

Leadership and Knowledge Management in SMEs: Organizational Culture as Moderation

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Abstract. Knowledge management is important for small and medium-sized businesses to maintain their competitive position and drive innovation. The main obstacles that hinder the spread of knowledge management practices in SMEs include cultural aspects, leadership, and limited managerial capacity related to technology and knowledge gaps. Therefore, this study analyzed the effect of transformational and transactional leadership on knowledge management in SMEs and the moderating of organizational culture. This research was collected using a questionnaire. The sample of this study was leaders of Small and Medium Industries in Mojowarno District, Jombang, East Java, Indonesia with 62 respondents. The analytical method used a moderation test using the SmartPLS 3 program. The results of the study revealed that transformational leadership had a significant effect on knowledge management while transactional leadership did not have a significant impact on knowledge management; team culture strengthened the influence of transformational and transactional leadership on knowledge management, and there was no moderating role of adhocracy culture and market culture. These findings show that transformational leadership plays a major role in the application of knowledge management in SMEs. However, transformational and transactional leadership collaboration has a major impact on the successful implementation of knowledge management. Clan culture contributes greatly to strengthening the leadership role of knowledge management.

Keywords: Knowledge management; Leadership; Organizational culture; SMEs.

Abstrak. Manajemen pengetahuan merupakan aspek penting bagi usaha kecil dan menengah untuk mempertahankan posisi kompetitif dan mendorong inovasi. Kendala utama yang menghambat penyebaran praktik manajemen pengetahuan pada UKM, antara lain aspek budaya, kepemimpinan, dan kapasitas manajerial yang terbatas terkait dengan kesenjangan teknologi dan pengetahuan. Oleh karena itu, penelitian ini (Usaha Kecil dan Menengah) menganalisis pengaruh kepemimpinan transformasional dan transaksional terhadap manajemen pengetahuan para pelaku UKM dan pemoderasi budaya organisasi. Penelitian ini dikumpulkan dengan menggunakan kuesioner. Sampel penelitian ini adalah pimpinan Industri Kecil dan Menengah (IKM) di Kecamatan

Mojowarno, Jombang, Jawa Timur, Indonesia dengan jumlah 62 responden. Metode analisis menggunakan uji moderasi dengan menggunakan program SmartPLS 3. Hasil penelitian mengungkapkan bahwa kepemimpinan transformasional berpengaruh signifikan terhadap manajemen pengetahuan sedangkan kepemimpinan transaksional tidak berpengaruh signifikan terhadap manajemen pengetahuan, budaya tim memperkuat pengaruh kepemimpinan transformasional dan transaksional terhadap manajemen pengetahuan, dan tidak ada peran moderasi budaya adhokrasi dan budaya pasar. Temuan ini menunjukkan bahwa kepemimpinan transformasional memainkan peran utama dalam penerapan manajemen pengetahuan pelaku UKM. Namun, kolaborasi kepemimpinan transformasional dan transaksional berdampak besar pada keberhasilan penerapan manajemen pengetahuan. Budaya klan berkontribusi besar dalam memperkuat peran kepemimpinan terhadap manajemen pengetahuan.

Kata kunci: *Budaya organisasi; Kepemimpinan; Manajemen pengetahuan; UKM.*

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BACKGROUND

With technological advancement and new business opportunities, the business sector is becoming increasingly competitive, requiring companies to be more innovative in their business development. This kind of issue also affects small and medium-sized businesses. Small and medium businesses (SMEs), particularly in Indonesia, significantly impact economic growth. SMEs can absorb labor by creating many jobs, lowering the unemployment rate. Furthermore, SMEs can develop skills and abilities among people who have not been able to obtain the necessary education. In Indonesia, SMEs range from crafts to factories to food-related SMEs, requiring further development. Innovation is also critical for the organization's long-term survival and success.

The success of SMEs and organizations is inextricably linked to the leadership role. Successful leaders are those who can contribute to the organization and who are constantly working to improve the organization's performance. The leader will direct the organization's development (Yukl, 2010). A leader will always do his or her best for the organization, particularly when it comes to developing the skills and abilities of his or her employees. The goal is to improve the company's overall performance, including employee and business performance. In this case, improved performance will impact the organization's long-term viability. Transformational leadership is when a leader directs employees and works together to achieve organizational goals (Yukl, 2010). However, providing rewards and regulations and strict supervision are two ways for leaders to encourage employees to improve their performance. This is referred to as transactional leadership. These two types of leadership exist in organizations, and both play an essential role.

Employee skills and abilities will have an impact on the organization. Employees will be expected to be inventive and creative in their work. MSMEs must keep up with technological and environmental developments to maintain business continuity, which requires innovation and creativity. The role of a leader in an organization is related to

how he facilitates the needs of employees, particularly in improving the skills and information needed by their employees in organizational development, also known as knowledge management (Zaied, 2012). Knowledge management is the formalization of and access to experience, knowledge, and expertise that enables superior performance, drives innovation, and increases customer value (Khan & Rashid, 2012). The main goal of knowledge management is to add value to an organization, particularly a business; it can compete with other businesses and improve the quality of the employees who work there. Knowledge management benefits SMEs, as the organization always encourages innovation and creativity. The leader's role, on the other hand, impacts the organization's and its employees' knowledge management.

