and externally Collaboration is one of solution form to overcome problem of resource dependence. Collaboration constitutes a developing process in which two or more social entities actively and reciprocally involved in shared activities to gain at least one shared goal. Collaboration can occur among entities, included individual, group, organization, or even community (Longoria, 2005). According to (Bedwell et al., 2012) interaction of the entities can happen in various levels. Especially collaboration, an entity can be included in the same entity or different one. Collaboration process in lower level of analysis can affect to higher level, and conversely. Collaboration needs active and mutual involvement in collaborative process in many levels of related parties (Longoria, 2005).

The most important thing is that all related entities work independently and contribute sufficiently to the achievement of shared goals (Bedwell et al., 2012). The existence of shared goal is important element separating collaboration and all other forms of cooperation. Process of collaboration can only occur if related parties, in various levels, have at least one shared goal to achieve. Without shared goal, there is no reason for the parties to involve in cooperation.

### 2.2 Trust-based collaboration in social capital theory

Main proposition of social capital theory is that relation net constitutes a valuable resource to do social activities and serves its members with capital owned collectively. As series of relation-rooted resource, social capital has many different attributes. (Nahapiet & Ghoshal, 1998) mentions three dimensions of social capital: structural, relational and cognitive dimensions. Structural dimension is manifested as social interaction ties. Relational dimension is seen from trust, reciprocity norm and identification and cognitive one is manifested as vision and shared language. Trust as one of indicators of relational dimension is seen as series of special belief that is mainly related with integrity, benevolence and capability from others (Mayer et al., 1995). Integrity refers to individual hope that members will follow sequences of value, norm and certain principles. Whereas benevolence will be about values to prioritize other interest (Chiu et al., 2006). Trust will occur among parties involved in interaction. It is in line with (Nahapiet & Ghoshal, 1998) stating that when trust appears among related parties, they will involve in cooperation interaction.

## 2.3 Idealized influence transformational leadership and trust-based collaboration

Positive relationship between transformational leadership and trust has been indicated by many previous research findings (Podsakoff et al., 1996). (Dirks & Ferrin, 2002) describes strong relationship between transformational leadership and trust. Transformational leadership improves perception of its benevolence (Burke et al., 2007). Whereas research finding of (Braun et al., 2013) shows that trust in leader mediates the relationship between transformational leadership and knowledge sharing. Transformational leadership supports team building and also collaboration among the team. (Cha et al., 2015) conducts a research about transformational leadership and collaboration among the team. Research finding indicates that team and transformational leadership has higher quality of team collaboration and contributes higher collaboration among the team compared the others. (Atapattu & Ranawake, 2017) investigates transformational and transactional leadership and its effect to employee preference to involve in knowledge management process. One of dimensions of transformational leadership is idealized influence, behavior of leader directed to the cooperation promotion among subordinates and supports them to cooperate to gain shared goals. The behavior involves building respect, trust and loyalty among organization members (Crawford, 2005). Idealized influence leader is able to build climate and trust to the organization conditioning the individuals to believe that his peer will not act opportunistically. By building individual trust to his other peers in organization, transformational leadership will be able to build context of organizational trust supporting all individuals in organization to engage in knowledge management process. Individuals are sure that they they will gain reciprocal benefit related with their involvement in knowledge management activities. Idealized influence dimension constitutes one of substances of transformational leadership. He is respected and trusted. Besides, the leader prioritizes shared interest beyond individual one. The leader also focuses on collaboration with the subordinates. It is relevant with the novelty proposed in the current research, trust-based collaboration. In other side, trend of research about the leadership is on each dimension contribution of transformational leadership. The trend is important to follow up to give clearer contribution of each dimension, not as composite dimensions. A number of previous research findings support the argument (Agyemang et al., 2017); (Al-husseini & Elbeltagi, 2018); (Al-Husseini et al., 2021).

Based on theoritical and empirical elaboration, the first hypothesis is idealized influence transformational leadership has positive effect to trust-based collaboration.

