

The Impact of Employee Engagement in Mediating Knowledge Management and Transformational Leadership on Productivity

Titilaras¹, Nicolaus Supriadi², Della Nanda Luthfiana³ and Kartinah⁴

¹⁻⁴Faculty of Economics and Business, Janabadra University

Email: titilaras07@gmail.com, nicolaus.supriadi1971@gmail.com,
della@janabadra.ac.id, kartinah@janabadra.ac.id

Abstract— This study aims to identify and obtain empirical evidence so as to obtain an answer to the effect of knowledge management (KM) and transformational leadership (TL) on productivity mediated by EE(EE). The research was conducted on employees of the Savings and Loans Cooperative in the Special Region of Yogyakarta with a sample of 160 respondents. This research uses probability sampling with proportional stratified random sampling method. Data collection was carried out using a questionnaire and data processing was carried out using the Structural Equation Model (SEM) analysis tool through the AMOS version 24 application. The study's findings demonstrate that (1) KM influences EE positively; (2) KM influences productivity positively; (3) TL influences EE positively; (4) TL influences productivity positively; (5) EE positively influences productivity; (6) EE can mediate the relationship between KM and productivity; and (7) EE can mediate the relationship between TL and the productivity of Koperasi Simpan Pinjam Daerah Istimewa Yogyakarta (KSP DIY).

Index Terms— knowledge management, transformational leadership, productivity, employee engagement.

I. INTRODUCTION

Cooperatives are legal entities based on family principles whose members consist of individuals or legal entities with the aim of prospering their members. Generally, cooperatives are jointly controlled by all members, where each member has equal voting rights in every decision taken by the cooperative. The distribution of cooperative profits is usually called the remaining results of operations (*siswa hasil usaha*) which is calculated based on shares (Manullang et al., 2023). The history of the growth of cooperatives around the world is due to the inability to solve the problem of poverty based on the spirit of individualism (Bhardwaj et al., 2024). Cooperatives were born as a means to correct the inequalities and weaknesses of the capitalistic form of the economy. The first cooperative that was born in England tried to overcome the problem of consumption needs of its members by means of togetherness based on the principles of justice which later spawned the principles of justice known as the Rochdale Principles. In history, various countries have tried to build this cooperative economic system starting from France, Germany and followed by other countries. Indonesia also tried to improve the economy by developing a cooperative economic system in Indonesia (Wilson, 2012).

The majority of cooperative businesses are still below the economic scale; (2) business aspects such as capital,

management and market access are weak; (3) financial institutions are difficult to access; (4) the professionalism of cooperative human resources is still low, and (5) it is challenging to compete in the market. These are some of the fundamental weaknesses that national cooperatives still face. Cooperatives as an economic system, are in the environment of the market economic system, the laws of economics universally become the reference, the market economic system applies the law of demand and supply to be an unavoidable part. Even though the cooperative as an economic system has a captive market, namely its members, the reality is that not all members are even a very small proportion who utilize cooperative services (Asmawati & Bainus, 2019).

Cooperatives as economic institutions and at the same time as social institutions (Double Nature Of Cooperative), are operated with the principle of business efficiency and encourage the business efficiency of its members (member efficiency) - to become member benefits. Cooperative business orientation is service to members not profit. As a social institution, cooperatives strive to help members themselves (self-help) with full responsibility (self-responsibility). Large-scale cooperative business, able to increase added value. Large capital requirements are pursued with the development of capital and selected membership and supported by a structured education program (Lata & Gupta, 2021). The development of information technology cannot be avoided but optimized utilization in business development and cooperative institutions, many flat business forms can be utilized. The development of information technology must be utilized by Savings and Loan Cooperatives (Manullang et al., 2023).

The Office of Cooperatives and SMEs of the Special Region of Yogyakarta was established based on Yogyakarta Special Region Regulation Number 1 of 2018 dated July 30, 2018 concerning the Institutionalization of the Regional Government of the Special Region of Yogyakarta. Governor of Yogyakarta Special Region Regulation Number 56 of 2018 on the Details of Duties and Functions of the Office of Cooperatives and Small and Medium Enterprises dated October 1, 2018 stipulates that the Office of Cooperatives and SMEs of Yogyakarta Special Region has the task of carrying out the affairs of the Regional Government in the field of Cooperatives and Small and Medium Enterprises (Lata & Kumar, 2023). The Yogyakarta Special Region Office of Cooperatives and Small and Medium Enterprises or DISKOP UKM DIY for short has the task of carrying out the affairs of the Regional Government in the field of Cooperatives, Small and Medium Enterprises (Wijayanti & Panggiarti, 2022). Koperasi Simpan Pinjam Yogyakarta based on the recapitulation of provincial-level Cooperative data in 2021 have 2,501 employees, from the data obtained from Savings and Loan Cooperatives regarding the number of employees, presents in table 1.1 below.

TABLE I. LOAN COOPERATION DATA IN DIY

No.	Details	Total
1.	Koperasi Simpan Pinjam (KSP) Kota Yogyakarta	382
2.	Koperasi Simpan Pinjam (KSP) Kabupaten Sleman	896
3.	Koperasi Simpan Pinjam (KSP) Kabupaten Bantul	565
4.	Koperasi Simpan Pinjam (KSP) Kabupaten Kulon Progo	159
5.	Koperasi Simpan Pinjam (KSP) Kabupaten Gunung Kidul	499
Total		2.501

(Decuyper & Schaufeli, 2019) describes KM as a systematic process that helps companies harness their employees' knowledge, skills, and creativity to improve organizational performance. For cooperatives, KM is the use of knowledge to develop a system that will make it easier for cooperative management and management in the process of relationships and mutual trust in various knowledge, integrating membership systems with technology and cooperatives managing their own knowledge. In KM, the role of humans is far more important than anything else because what is organized is not only the function of positions, but managing thoughts on an ongoing basis. Great minds grow because of the learning process. The existence of KM in running a cooperative business affects EE in the cooperative, so that the better the cooperative is able to manage the KM they have, the greater the EE in the cooperative. With the utilization of KM which includes human aspects, processes, technology and content that is good and correct, it is believed that it will be able to increase the productivity of cooperative employees in achieving business success. This is in accordance with the results of (Gandolfi, 2012) stated that there is a positive effect of KM on Employee Engagement.