Exemplary leadership is the key to change, as it increases employees' knowledge capacity and skills, directly impacting the organization's performance. Noruzy et al., (2013) discovered a correlation between leadership and knowledge management in their study. The type of leadership used in this study is transformational leadership, in which the leader motivates subordinates to work together to achieve organizational objectives (Yukl, 2010). The leader's role influences the increasing knowledge management of employees in an organization (Birasnav et al., 2011; Nguyen & Mohamed, 2011). These findings contrast with a study conducted by (Satyagraha, 2010), which found that transformational leadership had no impact on knowledge management. Masa'deh et al. (2016) state that transactional leadership significantly impacts knowledge sharing. The type of leadership used will affect knowledge management in the organization. Knowledge management will impact the organization and is a factor that will efficiently benefit the business environment (Pathirage et al., 2007). To create good knowledge management, knowledge management emphasizes the importance of transformational and transactional leadership (DeTienne et al., 2004).

Success in SME business is not only based on improving the skills and abilities of its employees in improving performance. Organizational culture, in this case, also influences the success of SMEs. Organizational culture is the values or guidelines adopted in an organization (Robbins & Judge, 2015). Organizational culture is taught to organizational members and used as a differentiator from other organizations (Schein, 2010; Cameron & Quinn, 1999; Cameron & Quinn, 1999) divided culture into dimensions of a competing value framework, which impacts organizational effectiveness and performance. The impact of organizational culture on a leader's ability to persuade his subordinates to implement knowledge management is also critical.

According to Politis (2001), the main enemy of innovation is bureaucracy, so the right culture is required to produce organizational effectiveness and realize creativity and innovation. Cameron (1999) stated that organizational effectiveness is more closely related to the type of culture than the strength of culture. This study employs a competitive value framework, which helps determine the organization's dominant cultural profile and characterize the attributes that exist. This culture was created based on organizational effectiveness research (Quinn & Rohrbaugh, 1981), leadership, structure, and information processing. The competitive value framework culture can be applied to all aspects of the organization and at all levels. This competing value framework culture can identify the type of culture used in each organization and its effect on organizational effectiveness, especially the role of leaders in improving employee performance, knowledge, and skills.

This study analyzed the effect of transformational and transactional leadership on knowledge management in SMEs and the moderating of organizational culture (including clan culture, adhocracy culture, and hierarchical culture). Knowledge management is a term that refers to the practice of managing information. Cameron et al. in Yang (2007) stated that organizational culture can help with knowledge management, workplace trust, leadership commitment, mentoring programs, responsibility, innovation, and problem-solving.

This study focused on Jombang's small and medium industries, or furniture industry centers, one of the most critical sectors in the local economy. This industry manages raw wood materials for use in furniture products such as chairs, cupboards, doors, tables, and so on, which necessitates employees' design and carving skills and leadership's ability to manage human resources to achieve maximum performance. The difference in research findings related to the finding of a significant and insignificant effect between leadership and knowledge management is a research gap in this study where organizational culture is added as a moderator.

THEORETICAL REVIEW

Leadership

Transformational and transactional leadership are the two types of leadership. Transformational and transactional leadership theory emphasizes the importance of choosing the right leadership style to anticipate and implement internal and external changes. Change agency theory is another name for transformational leadership theory. Burns (1978) developed the initial idea for this leadership theory, which he applied in political policy, and Bass (1990) refined it further in the organizational context (Boerner et al., 2007). Different ways exist for leaders to combine the two types of leadership. According to Munir et al. (2012), transformational leadership research has become popular among researchers in the modern era. This is because transformational leadership is a method of fostering commitment in the pursuit of betterment.

Transformational and transactional leadership are two types of leadership (Yukl, 2010). The essence of this theory is the difference between transformational and transactional leadership. According to this viewpoint, leadership is defined as a behavior used to influence followers and influence leaders to followers. In terms of the process, transactional and transformational leadership are distinct. Transactional leadership does not increase motivation or performance as much as transformational leadership does. Kepemimpinan transformasional menginspirasi dan memotivasi pengikut, sedangkan kepemimpinan transaksional lebih didasarkan pada penguatan dan pertukaran (Aarons, 2006).

Transformational leadership is "leaders who guide or motivate their followers toward established goals by explaining their roles and demands" (Robbins & Judge, 2019). Yukl (2010) explained that transformational leadership will make followers feel trust, admiration, loyalty, and respect for the leader, motivating them to do more than was initially expected. The indicators of transformational leadership are idealized influence, inspirational motivation, intellectual stimulation, and individual consideration. Meanwhile, the indicators of transactional leadership are active management by exception, passive management by exception, contingent reward, and laissez-faire.