## 2.4 Idealized influence transformational leadership and knowledge sharing

(Ugwu & Okore, 2020) examines transformational and transactional leadership to knowledge management process. Dimensions of idealized influence, inspirational motivation and individual consideration significantly influence to process of knowledge management. Idealized influence and individual consideration has the biggest effect to the knowledge management process. For dimensions of transactional leadership, it is just contingent reward influencing significantly to process of knowledge management. (Al-Husseini et al., 2021) found that all dimensions of transformational leadership positively has effect to knowledge sharing. The finding is in line with (M. S. Mohammad, 2012) indicating that leader showing respect and trust can facilitate sharing knowledge among organization members. (Agyemang et al., 2017) conduct research about how individual dimension in transformational leadership theory contributes to knowledge sharing. The finding shows that idealized influence is found as knowledge sharing predictor. The result asserts that a leader suppressing on respect, trust, confidence and group interest will influence knowledge sharing of employees (Bass et al., 2003a). The research supports the finding of (Jahani, 2011) that trust environment and effective attitude promoting knowledge sharing are promoted by a leader with idealized influence dimension. The positive effect of idealized influence on knowledge sharing can be explained that as leader sacrifices his self-interest for organizational goodness (Popper & Lipshitz, 2000).



Based on elaboration of the theory and empirical evidence, the second hypothesis is idealized influence transformational leadership has positive effect to knowledge sharing.

## 2.5 Contingent reward transactional leadership and trust-based collaboration

(Mackenzie et al., 2001) state that behavior of contingent reward and punishment can improve the trust of marketing workers to their manager. Many authors note that the trust of employees to the manager is basically influenced by to what extent an employee feels that his manager treats him fairly. The fair perception depends on to what extent an employee perceives that significant reward and punishment is distributed objectively (Mackenzie et al., 2001). Meanwhile, in their meta analysis, (Dirks & Ferrin, 2002) also report a moderate relationship to strong one between transactional leadership and trust in leader. The similar finding is found in the research of (Gillespie & Mann, 2004) that contingent reward positively relates to employee's trust to the leader. Whereas (Ismail et al., 2010) state that many recent leadership researches showing that a leader practices transactional one in leading the subordinates will promote the trust of subordinates. Moreover, related with the effect of leadership to collaboration, (Yang et al., 2011) observe the relationship between project manager leadership style, team collaboration and project success. The result indicates that a project manager practicing transactional and transformational leadership will improve communication, collaboration and team cohesion.

Based on theoretical and empirical elaboration, the third hypothesis is contingent reward transactional leadership positively affects to trust-based collaboration.

## 2.6 Contingent reward transactional leadership and knowledge sharing

(Y. S. Chen et al., 2014) examine the relationship between leadership behavior and knowledge sharing in professional service firms in Taiwan and US. One of the results shows that contingent reward leadership behavior positively affects to knowledge sharing. Meanwhile, the finding of research of (L. Y. Chen & Barnes, 2006) indicates that behavior of contingent reward transactional leadership is as significant predictor of knowledge sharing. The similar finding is found by (H. N. Nguyen & Mohamed, 2011) that contingent reward leadership behavior contributes to the creation of organizational knowledge and managerial mindset promoting information flows through organization. Contribution of contingent reward leadership to all dimensions of knowledge management practice is larger than that of charismatic one. In the research, effectivity of contingent reward leadership behavior is better than that of charismatic leadership. Other research finding concerning the relationship is conducted by (Analoui et al., 2012). The result shows that transactional leadership positively has effect to many processes of knowledge management, included knowledge sharing and dissemination. Transactional leadership uses contingent reward to motivate employees to share their knowledge. The researches of (Analoui et al., 2012) and (Ugwu & Okore, 2020) also support the finding.

Based on theoretical and empirical elaboration, the fourth hypothesis is contingent reward leadership positively affects to knowledge sharing.