According to Chanana (2020) TL is primarily characterized by the collaboration between leaders and followers, which revolves around shared values, beliefs, and the vision and mission of the business. Conceptually, leadership capacity refers to a leader's ability to change the workplace atmosphere, motivation, routines, and values as seen by employees. This ultimately improves their performance and helps them achieve organizational goals. In accordance with the development of science, TL can be found in any organization rather than charismatic leaders. In fact, charismatic leaders are very rare and usually only during times when the company is

in a new or crisis situation. TL can be seen by four core dimensions that are always attached, namely idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. This is in line with his research (AL-Syaidh et al., 2016) The results showed that KM partially proved to have a significant effect on productivity.

(Rizvi & Garg, 2020) defines productivity as a measure that links labor outcomes to the time required to produce them. It can be calculated by dividing outputs by inputs. Enhancements in productivity are achievable by bettering this ratio, either by increasing or improving outputs using a fixed amount of resources. Further, (Salas-Vallina et al., 2021) mentions that measuring productivity necessitates indicators such as capability, enhanced outcomes, work zeal, self-improvement, and efficiency. productivity is often compared with predetermined standards. If more output is produced from the same amount of input, or less input can be used to get the same output, productivity is improved. Consequently, improved productivity is a valuable measure of how well resources are being used in society. It means fewer inputs are required to produce outputs. There is less wastage and better conservation of resources.

Based on this background, the problem in this study is whether: KM affects EE, KM affects Productivity, TL affects Employee Engagement, TL affects Productivity, EE affects Productivity, EE plays a role in the influence of KM on Productivity, EE plays a role in the influence of TL on Productivity of employees of Koperasi Simpan Pinjam Yogyakarta.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Along with the times and increasingly fierce competition spurs cooperative businesses in the savings and loan sector to be able to increase competitive advantage in order to survive and win business competition. Savings and loan cooperatives realize that the ability to compete lies not only in the ownership of tangible assets, but more knowledge and leadership in managing the organization and its human resources. Consequently, cooperatives emphasize KM as a strategic approach to transform and disseminate knowledge effectively to boost organizational performance. This involves deliberately supplying precise knowledge to the right person at the right time. (Pham et al., 2020) highlight that KM is crucial for transferring knowledge, skills, and practical work behaviors.

(Najla et al., 2023) explains that KM system enables businesses to enhance their operations by leveraging the expertise, experience, and inventiveness of their workforce. Designing a KM system that can help organizations improve their performance through human aspects, processes, technology, and content. In the organization, the company appoints and employs a document control or knowledge manager by applying the concept of Socialization, Externalization, Combination, and Internationalization models in its implementation. The addition of the infrastructure needed to support the effective running of the KM system in the form of a database of knowledge and documents needed by employees to carry out their duties and obligations. KM aims to find and utilize a person's expertise, skills, network of relationships and policies that exist in the organization.

(Decuyper & Schaufeli, 2019) argue that TL primarily describes relationships between leaders and followers, which are grounded in shared values, beliefs, and the organization's vision and mission. This leadership style encompasses idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Leaders who prioritize the good of the organization over their interests and refrain from abusing their position of authority foster a sense of pride, trust, and respect among their followers, thereby serving as positive role models for them. Subordinates are given the best chance to contribute ideas when leaders motivate, inspire, and include them in bringing together the organization's vision and mission. Giving staff a comprehensive understanding of the organization's future condition and setting clear, honest expectations is crucial, beneficial, and requires high dedication. Provide opportunities for subordinates to develop their creativity that has been suppressed due to bureaucratic processes, develop new ideas to achieve company goals and give praise to subordinates for work done and empowerment. Considering the individual's ability to handle work. Communicate directly with subordinates, and entrust tasks to subordinates and become trainers for subordinates.

According to (Nurjanah et al., 2020), EE is a stable psychological state and is the result of interactions between an individual and the environment in which the individual works. EE can also mean how to push employees to their best performance so that they can make the maximum contribution to the company. In this case EE shows the behavior of employees who "just do the job," to "do more than what is required of them". The EE dimension of readiness, willingness and pride benefits the company from employees who are ready to dedicate themselves to work and think of new ways to work more effectively with passion in carrying out work. Willingness to motivate themselves to achieve success and be willing to work hard or work extra hard because of the source of

pride for the realization of the company's vision and mission. Productivity measures how efficiently work is done in relation to the time it takes to produce a product or complete a task. Measuring productivity necessitates using indicators such as aptitude, improved outcomes, motivation, self-development, and effectiveness. Having the ability to carry out tasks, here an employee is very dependent on the skills possessed and their professionalism at work (Decuyper & Schaufeli, 2019). Trying to improve the results achieved is one that can be felt both by those who do and those who enjoy the results of the work is an effort to be better than yesterday. Self-development can be done by looking at the challenges and expectations with what is faced so that there is a comparison between the results achieved with the overall resources used. Productivity can be quantified by dividing outputs by inputs so that increasing productivity can be done by improving productivity ratios, by producing more or better outputs with a certain level of resource input.