Knowledge Management

Khan (2012) defined knowledge management as the formalization of and access to experience, knowledge, and expertise that creates new capabilities that enable superior performance, drive innovation, and increase customer value. Meanwhile, Zaied (2012) argued that knowledge management is a process that helps organizations find, select, organize, disseminate, and transfer important information needed for activities. Knowledge management is needed in organizations to increase the added value in the organization so that it can be utilized effectively and efficiently.

There are four processes in knowledge management according to Gold et al. (2001); Mills & Smith (2011) as follows: (a) Knowledge acquisition, which is a process that refers to how information is gathered from a variety of external and internal sources (Zaied, 2012); (b) Knowledge conversion, which is converting acquired knowledge into organizational knowledge that is effectively used in the organization (Lee & Suh, 2003; Mills & Smith, 2011); (c) Knowledge application, which entails putting acquired knowledge to use to transform potential capabilities into realized and dynamic capabilities that have an impact on organizational performance (Cohen & Levinthal, 1990); (d) Knowledge protection, which is the process of securing and storing information so that only authorized officers to have access to it (Saeed, 2012).

Honeycutt (2000) explained that the main processes in knowledge management are knowledge creation (creation), knowledge utilization (utilization), and knowledge sharing. The act of generating knowledge is known as knowledge creation. Information from personal experience and expertise is used to gain knowledge. Knowledge utilization is applying knowledge in the form of technical tools, such as machines and equipment, to increase added value or productivity. Transferring knowledge from one party to another is known as knowledge sharing. Sharing knowledge means that each employee recognizes the value of knowledge to the company and shares what they have learned with others.

Organizational Culture

Robbins and Judge (2015) stated that organizational culture is a shared perception held by members. Schein (2017) defined organizational culture as a pattern of basic assumptions found and developed in a particular group in a learning process on the problems of internal integration and external integration that have worked quite well and are considered valid and taught to members of the organization.

The dimensions of culture are based on the Competing Value Framework, which describes the complex nature of organizational culture and provides cultural values that reflect the preferred structural characteristics of each organization (Cameron & Quinn, 1999). Organizational effectiveness was more closely related to culture type than cultural fit or strength (Cameron & Ettington, 1988). This competitive value framework helps assess the dominant cultural profile of the organization and helps to characterize the attributes that exist within the organization. The development of this culture is related to research on organizational effectiveness (Quinn & Rohrbaugh, 1981), leadership, structure, and information processing. The competitive value framework culture can be used for all aspects and all levels of the organization. The competitive value framework culture can identify the type of culture used in each organization and its relation to organizational effectiveness. This type of culture will result in ineffectiveness in one organization but not in another.

The cultural structure of the competitive value framework using the Organizational Culture Assessment Instrument is distinguished based on two dimensions, i.e.: (1) The dimension focuses on organizational flexibility at one point and focuses on stability, organizational stability, and durability at the other point; (2) The dimension focuses on internal orientation, integration, and unity while at the other end focuses on external orientation, differentiation, and competition. These two dimensions are formed in the four types of culture, i.e.: (a) Clan Culture. It is symbolized as a friendly place for people who work and share among their fellow members; (b) Adhocracy Culture. A dynamic workplace characterizes this type of culture, encourages an entrepreneurial spirit for its members, and is creative. In this type of culture, all organization members are ready to change and can face new challenges; (c) Hierarchical Culture. A formal and structured workplace characterizes this type of culture. Well-defined procedures and processes govern what members of the organization do. Formal regulations and policies continue to be carried out in the organization; (d) Market Culture. This type is externally focused-stability characterized by the organization as a results-oriented workplace.

Hypotheses Development

Leaders have a role in improving skills, knowledge, and information about the work done in the organization. Exemplary leadership will drive change and increase employees' knowledge capacity and skills, ultimately impacting organizational performance. Research conducted by Gelard et al. (2014); Noruzy et al. (2013); Lok and Crawford (2004) found the influence of transformational leadership on knowledge management. In this case, leaders provide direction, motivation, and inspiration for employees, providing information, skills needed, and skill improvement for subordinates. Ather (2021) shows that transformational leadership strongly predicts knowledge management practices. It was also found that transformational leadership strongly and positively influences the knowledge management process (Birasnav, 2014).

They discovered a correlation between transactional leadership and knowledge sharing. Knowledge management includes knowledge sharing (Masa'deh et al., 2016). Knowledge sharing is closely related to economic exchange theory, in which knowledge sharing is based on employee benefits and costs (Bock & Kim, 2002). Management must also provide an excellent system for extrinsic rewards, such as salary increases, bonuses, and incentives, to encourage knowledge-sharing activities (Bartol & Srivastava, 2002). As a result, knowledge sharing will benefit employees and encourage them to learn and earn more. Transactional leadership can influence knowledge management practices, although the scope of influence is limited compared to transformational leadership (Ather, 2021). Based on the description above, the hypotheses proposed in this research are as follows:

H1: Transformational leadership affects knowledge management.

H2: Transactional leadership affects knowledge management.