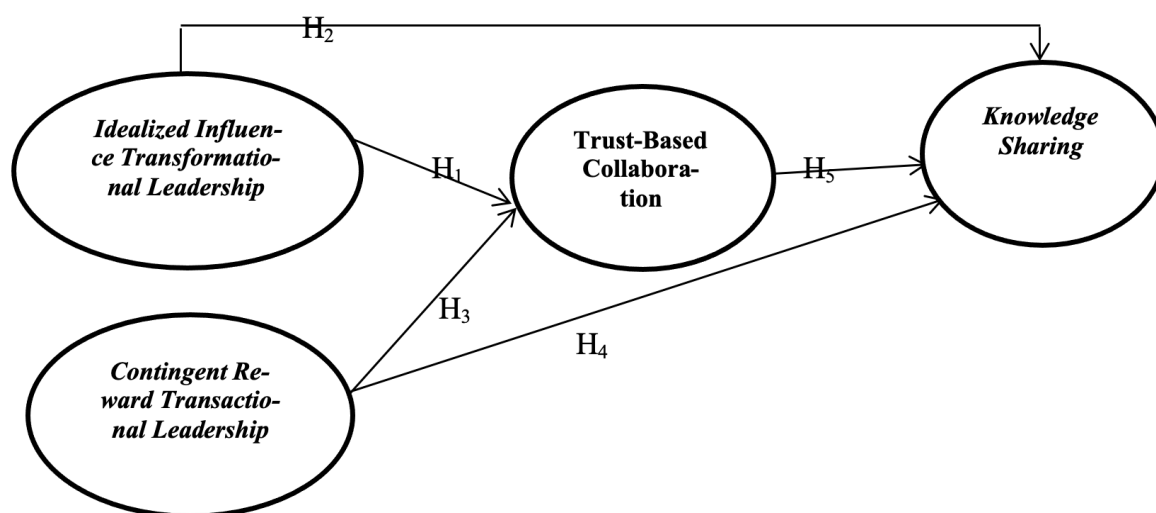
## 2.7 Trust-based collaboration and knowledge sharing

A number of studies concerning trust, cooperation or collaboration have been conducted by many researchers. (Nelson & Coopridge, 1996) investigate mutual trust, influence and shared knowledge on information system performance. The finding indicates that mutual trust positively affects to shared knowledge. The research recommends that to improve shared knowledge, a manager is important to develop mutual trust among groups within an organization. One will be ready to share knowledge to other parties trusted and recognized before. According to (Fu & Lee, 2005), main prerequisite of knowledge creation is trust. Trust variable plays pivotal role to the effectivity of knowledge sharing in organization. The indication is in line with the research finding of (McEvily et al., 2003) that trust gives important role in knowledge sharing activities in

organization. Many researchers agree that trust is main capital to build knowledge-based organization. Previous studies also show that trust improves knowledge sharing intensity among organization members (De Long & Fahey, 2000). (Al-Alawi et al., 2007) state that trust among employees is important attribute in organizational culture having strong effect to knowledge sharing. Trust among employees is about individual or group hope in promised reliability (Politis, 2003). Team member needs trust existence to respond openly and to share his knowledge (Gruenfeld et al., 1996). Other study is conducted by (Davenport et al., 2003). They state that trust is important factor supporting knowledge sharing process. Climate of cooperation also has pivotal role in knowledge sharing. A number of research findings confirm that implementation of knowledge management practice can be improved in cooperation climate, not competition one (Sveiby & Simons, 2002), in work environment that is conducive for trust (Goh, 2002). Meanwhile (Wong, 2005) states that one of cultural aspect that is important in knowledge management is collaboration. According to (Lee & Choi, 2003), collaboration has empirically contributed to knowledge creation.

Based on theoretical and empirical elaboration, the fifth hypothesis is trust-based collaboration positively affects to knowledge sharing. The research model can be seen in Figure 1.

Figure 1. Conceptual Framework



### 3. RESEARCH METHOD

The research is an explanatory research. It examines hypotheses to validate or strengthen hypotheses proposed. Thus, the research findings can be used to strengthen theories used.

#### Population and Sample

The current research was conducted in 5 private universities in Central Java Indonesia. All lecturers of private universities in Central Java Indonesia having A qualification in institutional accreditation are the population. The sample measurement determination uses maximum likelihood method, namely 200 respondents. Sampling technique used is non probability sampling, not all population has the same opportunity to be sample. The reason is that population is homogeneous in nature. Many techniques can be used in such sampling technique. One of them is quota sampling, a sampling technique in which population with certain characteristics can be used as samples up to samples's need fulfilled. The characteristics are lecturers from private universities with A level of institution accreditation and lecturers with profession certification. Of 200 respondents, 162 can be used to the next analysis. While the duration of the research is 9 months.