A. The Effect of Knowledge Management (KM) on Employee Engagement (EE)

The expertise possessed by employees is continually acknowledged as a crucial asset for firms striving to gain a competitive edge. Hence, firms seek to not only retain employees but also fully engage people, encompassing their cognitive and emotional involvement in a phenomenon called EE (Moin et al., 2020). Nevertheless, more research needs to be undertaken to establish a connection between KM and employee engagement. This study analyzes the current body of literature on EE and KM and the impact of KM on employee engagement. The objective is to propose that KM approaches can improve employee engagement. The proposed concept aims to increase organizational understanding regarding the significance of KM as a strategy for attaining a competitive advantage. The study of (Chanana, 2020) showed that the study demonstrates that peer alignment, organizational commitment, and participatory decision-making significantly impact knowledge sharing and employee engagement. The study indicates that information sharing is a complete mediator in the connection between colleague alignment, decision-making, and employee engagement. Additionally, it serves as a partial mediator in the relationship between organizational commitment and employee engagement. This study is a preliminary effort to investigate the influence of social elements on the sharing of information and the engagement of employees. The findings obtained from this study aid firms that adopt knowledge-sharing systems in promoting both knowledge-sharing and EE (Saks, 2021). From the literature review above, the authors examined how the influence of KM on EE of Koperasi Simpan Pinjam Yogyakarta If the effect of KM is positive, EE will increase. Hypothesis 1: Knowledge Management has a positive effect on Employee Engagement of Koperasi Simpan Pinjam Yogyakarta

B. The Effect of Knowledge Management (KM) on Productivity

(Ehrnrooth et al., 2021) showed that peer alignment, organizational commitment, and participatory decision-making significantly impact knowledge sharing and employee engagement. The study indicates that information sharing completely mediates colleague alignment, decision-making, and employee engagement. Additionally, it serves as a partial mediator in the relationship between organizational commitment and employee engagement. This study is a preliminary effort to investigate the influence of social elements on the sharing of information and the engagement of employees. The findings obtained from this study aid firms that adopt knowledge-sharing systems in promoting both knowledge-sharing and employee engagement. (Jankelová et al., 2020) showed that Work motivation substantially impacts productivity, increasing it by 14.9%. Similarly, KM has a positive effect, boosting productivity by 5.3%. Work motivation and KM have a significant and favorable impact on productivity, resulting in a 16.81% gain. Entrepreneurs could enhance productivity by implementing a system of rewards and punishments, such as offering bonuses for meeting goals and providing other incentives. To foster and advance entrepreneurship, specifically within the footwear sector, it is crucial to consistently enhance one's understanding and expertise in shoe and sandal designs. (Weller et al., 2020) showed that knowledge sharing, innovative behavior and motivation have a significant positive effect on employee productivity at PT Tempo Scan Pasific. The percentage obtained from the calculation of the three independent variables on the dependent has a contribution of 73.4% and the remaining 26.6% is influenced by other factors.

(Aboramadan, 2020) showed that KM was partially proven to have a significant effect on productivity in alleviating unemployment at the Manpower and Transmigration Office of Serang Regency. While simultaneously collaborative governance and KM are proven to have an effect on productivity to reduce unemployment at the Manpower and Transmigration Office of Serang Regency. This study also produced new findings, namely the basis or trigger of the concept of KM which was not mentioned by the theory put forward by Fernandez & Saberwal, namely absorptive capacity. As well as a new dimension born by the concept of collaborative governance in alleviating unemployment at the Manpower and Transmigration Office of Serang Regency, namely actor behavior. From the literature review above, the author examines how the influence of

KM on the productivity of Koperasi Simpan Pinjam Yogyakarta. If the effect of KM is positive, the employee productivity of employees will increase.

Hypothesis 2: Transformational Leadership has a positive effect on Employee Engagement of Koperasi Simpan Pinjam Yogyakarta.

C. The Effect of Transformational Leadership (TL) on Employee Engagement (EE)

Lalu et al., (2019), the results showed that the correlation between the TL style and EE has a notable and beneficial influence on organizational citizenship behavior (OCB). However, the organizational climate does not have a substantial impact on OCB. Both the TL style and the organizational atmosphere have a substantial positive impact on employee engagement. The effect of transformational leadership, a leadership approach believed to cause change in individuals and organizations, on employee engagement. Findings revealed that TL although positively related to general employee engagement; intellectual stimulation leader behavior and individualized consideration of supervisors were found to be positively and moderately related to EE (Riyanto et al., 2021). The primary conclusion was that a comprehensive approach should be taken when examining the relationship between EE and TL style. This study examines the problem from both perspectives—from the perspectives of leaders and regular workers who could have different levels of participation at work (Pham et al., 2020).

Sinta Yulianti, Eeng Ahman and Suwatno (2018), the results of the study can be seen that TL and internal communication simultaneously and partially have a positive effect on employee engagement. The magnitude of the influence of TL and internal communication on EE is 62.25%. Partially, TL has an influence of 86.6%, and internal communication has an influence of 49.2% on employee engagement. From the literature review above, the author examines how TL affects EE of Koperasi Simpan Pinjam Yogyakarta. If the effect of TL is positive, EE will increase.

Hypothesis 3: Transformational Leadership has a positive effect on Employee Engagement of Koperasi Simpan Pinjam Yogyakarta.

D. The Effect of Transformational Leadership (TL) on Productivity

The results of research by (Edinger & Edinger, 2018) that has been conducted, The study demonstrates that transformative leadership, work motivation, and work engagement all exert a substantial and favorable influence on productivity. Furthermore, a notable correlation was found between transformative leadership and work motivation in improving engagement. Moreover, work engagement is a significant and beneficial intermediary in the relationship between TL and work motivation, leading to increased productivity. This confirms that TL has a favorable impact on employee productivity. (Gemeda & Lee, 2020) indicate that TL has a positive and significant effect on organizational climate and it is also concluded that the variables of TL and organizational climate also have a positive and significant effect on innovative productivity partially and simultaneously. The results by (Clausen et al., 2019) showed that Competence significantly and favorably affects production and positively influences transformative leadership. Furthermore, transformative leadership exerts a substantial and favorable impact on productivity. Concurrent data analysis reveals that competency and transformative leadership significantly and favorably impact productivity, while other factors play a role in the remaining influence. From the literature review above, the author examines how TL affects the productivity of Koperasi Simpan Pinjam Yogyakarta. If the effect of TL is positive, productivity will increase.