Organizational culture refers to the shared values, beliefs, and practices that shape the behavior of individuals and groups in an organization (Lasrado & Kasseem, 2021). Organizational culture is a value or guideline adopted in the organization. Stock et al. (2010), in particular, found that different dimensions of organizational culture were associated with more practical knowledge management, which in turn was associated with better performance. Organizational culture moderated transformational leadership in

knowledge management (Mustika, 2012). According to Cameron and Quinn (1999), the organizational culture used in this research is Adhocracy, Market, Team, and Culture. Nguyen and Mohamed (2011) explained that transformational leadership can increase organizational innovation directly or indirectly by creating a supportive market culture.

Organizational culture and leadership are two sides of the same coin that cannot be understood separately (Schein, 2017). Company founders create an organization that reflects their values and beliefs during the organizational formation. Organizational culture is a distinguishing feature of each organization, allowing it to stand out from the competition. A leader's role in strengthening organizational culture will affect employee performance and the organization's performance and improve the skills to increase the organization's selling value. Wicaksono (2014) study looked at how market culture affected transformational leadership's impact on knowledge management. The findings showed that market culture did not affect transformational leadership's ability to manage knowledge. This is because the influence of transformational leadership is intended to indirectly affect leadership in the organization.

Organizational culture is important in the relationship between transformational leadership and knowledge management (Ghasabeh, 2021). In particular, an adhocracy culture characterized by flexibility, innovation, and risk-taking can enhance the positive effects of transformational leadership on knowledge management. This is because adhocracy culture encourages experimentation and creativity, which are essential for effective knowledge management (Golden & Shriner, 2019). It is known, too, that clan culture moderates the relationship between transformational leadership and knowledge management. Transformational leaders not only directly impact knowledge management but also foster a more effective culture, which contributes positively to knowledge management effectiveness (Ghasabeh, 2021). Market culture has been identified as a moderator in the relationship between transformational leadership and knowledge management (Birasnav et al., 2013). Research has shown that transformational leadership can positively impact knowledge management, and organizational culture can moderate these relationships. Based on the description above, the hypotheses proposed in this research are as follows:

H3: Transformational leadership affects knowledge management, which is moderated by an adhocracy culture.

H4: Transformational leadership affects knowledge management, which is moderated by clan culture.

H5: Transformational leadership affects knowledge management, which is moderated by market culture.

Transactional leadership is a leadership style based on an exchange between leader and follower, in which followers are rewarded for meeting specific goals or performance criteria (Aarons, 2006). Transactional leadership can impact knowledge management practices within an organization, and this relationship can be moderated by organizational culture (Ather, 2021). Transformational and transactional leadership positively relate to knowledge management practices (Nguyen & Mohamed, 2011). Clan culture, which emphasizes collaboration and teamwork, can moderate the relationship between transactional leadership and knowledge management (Riaz & Tahir, 2014). It was also found that market culture moderates the relationship between transactional leadership and

knowledge management (Birasnav, 2014). From existing studies, the relationship between transactional leadership and knowledge management can be moderated by organizational culture. Based on the description above, the hypotheses proposed in this research are as follows:

H6: Transactional leadership affects knowledge management, which is moderated by an adhocracy culture.

H7: Transactional leadership affects knowledge management, which is moderated by clan culture.

H8: Transactional leadership affects knowledge management, which is moderated by market culture.

Based on the relationship of each variable with the existing theoretical and empirical support, the research framework is formulated and shown in Fig. 1.

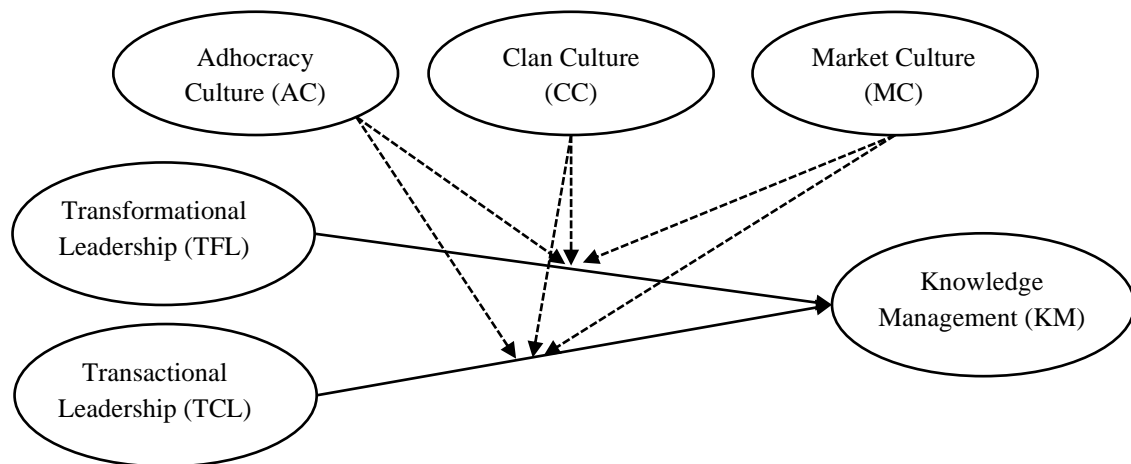


Figure 1. Research Framework

RESEARCH METHODS

This research was explanatory research that aimed to explain the causality relationship simultaneously between variables through hypothesis testing. The primary method of this research was a survey method using a questionnaire as a data collection tool. This research was conducted in the Jombang Furniture Small and Medium Industry (IKM), Mojowarno District, East Java, Indonesia. Research respondents were owners or leaders of IKM in 163 furniture industries. The technique used was proportional random sampling, where the number of samples was determined based on the solving method with an error rate of 10%. The total samples used in this study were 62 owners or leaders of SMEs. The number of respondents who became research samples for each industry is shown in Table 1.