Table 1. List of Respondents

No	Name of University	Sample Number
1.	Islamic University of Sultan Agung Semarang Indonesia	$(287: 1.408) \times 200 = 41$ lecturers
2.	University of Dian Nuswantoro Semarang Indonesia	$(227: 1.408) \times 200 = 32$ lecturers
3.	Catholic University of Soegijapranata Semarang Indonesia	$((161: 1.408) \times 200 = 23$ lecturers
4.	Christian University of Satya Wacana Salatiga Indonesia	$(345: 1408) \times 200 = 49$ lecturers
5.	University of Muhammadiyah Surakarta Indonesia	$(388: 1408) \times 200 = 55$ lecturers
Total		200 lecturers

### 3.1 Measurement of Variables

Idealized influence transformational leadership is measured by using 4 indicators, among others: the interaction convenience with the lecturers, group interest priority. Measurement of idealized influence transformational leadership is adapted from (Bass & Avolio, 1994). Contingent reward transactional leadership is measured by using 5 indicators, among others: dean gives clearer description about what the lecturers will receive if fulfilling their performance, dean expresses his satisfaction of lecturers's performance. The measurement is adapted from (Bass et al., 2003) and (Mackenzie et al., 2001), based on work of (Podsakoff et al., 1984).

Trust-based collaboration is measured by using 5 indicators, among others: developing cooperation with colleagues, cooperation network based commitment and care. The measurement is adapted from (Bedwell et al., 2012), (Nahapiet & Ghoshal, 1998) and (McKnight et al., 2002). Whereas knowledge sharing is measured by using 5 indicators, among others: conveying new information to colleagues, sharing skill and knowledge to colleagues. The measurement of the variable is adapted from (Vuori & Okkonen, 2012).

#### Data Analysis

The collected data will be analyzed using Structural Equation Modeling (SEM) with AMOS software package version 21. Analysis of SEM with AMOS software package 21.0, covers: a) assumption test including data normality, data outliers, multicollinearity and singularity and residual test, and b) validity and reliability test. Steps in using SEM, according to (Hair et al., 2019), are as follows: developing theory-based model, developing path diagram, converting path diagram to the model, choosing input matrix and model estimation, assessing the possibility of identification problem, evaluating goodness of fit criteria and giving interpretation and modifying model.

## 4. RESULTS AND DISCUSSION

Respondents of the current research are lecturers from 5 top universities in Central Java Indonesia. Criteria of the respondents are certified fix lecturers with tenure at least 2 years. The demography of respondents cover: sex, age, tenure, education level and academic functional occupation.

Result of model fit test using Chi square, GFI, CFI, TLI, CMIN/DF and RMSEA indicated that values obtained within the required range, except AGFI value showing marginal one.

**Table 2. Result of Fit Indices Test**

Goodness of Fit Indices	Cut-off Value	Result	Model Evaluation
Chi-Square	small (< 135,480)	134.212	Good
Probability	$\geq 0.05$	0.058	Good
RMSEA	$\leq 0.08$	0.037	Good
Chi square/df	$\leq 2.00$	1.220	Good
GFI	$\geq 0.90$	0.912	Good
AGFI	$\geq 0.90$	0.878	Marginal
TLI	$\geq 0.95$	0.977	Good
CFI	$\geq 0.95$	0.962	Good

Source: Primary Data analysed (2020)

The hypotheses test is conducted based on CR value of casuality relationship of structural equation model analysis result. The results of the regression weight structural equation model can be seen in table 1. Model of structural equation based on the result can be written as follows:

$$TBC = 0.309 \text{ IITL} - 0.046 \text{ CRL} + z1$$

$$KS = 0.524 \text{ TBC} + 0.1467 \text{ IITL} - 0.104 \text{ CRL} + z2$$

**Table 3. Regression Weight Structural Equation Model**

			Estimate	S.E.	C.R.	P
TBC	<---	IITL	0.309	0.137	2.259	0.024
TBC	<---	CRL	-0.046	0.089	-0.520	0.603
KS	<---	TBC	0.524	0.116	4.511	***
KS	<---	IITL	0.147	0.153	0.963	0.336
KS	<---	CRL	-0.104	0.099	-1.054	0.292

Source: primary data analysed, 2020

The results of the total effect of mediating variable can be seen in table 2. Based on AMOS analysis result manually, the computation is follows:

Total effect Count = (indirect effect) + (direct effect)

$$= (0.309 \times 0.524) + 0.147$$

$$= 0.1619 + 0.147$$

$$= 0.3089$$

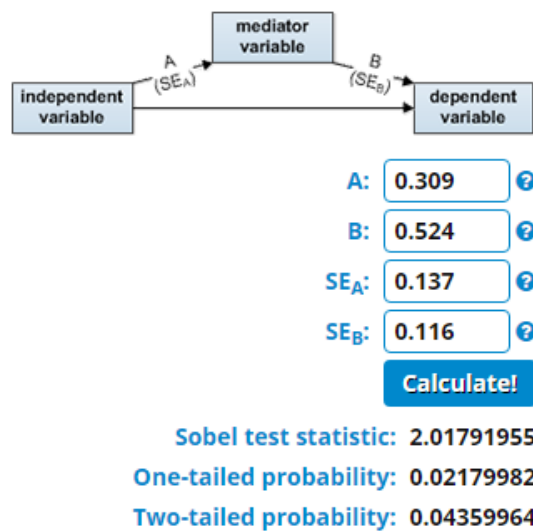
Table 4. Total Effect of Mediating Variable

Causality Relationship	Estimate	SE	CR	P
IITL → TBC	0.309	0.137	2.257	0.024
TBC → KS	0.524	0.116	4.511	0.000
IITL → KS	0.147	0.153	0.963	0.336
Total Effect	0.3089			

Source: Primary Data Analysed (2020)

From total effect count, it is known that the improvement of *idealized influence* transformational leadership quality, if not consider the role of mediating variable, trust-based collaboration, there will be increasing of knowledge sharing activities amounted 0.147. If the role of mediating variable is added, there is increasing activity of knowledge sharing amounted 0.3089. If the role of mediation is counted using sobel test, the result will be in Figure 2.

Figure 2. Indirect effect



Based on Figure 2, it is known that mediating variable, trust-based collaboration has pivotal role in relating between idealized influence transformational leadership and knowledge sharing. The indication is statistically proved that the result of Sobel test amounted 2.017 > 1.96 with p value one-tailed probability amounted 0.021 and p value two tailed probability amounted 0.043 under significant level fixed 5%. It means that variable of trust-based collaboration fully mediates the relationship between idealized influence transformational leadership and knowledge sharing.

#### 4.1 Idealized influence transformational leadership and trust-based collaboration

Based on the hypothesis test conducted, idealized influence transformational leadership has positive effect to trust-based collaboration. It is known from significant value 0.024 under 0.05 fixed, the hypothesis is accepted. The better the implementation of idealized influence trans-

formational leadership is, the better trust-based collaboration is. From respondents's response concerning idealized influence transformational leadership of dean, respondents, certified lecturers perceives that dean is high enough to implement idealized influence transformational leadership style, with index rate amounted 85.362. The implementation of idealized influence transformational leadership of dean motivates lecturers to collaborate, especially in threefold missions of higher education activities. The indication can be seen from response of lecturers concerning the activities amounted 90.917, the highest index rate. Indicator of idealized influence transformational leadership having lowest index rate is feeling convenient to interact with other lecturers. The finding indicates that the increasing of leadership effectivity, convenient to interact with lecturers should be paid attention.

(De Cremer & Van Knippenberg, 2002) investigate how a leader promote cooperation. The research finding indicate that charismatic transformational leadership improve employee's cooperation. Moreover, (Gillespie & Mann, 2004) observe transformational leadership and shared values, trust role. The result indicates that active leadership style, one of them is transformational leadership, positively affects to trust of team member to his leader. The research also finds that one of the strongest predictor of trust to the leader is idealized influence leadership.

The research of (Asmawi et al., 2013) investigating transformational leadership and R & D culture in universities in Malaysia is in line with the finding. Transformational leader actively looks for new ideas and creative solution from the subordinates. The characteristic will be important for the guarantee of knowledge sharing culture in universities. However, the willingness to share knowledge can be improved when they have mutual trust and comprehension. The leader, through idealized influence sets examples by internalizing knowledge sharing. Such leadership type is respected and trusted by his subordinates. They will be motivated to share their knowledge.

## 4.2 Idealized influence transformational leadership and knowledge sharing

Based on the hypothesis test conducted upon the effect of idealized influence transformational leadership and knowledge sharing, it is known that the idealized influence transformational leadership does not affect to knowledge sharing. The level of significance is 0.336 % beyond 0.05 % fixed. Thus, the hypothesis is not accepted. The finding indicates that idealized influence transformational leadership shown by the dean does not support lecturers to share knowledge. The finding gives valuable meaning of what is predicted in the previus part of the article that the effect of idealized influence transformational leadership to knowledge sharing is not direct one. Based on literature and empirical evidence, the relationship between the two can be direct or indirect. The research gap supports researcher to propose a model that the effect of idealized influence transformational leadership is mediated by certain variables.