Hypothesis 4: Transformational Leadership has a positive effect on productivity of Koperasi Simpan Pinjam Yogyakarta.

E. The Effect of Employee Engagement (EE) on Productivity

Employee involvement has gained significant recognition in corporations in recent years. It demonstrates an employee's dedication and engagement with the values and principles of their firm. An engaged employee possesses a comprehensive understanding of the business environment and actively works with colleagues to improve job performance, ultimately helping the firm (Subramony et al., 2018). EE programs directly impact an organization's productivity. Every company wants its workers to be enthusiastic about what they do. Customer happiness is correlated with employee engagement, while the latter is correlated with the organization's financial success. When enough people are concerned about performing well and interested in the goals and methods the company is trying to pursue, engagement will result. These caring attitudes and behaviors only emerge when people get satisfaction from work that they believe the organization supports them and work with effective HR managers. The results of this study indicate that TL affects employee productivity, EE affects employee productivity, and compensation variables affect employee productivity (Swanson et al., 2020). The results

showed how concurrent testing of the shared leadership, training and development, and EE factors impacted employee productivity at Telkom Access Banda Aceh. Employee productivity is impacted by partially evaluated variables such as EE and training and development. However, Telkom Access Banda Aceh staff productivity is unaffected by shared leadership. From the literature review above, the author examines how EE affects the productivity of Koperasi Simpan Pinjam Yogyakarta. If the effect of EE is positive, employee productivity will increase.

Hypothesis 5: Employee engagement has a positive effect on Productivity of Koperasi Simpan Pinjam Yogyakarta.

F. The Role of Employee Engagement in Mediating the Effect Between Knowledge Management on Productivity

The analysis obtained information that emotional attachment has a significant effect on organizational performance, behavioral attachment has a significant effect on organizational performance and behavioral attachment has a significant effect on KM (Wu & Chiu, 2018). From the literature review above, the author examines how the role of EE in mediating the influence between KM on the productivity of Koperasi Simpan Pinjam Yogyakarta. If the role of EE in mediating KM is positive, productivity will increase.

Hypothesis 6: Employee engagement is able to mediate the influence of knowledge management variables on Employee Productivity of Koperasi Simpan Pinjam Yogyakarta.

G. The Role of Employee Engagement in Mediating the Effect Between Transformational Leadership and Productivity

According to research findings, work motivation, work engagement, and TL all have a considerable favorable impact on productivity to a lesser extent (Wang et al., 2019). Additionally, it was discovered that job motivation and TL significantly improved EE at work. Additionally, it has been demonstrated that work engagement considerably positively mediates the impact of both work motivation and TL on productivity, showing the beneficial relationship between TL and employee productivity. From the literature review above, the author examines how the role of EE in mediating the influence between TL on the productivity of Koperasi Simpan Pinjam Yogyakarta. If the role of EE in mediating KM is positive, employee productivity will increase.

Hypothesis 7: Employee engagement is able to mediate the influence of Transformational leadership variables on Employee Productivity of Koperasi Simpan Pinjam Yogyakarta.

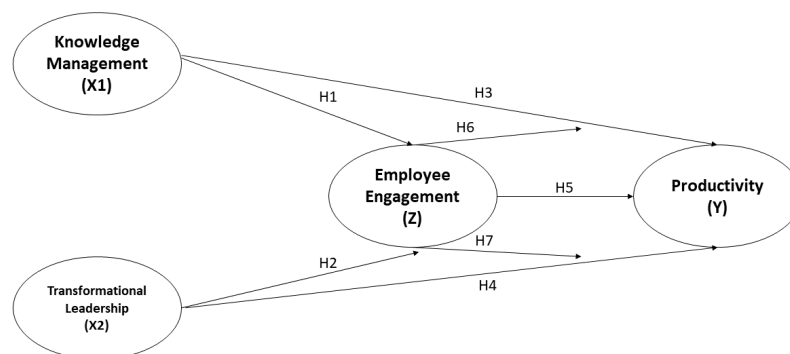


Figure 1. Research framework

III. RESEARCH METHODS

The data sources in this study are primary data and secondary data. Primary data is data obtained directly from the source, using instruments or questionnaire tools. Secondary data is additional data that is not obtained from the main source obtained from various literature studies in the form of books, magazines, journals and other documents that have a relationship with so that it can support and strengthen the primary information that was previously obtained. The most important thing is to make sure that the data obtained is truly valid.

Population is the entire research subject. The population in this study is 160 employees of Koperasi Simpan Pinjam Yogyakarta . Population or universe is a group of people, events, or objects, which are used as research objects, while the sample is part of the population that can represent the entire population used for research (Laras, 2021). Hair et al. (2014) opinion, according to which the number of representative samples depends on the number of measurement dimensions multiplied by five to ten, was the basis for calculating the sample size for this study. A sample that can satisfy these requirements is Sample = 16 (number of variable measurement

dimensions) x 10 = 160 respondents. The 160 respondents' responses include fulfilling the criteria for being a representative sample for the study.

IV. RESULTS AND DISCUSSION

A. Instrument and Data Quality Test

An instrument quality test was carried out to determine whether the research instrument met the requirements for validity and reliability. One hundred sixty respondents filled out 54 lists of statements, one for each study variable, using the AMOS version 22 application. The instrument's quality assessment results were obtained with AMOS version 24 and the CFA validity and reliability test. Using AMOS version 22, the entire set of questions for every variable under examination was used for the official data validity test. According to Ghazali (2017), the data is valid if the factor loading value is greater than 0.5. According to the findings of the validity test, each question indicator for each of the four variables is considered legitimate if its value is more significant than 0.5. Test results with a construct reliability value higher than 0.7 are deemed reliable, according to Ghazali (2017). The test results show that every variable's C.R. value is more than 0.7. These results support the hypothesis that the research instrument is trustworthy overall.