This study has four variables, i.e. two dependent variables and one moderating variable. Transformational leadership (TL1) and transactional leadership (TL2) are the dependent variable, and knowledge management (KM) is the dependent variable, while organizational culture (OC) is the moderating variable. The results of this study were

analyzed using Partial Least Square (PLS) with SmartPLS 3.0 software and a moderation test to see if they weaken or strengthen the direct influence of leadership on knowledge management.

Table 1. Respondent Data

District	Number of Industries	Samples
Selorejo	18	7
Catakayam	97	37
Wringipitu	48	18
Total	163	62

Source: Primary data (2023).

RESULTS AND DISCUSSIONS

Demographics Data of Respondents

In this study, 62 male SME owners or furniture leaders from three villages in Jombang participated. The age group 41-50 years dominates the average age of the respondents, accounting for 45.2 percent (28 respondents). The average education level of respondents is high school, with 71 percent (44 respondents) having completed it. As many as 41.9 percent of respondents started their business 6-10 years ago, according to the time it has been in operation. These results suggested that the respondents had a good understanding and experience with business management. Human resource management is important for business success, as 72.6 percent of respondents have 1-5 employees and 16.1 percent have 6-10 employees, indicating that human resource management is important for business success.

Table 2. Results of Convergent Validity

Indicator	Item	Outer Loading	Information
Transformational Leadership	TFL1	0.729	Valid
	TFL2	0.782	Valid
	TFL3	0.831	Valid
	TFL4	0.757	Valid
Transactional Leadership	TCL1	0.864	Valid
	TCL2	0.834	Valid
	TCL3	0.795	Valid
Knowledge management	KM1	0.687	Valid
	KM2	0.666	Valid
	KM3	0.510	Valid
	KM4	0.825	Valid
	KM5	0.819	Valid
Adhocracy Culture	AC11	0.838	Valid
	AC12	0.809	Valid
	AC13	0.672	Valid
Team Culture	CC11	0.800	Valid
	CC12	0.777	Valid
	CC13	0.804	Valid
Market Culture	MC1	0.830	Valid
	MC2	0.821	Valid
	MC3	0.676	Valid

Source: Primary data (2023).

Validity Test

The validity test in this study uses convergent validity, which is determined through the outer loading of each variable, where an instrument is said to meet the convergent validity test if it has an outer loading above 0.7 (Hair et al., 2019). However, at the development stage, a loading scale of 0.5 to 0.6 is still acceptable (Ghozali & Latan, 2015). The processing of the validity test results is shown in Table 2. The data shows that the outer loading value of each item is more than 0.5, so it is valid.

Reliability Test

Ferdinand (2013) states that an instrument measuring data and the resulting data is reliable or if the instrument consistently produces the same results every time a measurement is made. Evaluation of the measurement model includes tests, i.e. Average Variance Extracted (AVE), Cronbach's Alpha (CA), and Composite Reliability (CR). The criteria for each test are declared reliable if the AVE has a value greater than 0.5 and the Cronbach's Alpha value is more significant than 0.7.

Table 3. AVE, Cronbach's Alpha, and Composite Reliability

Variable	AVE	CA	CR	Description
Transformational Leadership	0.602	0.782	0.858	Reliable
Transactional leadership	0.691	0.776	0.870	Reliable
Knowledge management	0.505	0.749	0.832	Reliable
Adhocracy Culture	0.603	0.770	0.819	Reliable
Team Culture	0.630	0.708	0.836	Reliable
Market Culture	0.607	0.770	0.821	Reliable

Sources: Primary data (2023).

Based on Table 3, the AVE value in each variable has a value of more than 0.5 and meets the requirements. Cronbach's Alpha value of each variable has a value greater than 0.7. So, all constructs of these variables are said to be reliable. The results of the Composite Reliability of each variable also have a value greater than 0.7 so that it is declared reliable. Therefore, all outer model evaluations have been qualified to declare all variables valid and reliable.

Hypotheses Testing

The results of the statistical test of direct influence are presented in Table 4. The results of the direct influence analysis presented in Table 4 show that the influence of transformational leadership on knowledge management has a t-statistic value of 2.179 and a p-value of 0.030. The t-statistic value is more significant than 1.96, and the p-value is less than 0.05. As a result, hypothesis 1 (H1) is accepted, indicating that transformational leadership impacts knowledge management. Furthermore, the analysis results of the direct influence of transactional leadership and knowledge management are shown in Table 4 above. Analysis of the influence between transactional leadership and knowledge management showed a t-statistic value of 1.818 with a p-value of 0.070. The T-statistic value <1.96 and the P-value >0.05 so that transactional leadership does not influence knowledge management, so hypothesis 2 (H2) is rejected.