Based on response of lecturers concerning dean leadership, they perceive that dean plays idealized influence transformational leadership with index rate 85.362. It means that dean behavior shows idealized influence transformational leadership. It is different with respondent perception of contingent reward transactional leadership of dean that is lower, 81.993. The finding is in line with the literature about transaformational and transactional leadership that generally effectivity of transformational leadership is higher than that of transactional one. However, in the previous research findings, there is evident that dimension of transactional leadership, contingent reward has effect as strong as dimension of transformational one. Idealized influence transformational leadership is charismatic leadership. Leader is role model. Such leader is respected and trusted. Besides, leader prioritizes group interest beyond his own one. The leader supports collaboration among organization elements. (Atapattu & Ranawake, 2017) explain that idealized influence transformational leadership constitutes behavior of the leader directed to promote collaboration to gain shared goal. Idealized influence leader will be able to form organizational climate and trust to assure that they will not do opportunistically. By building individual trust to his peers in an organization, idealized influence transformational leadership will be capable to build organizational trust supporting all individuals in organization to engage in knowledge management process. Concerning the research finding, many previous research findings are not in line with the finding,

such as: (Masa'deh et al., 2016); (Ugwu & Okore, 2020); (Al-Husseini et al., 2021). Meanswhile other findings support the current finding, namely: (Bradshaw et al., 2015); (Boateng & Agyemang, 2016) that transformational leadership does not affect to knowledge sharing.

### **4.3 Contingent reward transactional leadership and trust-based collaboration**

The current research finding indicates that contingent reward leadership does not affect to trust-based collaboration. It is seen from the significant value  $0.603 > 0.05$  so that the hypothesis is not accepted. The finding is not in line with the previous research findings, such as: (Podsakoff et al., 1996); (Jung & Avolio, 2000); and (Mohamad & Yahya, 2016). In a number of previous research findings it is also mentioned that transactional leadership support subordinates to collaborate and cooperate (Yang et al., 2011). Response of respondents concerning transactional leadership of dean is high enough, 80.993. It indicates that the dean, in leading, shows contingent reward transactional leadership character in which the substance, the dean in leading uses extrinsic and intrinsic approach. However, high perception of transactional leadership of dean does not support lecturers to collaborate. High perception of contingent reward leadership of dean, but not affect to lecturers to collaborate indicates that lecturers in doing collaboration is not because of reward received. Lecturers in doing collaboration with other lecturers, especially in conducting threefold missions of higher education, can be because of their professional awareness. The indication is seen from response of lecturers in open questions concerning indicators of threefold missions of higher education collaboration having the highest index rate, 90.917.

### **4.4 Contingent reward transactional leadership and trust-based collaboration**

Based on hypothesis test for the effect of contingent reward transactional leadership to knowledge sharing, it is known that contingent reward transactional leadership does not have significant effect to knowledge sharing. It is seen from significant value 0.292 beyond 0.05. Thus, the hypothesis is not accepted. The research finding gives clearer description concerning the relationship between contingent reward transactional leadership and knowledge sharing that is more various. A number of research findings show the positive relationship between the two (Bradshaw et al., 2015); (Masa'deh et al., 2016); (Ugwu & Okore, 2020), and other indicate no significant relationship (Rawung et al., 2015). Based on response of lecturers, it is known that index rate of contingent reward transactional leadership is 81.993. It means that the lecturers perceive the dean to play the leadership. However, the implementation of the leadership does not support lecturers to share knowledge. It can be because of specific condition of lecturer profession and also condition of academic culture. Respondents of the current research is certified lecturers. It means that all lecturers are professional. Profession of lecturer is identical with knowledge transfer to colleagues, students or other stakeholders. Main task of lecturer having been mentioned have embedded in heartstrings of lecturer. Lecturers share knowledge implicitly through their daily activities. It means that to do knowledge sharing, lecturer is not because of reward being received. Lecturers share their knowledge because of their professional calling. It can be seen from response of respondents in open questions that they will share knowledge eventhough not requested.