B. Goodness of Fit

The primary goal of SEM is to evaluate goodness of fit, or how well the proposed model "fits" or aligns with the sample of data. The following table displays the goodness of fit results:

TABLE II. GOODNESS OF FIT RESULTS

Goodness of fit index	Cut-off value	Research Model	Model
Significance Probability (p)	≥ 0.05	0.000	Marginal
CMIN/DF	< 2.000	1.230	Fit
GFI	≥ 0.90	0.742	Marginal
AGFI	≥ 0.90	0.721	Marginal
TLI	≥ 0.90	0.963	Fit
CFI	≥ 0.90	0.965	Fit
RMSEA	≤ 0.08	0.038	Fit

Based on the results in the table above, it can be seen that the research model is as follows:

1. CMIN / degree of freedom (df) is obtained through the calculation of the division of the chi-squares value by the degree of freedom (df). A good CMIN / df will show a value ≤ 2.00 . From the measurement results using the AMOS application, the CMIN /df value is $1.230 \leq 2.00$. With these results it can be concluded that the CMIN /df value of 1.230 indicates that the model fits.
2. A non-statistical metric called the Goodness of Fit Indices (GFI) ranges in value from 0 (poor fit) to 1.0 (perfect fit). A high GFI score indicates a model fit. If the model's GFI value is less than 0.90, it is considered well-fitting. Based on the AMOS application measurement results, the GFI is $0.742 \leq 0.90$. Based on these findings, it can be said that the marginal fit is indicated by the GFI value of 0.742.
3. Adjusted Goodness of Fit Indices (AGFI) is the result of developing a GFI adjusted for the ratio of degree of freedom and the proposed model to the degree of freedom and null model. AGFI is said to be good or fit if it has a calculation value ≥ 0.90 . From the results of measuring using the AMOS application, it shows that AGFI has a value of $0.721 \leq 0.90$. With these results it can be concluded that the AGFI value of 0.721 has met the requirements that the marginal fit.
4. Tucker Lewis Index (TLI) is a combined parsimony measure into an index of comparison between the proposed model and the null model which usually has a TLI value ranging from 0 to 1.0. The recommended TLI value is ≥ 0.90 . From the results of calculations using the AMOS application, it shows that TLI has a value of $0.963 \geq 0.90$. With these results it can be concluded that the TLI value of 0.963 has met the criteria that the model is good or fit.
5. Comparative Fit Index (CFI) is the result of a comparison between the hypothesized model and the null model. CFI measurement is not influenced by the number of samples and is an excellent fit measure for measuring model fit. The recommended value is ≥ 0.90 . From the measurement results using the AMOS application, it shows that the CFI has a value of $0.965 \geq 0.90$. With these results, it can be concluded that the CFI value of 0.965 meets the criteria for a good or fit model.

6. An index called Root Mean Square Error of Approximation (RMSEA) is used to adjust for the Chi-Square value in large samples. An RMSEA value of < 0.08 is advised. The RMSEA measurement value is $0.038 \leq 0.08$ based on the AMOS application measurement results. Based on these findings, it can be said that the model that satisfies the requirements for a good or fit model has an RMSEA value of 0.038.

C. Structural Equation Model

The model that has been stated in the flowchart, then expressed into structural equations as follows:

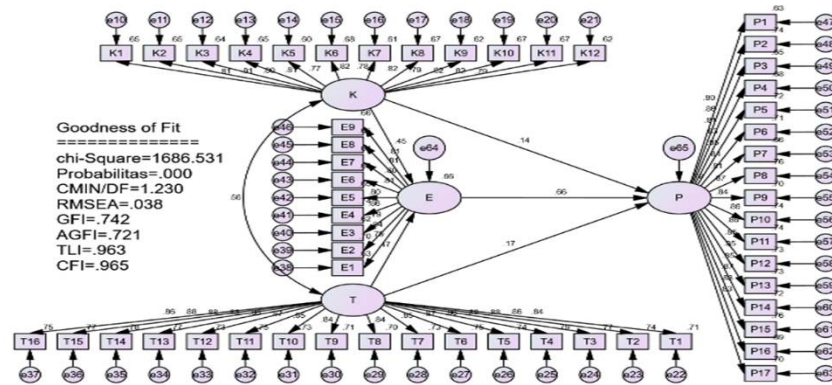


Figure 2. Structural equation model results

D. Discussion

The hypothesis results are shown on Table below.

TABLE III. HYPOTHESIS TESTING RESULTS

Hypothesis	Estimate	S.E.	C.R	P	Results
Knowledge Management → Employee Engagement	0.481	0.078	6.138	0.000	Accepted
Knowledge Management → Productivity	0.137	0.063	2.153	0.031	Accepted
Transformational Leadership → Employee Engagement	0.457	0.072	6.385	0.000	Accepted
Transformational Leadership → Productivity	0.156	0.058	2.666	0.008	Accepted
Employee Engagement → Productivity	0.618	0.089	6.945	0.000	Accepted

E. The Effect of Knowledge Management on Employee Engagement of Koperasi Simpan Pinjam Yogyakarta

The estimated parameter of the regression weight coefficient value obtained a C.R value of 6.138 ($cr > 1.96$), this indicates that the relationship between KM and EE is positively significant, testing the relationship between the two variables shows a probability value of 0.000 ($p < 0.05$), this indicates that the relationship between KM and EE is positively significant. This means that the higher the KM, the higher the EE of Koperasi Simpan Pinjam Yogyakarta.