Table 4. Direct Result Test

Hypotheses	Coeff. path	t-stat	p-values	Results
H1. Transformational Leadership → Knowledge Management	0.213	2.179	0.030	Significance
H2. Transactional Leadership → Knowledge Management	0.158	1.818	0.070	Insignificance

Sources: Primary data (2023).

Table 5 shows the results of organizational culture moderation (Adhocracy culture, Clan culture, and Market culture), which vary in results. The test results showed that Adhocracy culture did not moderate the effect of transformational leadership on knowledge management with t-statistics of $1.161 < 1.96$ and p-values of $0.246 > 0.05$, so hypothesis 3 (H3) was rejected. Clan culture was found to moderate the influence of transformational leadership on knowledge management with t-statistics of $2.530 > 1.96$ and p-values of $0.012 < 0.05$, so hypothesis 4 (H4) was accepted. Furthermore, other findings show that market culture does not moderate the effect of transformational leadership on knowledge management with t-statistics of $0.758 < 1.96$ and p-value of $0.449 > 0.05$, so hypothesis 5 (H5) is rejected. This result shows that only clan culture plays a role in moderation. Adhocracy and market culture, on the other hand, do not moderate the impact of transformational leadership on knowledge management.

Table 5. Result Test of Moderating Variables

Hypotheses			Coeff.	t-stat	P-value	Description
Independent	Moderating	Dependent				
H3. Transformational Leadership	Adhocracy culture	Knowledge management	0.202	1.161	0.246	Insignificance
H4. Transformational Leadership	Clan culture	Knowledge management	-0.499	2.530	0.012	Significance
H5. Transformational Leadership	Market culture	Knowledge management	0.075	0.758	0.449	Insignificance
H6. Transactional Leadership	Adhocracy culture	Knowledge management	0.120	0.084	0.399	Insignificance
H7. Transactional Leadership	Clan culture	Knowledge management	-0.432	2.684	0.008	Significance
H8. Transactional Leadership	Market culture	Knowledge management	0.100	0.894	0.372	Insignificance

Sources: Primary data (2023).

The test results also showed that Adhocracy culture did not moderate the influence of transactional leadership on knowledge management with t-statistics of $1,120 < 1.96$ and p-values of $0.399 > 0.05$, so it was concluded that hypothesis 6 (H6) was rejected. Then, the findings also showed that clan culture moderated the influence of transactional leadership on knowledge management with t-statistics of $2,684 > 1.96$ and p-values of $0.008 < 0.05$, so it was concluded that hypothesis 7 (H7) was accepted. Finally, it was found that market culture did not moderate the influence of transactional leadership on knowledge management with t-statistics of $1,100 < 1.96$ and p-values of $0.372 > 0.05$, so it was concluded that hypothesis 8 (H8) was rejected. Again, this finding is interesting because only clan culture acts as moderation, whereas adhocracy and market culture do

not strengthen or weaken the influence of transactional leadership on knowledge management. Clan culture plays a role in strengthening the influence of transformational and transactional leadership on knowledge management.

Discussions

The results showed an influence between transformational leadership and knowledge management. The better in implementing transformational leadership, the leader will provide knowledge and information and provide availability for employees to develop skills and skills in the organization, or this case, in SMEs. This study aligns with the research of (Nguyen & Mohamed, 2011), which found an influence between transformational leadership and knowledge management. Other studies have also revealed transformational leadership has a positive effect on knowledge management (Kılıç & Uludağ, 2021; Nouri et al., 2016; Siswadi, 2023). Another finding is that transformational leadership strongly and positively influences knowledge management processes and organizational performance (Birasnav, 2014). Have studied new product development, innovation, and creativity in SMEs, as well as their relationships with leadership (Lindegaard & Kawasaki, 2010; Maladzi et al., 2012; McMullen & Adobor, 2011; Olawale & David, 2010). Aarons (2006) Transformational leadership behaviors are positively associated with knowledge acquisition, transfer, and application. Likewise, Ghasabeh and Provitera (2018) state that Transformational leadership positively affects knowledge management capabilities, increasing innovation. Exemplary leadership will be crucial in driving change and increasing employee knowledge capacity and skills, directly impacting organizational performance.

Research shows transformational leadership correlates more strongly than transactional leadership with various workplace outcomes (Robbins & Judge, 2019). Transformational leaders are known for their ability to inspire and motivate teams, encourage innovation, and create a supportive knowledge-sharing environment. Existing studies do show that knowledge management behavior is significantly predicted by transformational leadership (Crawford, 2005). Transformational leadership strongly predicts knowledge management practices (Ather, 2021). Transformational leadership is ideal for building knowledge-based companies to achieve higher levels of competitive advantage (Ghasabeh & Provitera, 2018). By fostering motivation, innovation, trust, and open communication, transformational leaders enable the effective creation, sharing, and application of knowledge, ultimately contributing to organizational success and competitiveness. Overall, the results of this study suggest that transformational leadership positively impacts knowledge management, which in turn can result in better organizational performance and innovation for SMEs.