From response of respondents, it is also known that the dean gives much more intrinsic reward that that of extrinsic one. Finance system in most of the objects of the research is centralized in university level, not faculty one. The fact can affect to the effectivity of contingent reward transactional leadership of dean in faculty level. Effectivity of the transactional leadership may be proper combination of intrinsic and extrinsic reward. Other information from respondents, they share their knowledge in voluntary. They also share knowledge because of their religion lesson. Sharing knowledge constitutes one of religion lessons they should do. Such indication is relevant with the objects of the research that 4 of 5 universities are religion-based universities. The indication is empowered by the findings of previous research by (Akosile & Olatokun, 2020) investigating about factors affecting knowledge sharing among academics in University



of Bowen Nigeria. The research finding shows that reward system does not affect to knowledge sharing among academics in University of Bowen. They explain that in academic context, financial reward and other tangible one, does not influence behavior to share knowledge. Besides, majority of the respondents are Christian. Sharing knowledge is their religious lesson. (Jolae et al., 2014) studying in Malaysia universities also shows that sharing knowledge is one of importantly religious lessons to do. Most of the respondents are moslems.

#### 4.5 Trust-based collaboration and knowledge sharing

Based on hypothesis test conducted, it is known that trust-based collaboration has positive effect to knowledge sharing. It is seen from the p-value 0.00 under 0.05, so that the fifth hypothesis is accepted. The finding indicates that the better trust-based collaboration is conducted, the better knowledge sharing is. Based on response of respondents, they perceive that they collaborate in doing their threefold missions of higher education. The index rate for the point is the highest, 90.917. Lecturers conducts their threefold missions of higher education by collaborating with their colleagues and their related parties. Consequence of trust-based collaboration is the increasing of knowledge sharing activities with the related parties, among others: students, public community, industry community, etc. From analysis conducted, it is known that variable of trust-based collaboration constitutes a variable having the biggest contribution in supporting knowledge sharing activities. The indication is seen from coefficient value 0.537 in the significant level 0.000. The finding shows that effectivity of knowledge sharing increasing can be conducted by improving trust-based collaboration among lecturers. In campus context, lecturer collaboration can be in the from of teaching, research and publication, community dedication and other supporting activities.

The finding supports many previous research findings, among others, researches conducted by (Ahmed et al., 2016) and (Seonghee & Boryung, 2008). (Ahmed et al., 2016) investigate the role of collaborative culture to knowledge sharing and employee's creativity. Research finding indicates that team cooperation has positive effect to knowledge donation and knowledge collection. It shows that trust significantly affects to knowledge sharing dimension. The result of research of (Sveiby & Simons, 2002) is also in line with the finding. They investigates collaborative climate and work effectivity of knowledge. The result shows that collaborative climate in private sector is better that that of public sector. Other research is conducted by (H. K. Wang et al., 2014) examining about how institution norm and trust affect to knowledge sharing. By using structural equation model, the finding shows that trust influences knowledge sharing. Trust supports resource exchange promoting knowledge sharing. (Davenport et al., 2003) state that employee should grow sense of mutual trust to improve knowledge sharing. Other research finding in lining with the current result is research finding of (T. P. L. Nguyen et al., 2019). Trust positively affects to knowledge donation and collection. In the current research, variable of trust-based collaboration is the most influential variable. Therefore, to improve knowledge sharing, a campus leader is urgent to increase lecturers's trust.

#### 4.6 Mediating role of trust-based collaboration

Based on mediating test conducted, it is known that trust-based collaboration mediates the relationship between idealized influence transformational leadership and knowledge sharing. It can be clearly detected by sobel test conducted. The finding indicates that idealized influence transformational leadership has effect to knowledge sharing indirectly through trust-based collaboration. A number of previous research findings gives indication that effect of transformational leadership to knowledge sharing is indirect. However, many confirm that the effect of the two is direct. The research gap gives opportunity to explore the relationship deeply. (Pillai et al., 1999) investigated trust as mediator for transformational and transactional leadership. The finding shows that trust functions as mediating one.

The research result supports the research finding of (Jury et al., 2005) studying transformational leadership in virtual team. The research examines mediating effect of trust and role clari-

ty of performance and knowledge sharing. Research finding indicates that trust in leader fully mediates the effect of transformational leadership to knowledge sharing in virtual team. The finding gives a number of important things, among others: transformational leadership may develop relationship in such a way in team member so that team member can trust his leader. The current research is also in line with the result of the research of (Le & Lei, 2018) investigating the role of trust as mediating variable in stimulating the relationship between transformational leadership and knowledge sharing. The finding shows that transformational leadership practice has significant effect to knowledge sharing, directly as well as indirectly through increasing of 4 aspects of individual trust.