The increase in KM variables can be improved from each indicator including human aspects, processes, technology and content. Koperasi Simpan Pinjam Yogyakarta (KSP DIY) has appointed or hired a manager in charge of managing or as a document control cooperative. With this manager, it can increase the ability of employees in the cooperative to adapt to each other. In carrying out daily work, the cooperative has implemented a work system using technology, where employees who enter and leave work are absent using fingerprints. Meanwhile, to support the work process of employees, the cooperative provides internet facilities to facilitate employees in accessing data or interacting in work. KSP DIY also makes a portal system that employees use as a database to facilitate work. This is supported by previous research which states that KM has a positive and significant effect on EE (Al-Ghamdi & Javed, 2021). Research also conducted by (Gualano M et al., 2021) states

that the emergence of KM mainly concerns the creation, access, transfer and application of knowledge assets in all human fields of activity in such a way that critical intellectual capital is combined and applied strategically to build EE and to improve organizational performance. Koperasi Simpan Pinjam Yogyakarta (KSP DIY) can make this a reference in terms of implementing KM to increase employee engagement.

F. The Effect of Knowledge Management on Productivity of Koperasi Simpan Pinjam Yogyakarta

Parameter estimation of the regression weight coefficient value obtained a C.R value of 2.153 ($cr > 1.96$), this indicates that the relationship between KM and employee performance is positively significant, testing the relationship between the two variables shows a probability value of 0.031 ($p < 0.05$), this indicates that the relationship between KM and productivity is positively significant. This means that the higher the KM, the higher the productivity of Koperasi Simpan Pinjam Yogyakarta.

The increase in KM variables can be improved from each indicator including human aspects, processes, technology and content. The control management applied by the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) has led to an increase in productivity. To accelerate the completion of employee tasks, KSP DIY has made Standard Operating Procedures (SOP) to help employees make decisions faster. Meanwhile, to increase productivity, KSP DIY has used internet facilities by utilizing social media and databases as support. This is supported by previous research in which Kianto, et.al (2018) stated that knowledge creation and knowledge utilization have an impact on knowledge worker productivity in a positive and statistically significant manner. (Eliyana et al., 2019) also supports the results of previous research that KM has an influence and is significant to productivity. Of course, the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) can make this a reference in terms of implementing talent management for employee management in order to achieve optimal performance results.

G. The Effect of Transformational Leadership on Employee Engagement of Koperasi Simpan Pinjam Yogyakarta

Parameter estimation of regression weight coefficient value obtained C.R value of 6.385 ($cr > 1.96$), this indicates that the relationship between TL and EE is positively significant, testing the relationship between the two variables shows a probability value of 0.000 ($p < 0.05$), this indicates that the relationship between TL and EE is positively significant. This means that the higher the transformational leadership, the higher the EE of Koperasi Simpan Pinjam Yogyakarta.

The increase in TL variables can be improved from each indicator including idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. Idealized influence shown by the leader of Koperasi Simpan Pinjam Yogyakarta (KSP DIY) is seen in the attitude of employees who respect and are proud of the cooperative leader. Inspirational motivation shown by the leader of the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) is seen when giving support and a spirit of optimism to employees when giving directions or at meetings. Intellectual stimulation shown by the leader of the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) can be seen when providing opportunities for cooperative employees to develop their skills. This is supported by previous research which states that TL style has a positive and significant effect on Employee Engagement. This means that the better the implementation of Transformational Leadership, the higher the EE in employees of the Regional Secretariat of NTB Province, and vice versa, if the implementation of TL is getting worse, the lower the level of EE in employees. Overall, the TL style according to employees can increase their attachment to work (Mushtaque et al., 2022). Research by (McMurtrie, 2020) also stated that TL has a positive effect on employee engagement, so that an increase in the transformational attributes of supervisors will lead to an increase in employee engagement. Major changes in organizational mission strategy and follower commitment levels tend to arise as a result of transformational leadership. The relationship between management and employees positively affects their commitment to continue working for the organization and will change employee performance for the better. Surely the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) can make this a reference in terms of applying TL to increase EE in carrying out work.

H. The Effect of Transformational Leadership on Productivity of Koperasi Simpan Pinjam Yogyakarta

Parameter estimation of regression weight coefficient value obtained C.R value of 2.666 ($cr > 1.96$), this indicates that the relationship between TL and productivity is positively significant, testing the relationship between the two variables shows a probability value of 0.008 ($p < 0.05$), this indicates that the relationship between TL and productivity is positively significant. This means that the higher the transformational leadership, the higher the productivity of Koperasi Simpan Pinjam Yogyakarta.

The increase in TL variables can be improved from each indicator including idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. The Ideal Influence shown by the leader of the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) to increase productivity is by giving examples to

employees of work that has been completed previously. Inspirational motivation shown by the leader of the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) to improve productivity is by involving employees in uniting the cooperative's vision and for intellectual stimulation shown by the leader is by involving employees in uniting the cooperative's mission, so that employees can know what to do. This is supported by previous research which proves that TL variables have a positive and significant effect on productivity. Where a leader with a transformational style employees will feel happy and challenged to do better in order to get maximum results (Aburumman et al., 2020). The same thing is also concluded by (Ölçer & Florescu, 2015), in the results of his research stating that TL has a positive and significant effect on productivity. Where TL is a reflection of 4 (four) indicators, namely inspirational motivation, idealized influence, intellectual stimulation, and individual attention. Inspirational motivation shows that a company leader must be able to provide motivation continuously and be able to foster and generate enthusiasm for his employees well. Idealized influence shows that as a leader must be a role model for employees and have broad knowledge and insight so that they can teach and provide instructions and solutions in solving problems at work. Intellectual stimulation shows that a leader in a company organization must be able to encourage and support his employees to be creative and innovative in carrying out their work and be able to solve problems from various points of view while individual attention shows that in a company organization, the leader must be able to encourage and support his employees to be creative and innovative in carrying out their work.

I. The Effect of Employee Engagement on Productivity of Koperasi Simpan Pinjam Yogyakarta

Parameter estimation of the regression weight coefficient value obtained a C.R value of 6.945 ($cr > 1.96$), this indicates that the relationship between EE and productivity is positively significant, testing the relationship between the two variables shows a probability value of 0.000 ($p < 0.05$), this indicates that the relationship between EE and productivity is positively significant. This means that the higher EE will increase the productivity of Koperasi Simpan Pinjam Yogyakarta.