Other findings found no significant effect between transactional leadership and knowledge management. This result does not align with the research of Masa'deh et al. (2016), who found an influence between transactional leadership and knowledge sharing. Knowledge sharing is part of knowledge management. Transactional leadership does not directly affect knowledge-sharing behavior, which is a key component of organizational creativity (Hussain et al., 2017). According to Bock and Kim (2002), knowledge sharing is closely related to economic exchange theory, in which knowledge sharing is based on employee benefits and costs. Empirical findings prove that transactional leadership can work well in scenarios with established protocols and procedures (Ugwu et al., 2020). Transactional leadership is based on the organization's determination of employee rewards and is defined by rewards and punishments and strict rules. SME owners in

Jombang, in this case, do not use transactional leadership but rather transformational leadership, which gives employees direction and employs knowledge management, which is the foundation for employee development.

Transactional leadership is a reward and punishment-based system designed to motivate employees to achieve results. Such systems can stifle creativity, and rewards do not apply to everyone (McCandless, 2022). If a person reaches the specified target, then he will be awarded. Conversely, if someone fails to reach the target, punishment is obtained. There are rewards and punishments as well as strict rules that characterize transactional leadership. Transformational leadership may be more effective at creating and sharing knowledge at the individual and group levels, whereas transactional leadership is more effective at utilizing knowledge at the organizational level (Bryant, 2003). Regarding the findings of transactional leadership, it has no impact on knowledge management, adding an exciting study. However, no clear evidence exists that transactional leadership directly affects knowledge management (Riaz & Tahir, 2014), no clear findings related to similar results to this study, and the facts in the field strongly support this finding. However, the relationship between transactional leadership and knowledge management may be more complex and depend on the context of the object of study.

Other findings suggest that transformational leadership is a stronger predictor of knowledge management practices than transactional leadership (Ather, 2021; Bryant, 2003). In short, although transactional leadership effectively motivates employees to achieve results, it may not be the best leadership style to foster knowledge management or organizational creativity, let alone in SMEs. Moreover, most education in SMEs is at the high school / vocational level, which requires direction and motivation from leaders, compared to leaders who are transaction-oriented achievements and targets accompanied by rewards and punishments.

Organizational culture is used as a moderating variable in this study. Cameron and Quinn (1999) explained that the organizational culture dimension is used, which includes adhocracy culture, team culture, and market culture. The findings of hypothesis 3 suggest that adhocracy culture does not moderate the influence of transformational leadership on knowledge management. A flexible, collaborative, and innovative work environment characterizes adhocracy culture. Transformational leadership is characterized by a leader's ability to motivate, inspire, and provide vision to his followers. Therefore, the influence of transformational leadership on knowledge management is universal and independent of organizational culture. Whether or not there is an adhocracy culture, transformational leadership is still able to have an impact on knowledge management.

The findings of hypothesis 4 suggest that clan culture moderates the influence of transformational leadership on knowledge management, as this variable can strengthen the influence of transformational and transactional leadership. Organizational culture is a differentiator from other organizations since it is a value or guideline adopted by members of the organization. These findings support the study results (Chung & Espinoza, 2023), that organizational culture is a significant moderator in this relationship. Kucharska (2021) demonstrates the positive influence of transformational leadership on knowledge management reinforced in organizations with a culture that supports and rewards knowledge creation, sharing, and utilization. Birasnav et al., (2013) show that transformational leaders build a culture that supports knowledge and encourages employees to engage in

the knowledge management process. Knowledge management behavior is significantly predicted by transformational leadership (Crawford, 2005); the existence of a team culture will strengthen transformational leadership behavior and will improve knowledge management in SMEs.

The findings of hypothesis 5 suggest that market culture does not moderate the influence of transformational leadership on knowledge management. These findings align with the study's results (Wicaksono, 2014), which found that market culture does not moderate the relationship between transformational leadership and knowledge management. Transformational leadership focuses on intrinsic motivation, intellectual stimulation, and individual growth, which are relevant principles regardless of market competitiveness. Transformational leaders encourage creativity, continuous learning, and knowledge sharing among employees. On the other hand, market culture emphasizes competitiveness and external outcomes, which may be considered at odds with collaborative and innovative aspects of knowledge management and transformational leadership. SMEs implement transformational leadership that motivates and supports employees to grow.

The findings of hypothesis 6 suggest that adocracy culture does not moderate the influence of transactional leadership on knowledge management. The findings of this study do show that transactional leadership does not directly impact knowledge management. Study (Ugwu et al., 2020) explore the influence of transactional leadership on librarian knowledge management activities and find no substantial impact. Although organizational culture is an important factor in building and strengthening knowledge management in organizations, there is no theoretical framework that comprehensively explains the influence of organizational culture on knowledge management (Rai, 2011). Adhocracy culture and transactional leadership operate with different emphases and mechanisms. Adhocracy cultures encourage flexibility, creativity, and innovation, whereas transactional leadership is more concerned with maintaining order, setting clear expectations, and providing rewards or punishments based on performance. These different orientations may not complement each other naturally thus they cause a lack of moderation in adhocracy culture in its influence on knowledge management.