## 5. CONCLUSION

The research finding strengthens and supports the relationship between idealized influence transformational leadership, trust-based collaboration and knowledge sharing among lecturers in faculty. The result of the research also supports that idealized influence transformational leadership is proved to support and promote trust-based collaboration and then trust-based collaboration supports knowledge sharing of lecturers in faculty. Thus, the current research contributes to literature concerning the importance of trust-based collaboration in increasing knowledge sharing.

Based on the research finding, university leaders are important to improve idealized influence leadership style in leading. Dean with idealized influence transformational leadership style supports lecturers to collaborate. Trust-based collaboration is proved supporting knowledge sharing among lecturers. To gain better university performance, university leaders are important to create conducive atmosphere to collaborate so that knowledge sharing can run well. Based on literature and previously empirical evidence, practice of higher knowledge sharing will positively affect to many organizational outputs, among others: innovative behavior, learning organization and also organizational performance. University leaders that are responsible for human resource development may provide certain training to lecturers having better managerial potential concerning transformational leadership separated with transactional one. The reason is that idealized influence transformational leadership affects to knowledge sharing through trust-based collaboration variable. While contingent reward transactional leadership has no effect to knowledge sharing. However, theoretically, combination between the two, with certain variation adjusted with the context will bring positive impact for organizational performance.

### 5.1. Theoretical contributions

The finding support the theory synthesis proposed in the research, namely Resource Dependence Theory and Social Capital Theory. Trust-based collaboration is the novelty of the research, that is derivation of the two theories. The finding strengthens one of main flows in literature and gives more empirical evidence about the relationship between transformational leadership and knowledge sharing that the relationship between the two is indirect in nature. The research also has many contributions to theory of transformational leadership and knowledge sharing. The current research develops a conceptual model through integration of idealized influence transformational leadership concept, trust-based collaboration and knowledge sharing. The finding also shows that contribution of transformational leadership to knowledge sharing through trust-based collaboration beyond contribution of transactional one. The research finding is in line with main flow of transformational and transactional literature that the effect of transformational leadership to many organizational outputs, included knowledge sharing through trust-based collaboration, bigger than that of transactional one. With other researchers, (Fathi et al., 2009); (Sandhu et al., 2011), the current research can not prove the effect of reward played by contingent reward leadership on knowledge sharing attitude. It gives indication for theorists to review the fit of motivation theory as a basic of research in knowledge sharing.

## 5.2. Practical contributions

The result of the research has practical implication for leadership development. To get optimum benefit in trusted relationship between leader and subordinates, leadership training and development program should complete leaders with skill to formulate and communicate shared vision and main values. A leader is hoped to actively involved in creating knowledge sharing culture, through increasing of trust-based collaboration among lecturers. The finding of the research indicates that organization should not only focus on extrinsic reward as main motivator in knowledge sharing initiatives. Effective knowledge sharing can not be forced and obliged. According to (Kohn, 1993) extrinsic reward is just effective for short term. Knowledge sharing should be supported in order to be university culture. Leaders are important to create supporting environment of knowledge sharing. With conducive climate, collaboration can run well and in turn affect to knowledge sharing. Dean may add knowledge sharing as one of indicators of key performance of lecturers and is used as main input for lecturers's performance appraisal. As known that knowledge sharing can be an antecedent for many organizational outputs, such as: organizational learning, innovative behavior and organizational performance.

## 5.3. Limitations and recommendations for future research

The current research has many limitations. Goodness of Fit Index for GFI and AGFI are marginal that can affect the goodness of fit of the model proposed. The research finding cannot be generalized to other countries, especially countries with differently national culture with the research setting of the current research. Based on cultural congruency theory, leadership effectivity is also related with national culture value dominating in a country.

There are future research agendas to conduct. Research focus on leadership in the future should be concerning trust-based collaboration. In the current research, behavior of idealized influence transformational leadership affects to knowledge sharing indirectly through trust-based collaboration variable. The next research can be directed to the antecedent and consequence of trust-based collaboration giving important contribution in literature of organizational behavior. Significant proportion of many previous researches concerning knowledge sharing is dominated by motivation theory, suppressing on extrinsic reward related with knowledge sharing. Whereas many previous research findings do not support the effect of extrinsic reward to knowledge sharing. Future research is important to look for accurately theoretical approach to comprehend and measure the effect of antecedent to knowledge sharing.

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