Increasing EE variables can be improved from each indicator including readiness, willingness and pride. The readiness of employees of the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) in increasing productivity is shown by the work enthusiasm to complete tasks on time and improve the results achieved every day. The willingness of employees of the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) in improving productivity is shown by motivating themselves to always improve skills, taking the initiative to attend training and seminars and acting productively in every job. Meanwhile, the pride of employees of the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) in improving productivity can be seen from the work that is completed in a complete and efficient manner. Previous research by (Chanana, 2020) supports this, demonstrating a favorable and significant relationship between EE and productivity. When employees are engaged, they feel appreciated and respected, which motivates them to give their all. Research by (Davidescu et al., 2020) results stated that elevated levels of EE can result in heightened dedication and participation in the workplace, fostering a driven workforce that collaborates to accomplish shared organizational objectives. In today's dynamic market, more than hiring competent workers is needed; significant efforts must also be made to engage, retain, and inspire people to be dedicated to the organization and its objectives. Employee engagement, then, is a situation in which a person goes above and beyond the call of duty to increase the organization's productivity and has a robust intellectual commitment to their work. The Koperasi Simpan Pinjam Yogyakarta (KSP DIY) can use this as a model for adopting EE to boost the cooperative's efficiency. One way to compare the standardized direct effect value with the standardized indirect effect is to use mediating variables to explain the link between exogenous and endogenous variables. If the standardized direct effect value is less than the standardized indirect effect, the mediating variable has an indirect effect on the relationship between the two variables.

STANDARDIZED DIRECT EFFECTS

	Transformational Leadership	KM	Employee Engagement	Productivity
Employee Engagement	.467	.453	.000	.000
Productivity	.168	.136	.655	.000

STANDARDIZED INDIRECT EFFECTS

	Transformational Leadership	KM	Employee Engagement	Productivity
Employee Engagement	.000	.000	.000	.000
Productivity	.168	.297	.000	.000

J. Knowledge Management mediated by Employee Engagement affects the Productivity of Koperasi Simpan Pinjam Yogyakarta

Parameter estimation for testing the effect of KM on performance through EE obtained direct effect value (0.136) < indirect effect value (0.297), this proves that EE is able to mediate the effect of KM on productivity, meaning that the higher EE will increase the value of the effect of KM on productivity of the Koperasi Simpan Pinjam Yogyakarta (KSP DIY).

Attributed to research conducted on KSP DIY employees, that employees have a high sense of readiness when carrying out work that has been made by the cooperative in accordance with Standard Operating Procedures (SOP) such as coming and going home on time by using fingerprints as an attendance control tool. Willingness to always motivate themselves to improve work results by conducting self-development through seminars or participating in training that follows technological developments such as working online during the covid 19 pandemic. Proud of the work currently owned with the spirit of working for better results, where employees must always use the database to support work.

K. Transformational Leadership mediated by Employee Engagement affects Productivity of Koperasi Simpan Pinjam Yogyakarta

The direct effect value (0.168) < indirect effect value (0.306) obtained from parameter estimation for testing the impact of TL on productivity through EE demonstrates that EE can mediate the effect of TL on productivity, i.e., higher EE will increase the value of the impact of TL on productivity of the Koperasi Simpan Pinjam Yogyakarta (KSP DIY).

Attributed to research conducted on KSP DIY employees, that TL is very important for individuals in cooperatives to be able to increase productivity. The influence of continuous motivation will be able to foster and generate enthusiasm for its employees well, managers who are always a role model for employees and have broad knowledge and insight so that they can teach and provide instructions and solutions in solving problems at work and encourage and support their employees to be creative and innovative in carrying out their work and be able to solve problems from various points of view. This is supported by previous research conducted by (Jami & Utami, 2020), which states that Work engagement acts as a mediating factor between productivity and transformational leadership. Leadership and commitment are inextricably linked to worker performance. Thus, it may be concluded that transformative leadership, worker engagement, and worker performance are related. Naturally, the Koperasi Simpan Pinjam Yogyakarta (KSP DIY) can use this as a guide to maximize productivity by utilizing EE as a mediator to raise EE and implementing TL as a leader style in cooperatives.

V. CONCLUSION

Based on the results of this study, it can be concluded that there is a significant relationship between KM and TL with EE and productivity in the Koperasi Simpan Pinjam Yogyakarta. This research shows that improvements in KM practices and TL positively affect the level of EE and their productivity. In addition, EE is also a significant link between KM and TL and productivity. These results underscore the importance of effective KM and TL styles in creating a work environment that encourages high EE and optimal productivity in a Savings and Loan Cooperative environment. The findings can provide a strong basis for practitioners and stakeholders to develop appropriate strategies to improve EE and productivity in similar organizations.

REFERENCES

- [1] Aboramadan, M. (2020). *The effect of green HRM on employee green behaviors in higher education : the mediating mechanism of green work engagement*. <https://doi.org/10.1108/IJOA-05-2020-2190>
- [2] Aburumman, O., Salleh, A., Omar, K., & Abadi, M. (2020). The impact of human resource management practices and career satisfaction on employee's turnover intention. *Management Science Letters*, 10(3), 641–652. <https://doi.org/10.5267/j.msl.2019.9.015>
- [3] Al-Ghamdi, R. M., & Javed, U. (2021). *Relationship between training and job satisfaction from employees' perspective in saudi arabia pjaee*, 18 (14) (2021) *relationship between training and job satisfaction from employees' perspective in saudi arabia the title of the paper: relationship betwee*. 18(14), 242–250.
- [4] AL-Syaidh, N. H. J., Masa'deh, R. (Moh'd T., Al-Lozi, M., & Al-Harrasi, J. S. (2016). Transformational Leadership and its Role on the Effectiveness of Employees' Behavior: A Theoretical Study. *Journal of Business & Management (COES&RJ-JBM)*, 4(1), 14–35. <https://doi.org/10.25255/jbm.2016.4.1.14.35>
- [5] Asmawati, Y., & Bainus, A. (2019). *Hutan dan Negative Peace : Sebuah Efek bagi Perdamaian Global*. 3,