Similar to the findings of hypothesis 4, the results of hypothesis 7 revealed that clan culture could moderate the influence of transactional leadership on knowledge management. Organizational culture is a value or guideline embraced by members of the organization and is a differentiator from other organizations (Robbins & Judge, 2019). Findings Kucharska (2021) Organizational culture can moderate the relationship between transactional leadership and knowledge management practices. A positive organizational culture that values knowledge sharing and collaboration can enhance the effectiveness of transactional leadership in promoting knowledge management practices. A study found that organizational culture can moderate the relationship between transactional leadership and knowledge management practices (Nguyen & Mohamed, 2011). The research has shown that transactional leadership is correlated with clan culture (Tuan, 2010). Clan culture can moderate the influence of transactional leadership on knowledge management by providing an open, trust-based environment that encourages communication, collaboration, and sharing of knowledge and ideas among employees in SMEs.

The findings of hypothesis 8 suggest that market culture does not moderate the influence of transactional leadership on knowledge management. There is no evidence to

suggest that organizational culture plays a moderating role in the influence of transactional leadership on knowledge management. The relationship between transactional leadership, knowledge-sharing behavior, and organizational creativity has been explored in the context of construction workers in Jakarta, suggesting a relationship between these factors, but without mentioning organizational culture as a moderation variable (Baskoro, 2022). Transformational and transactional leadership are examined, but the role of organizational culture moderation is not specifically discussed in transactional leadership (Mustaqfirin et al., 2021). Therefore, the limitations of existing research are inconclusive as to whether market culture moderates the influence of transactional leadership on knowledge management. Thus, in the future, it is necessary to explore further the relationship between market culture moderation, transactional leadership, and knowledge management.

The stronger the organizational culture, the better the impact on the organization in terms of performance, development of skills, competencies, and the role of leaders. The owners of SMEs who are expected to be able to choose the right leadership style and type of culture because both are essential factors in improving knowledge management are referred to as the role of the leader in this study. Clan culture needs to be implemented and improved in SMEs; clan culture is a type of organizational culture that emphasizes collaboration, teamwork, and a sense of belonging among its members. However, further exploration is needed regarding the role of adhocracy culture, clan culture, and market culture in their influence on leadership style and knowledge management; differences in the context and culture of each organization will affect the results of its findings. The high collaboration implemented by SME leaders will motivate employees to achieve organizational success. However, ultimately, a combination of leadership styles (transformational and transactional) may be beneficial in promoting effective knowledge management practices in SMEs.

CONCLUSIONS AND RECOMMENDATIONS

The findings show that transformational leadership impacts knowledge management, while transactional leadership does not influence knowledge management. Adhocracy and market cultures did not moderate transformational leadership's effect on knowledge management. At the same time, clan culture was found to moderate the influence of transformational leadership on knowledge management. Another similar finding is that adhocracy culture and market culture did not moderate the influence of transactional leadership on knowledge management; interestingly, only clan culture moderated the influence of transactional leadership on knowledge management. All organizational cultures (adhocracy, team, and market) will improve knowledge management on transformational and transactional leadership; clan/team culture moderates the effect of transformational and transactional leadership on knowledge management, while adhocracy and market culture do not moderate the effect of transformational and transactional leadership on knowledge management.

This finding implies that SME leaders must improve and continue implementing transformational leadership styles in their business activities. Transformational leadership is more closely related to knowledge management than transactional leadership. Findings that transformational leadership establishes a knowledge-supportive culture that encourages employees to engage in the knowledge management process. Transfor-

mational leaders inspire, stimulate, and motivate employees to share knowledge, and this is precisely what employees at SMEs need. In contrast to transformational leadership, transactional leadership creates a system that encourages followers to perform well through rewards and punishments. Therefore, in this finding, transactional leadership is not a suitable leadership style for SMEs. However, it is also perfect if a leadership style that combines both transformational and transactional is applied in SMEs. This finding also implies that organizational culture also plays a vital role in strengthening the role of leadership in impacting knowledge sharing, especially clan culture.

The sample used in this study was limited to three SME districts in the Jombang Industry; therefore, this is also one of the limitations found. The resulting findings cannot show the relationship between transactional leadership and knowledge management, especially the moderating role of adhocracy culture and market culture, which cannot moderate the relationship between transformational and transactional leadership styles and knowledge management. Limited literature still discusses both, so the relationship between the two needs to be studied further. Ultimately, future research must add more significant respondents and more coverage areas. It is also necessary to use other variables such as infrastructure and technology (Wibowo, 2015); employee behavior and attitudes (for example personal motivation, willingness to share knowledge, and trust) (Meylasari & Qamari, 2017); communication (Gunawan et al., 2017), organizational structure, incentives and rewards, knowledge sharing, change management, and more. By adding variations of other variables, the resulting findings will also vary and add to the existing empirical literature.

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