- 110–123. <https://doi.org/10.34010/gpsjournal.v3i2>
- [6] Bhardwaj, A., Gupta, A. & Tawangar, S. (2024), CSR in Engineering Education: Evidences from India and Abroad” *International-Journal-of-Business-Innovation-and-Research*, 34(1), 19-40
- [7] Chanana, N. (2020). *Employee engagement practices during COVID-19 lockdown*. August. <https://doi.org/10.1002/pa.2508>
- [8] Clausen, T., Meng, A., & Borg, V. (2019). Does Social Capital in the Workplace Predict Job Performance, Work Engagement, and Psychological Well-Being? A Prospective Analysis. *Journal of Occupational and Environmental Medicine*, 61(10), 800–805. <https://doi.org/10.1097/JOM.0000000000001672>
- [9] Davidescu, A. A. M., Apostu, S. A., Paul, A., & Casuneanu, I. (2020). Work flexibility, job satisfaction, and job performance among romanian employees-Implications for sustainable human resource management. *Sustainability (Switzerland)*, 12(15). <https://doi.org/10.3390/su12156086>
- [10] Decuypere, A., & Schaufeli, W. (2019). *Leadership and work engagement: Exploring explanatory mechanisms*. <https://doi.org/10.1177/2397002219892197>
- [11] Edinger, S. K., & Edinger, M. J. (2018). Improving Teacher Job Satisfaction: The Roles of Social Capital, Teacher Efficacy, and Support. *Journal of Psychology: Interdisciplinary and Applied*, 152(8), 573–593. <https://doi.org/10.1080/00223980.2018.1489364>
- [12] Ehrnrooth, M., Barner-Rasmussen, W., Koveshnikov, A., & Törnroos, M. (2021). A new look at the relationships between transformational leadership and employee attitudes—Does a high-performance work system substitute and/or enhance these relationships? *Human Resource Management*, 60(3), 377–398. <https://doi.org/10.1002/hrm.22024>
- [13] Eliyana, A., Ma’arif, S., & Muzakki. (2019). Job satisfaction and organizational commitment effect in the transformational leadership towards employee performance. *European Research on Management and Business Economics*, 25(3), 144–150. <https://doi.org/10.1016/j.iedeen.2019.05.001>
- [14] Gandolfi, F. (2012). A Conceptual Discussion of Transformational Leadership and Intercultural Competence. *Review of International Comparative Management*, 13(4), 522–535. <http://search.proquest.com.library.capella.edu/abiglobal/docview/1355867197/fulltextPDF/13E6809168247C337B3/1?accountid=27965>
- [15] Gameda, H. K., & Lee, J. (2020). Leadership styles, work engagement and outcomes among information and communications technology professionals: A cross-national study. *Heliyon*, 6(4), e03699. <https://doi.org/10.1016/j.heliyon.2020.e03699>
- [16] Gualano M, Sinigaglia T, Lo Moro G, Rousset S, Cremona A, Bert F, & Siliquini R. (2021). *The burden of burnout among healthcare professionals of intensive care units and emergency departments during the covid-19 pandemic: A systematic review*. *nt J Environ Res Public Health [revista en Internet] 2021 [acceso 6 de octubre de 2022]; 18(15): 1–17*. <https://www.mdpi.com/1660-4601/18/15/8172>
- [17] Jami, A., & Utami, E. (2020). Pengaruh Pelatihan Kerja terhadap Kepuasan Kerja pada Lembaga Penyiaran Publik Televisi Republik Indonesia Stasiun Kalimantan Timur. *Borneo Student Research (BSR)*, 2(1), 2020. <https://journals.umkt.ac.id/index.php/bsr/article/view/1594>
- [18] Jankelová, N., Joniaková, Z., Némethová, I., & Blšťáková, J. (2020). How to support the effect of transformational leadership on performance in agricultural enterprises. *Sustainability (Switzerland)*, 12(18), 1–17. <https://doi.org/10.3390/su12187510>
- [19] Lata, M., & Gupta, A. (2021). Education during the pandemic: Technology-based solutions. In *Stakeholder strategies for reducing the impact of global health crises* (pp. 209-224). IGI Global.
- [20] Lata, M., & Kumar, V. (2023). “Challenges to IoT Security: Industry Perspective”, *14th International Conference on Advances in Computing, Control, and Telecommunication Technologies, ACT 2023*, Grenze International Journal of Engineering and Technology (GIJET), Volume 9, Issues 1 & 2, pp. 61-67
- [21] Manullang, A., Cinta Nainggolan, D., Aurani, K., Stiffanny, N., Alim, S., Adlina, H., & Utara, U. S. (2023). Strategi Ekspansi Global Pada Perusahaan Starbucks Dalam Bisnis Internasional. *Bisnis Dan Akuntansi*, 2(3), 25–40. <https://doi.org/10.58192/profit.v2i3.969>
- [22] McMurtrie, B. (2020). The pandemic is dragging on Professors are burning out.PDF. *The Chronicle of Higher Education*, 10–14. https://www.gvsu.edu/cms4/asset/1CA401CE-E3B4-0A91-62950597307EA7CE/mi-ace_mentoring_mondays_12.14.20.pdf
- [23] Moin, M. F., Omar, M. K., Wei, F., Rasheed, I., Hameed, Z., Farrukh, M., Omar, M. K., & Wei, F. (2020). Current Issues in Tourism Green HRM and psychological safety : how transformational leadership drives follower ’ s job satisfaction. *Current Issues in Tourism*, 0(0), 1–9. <https://doi.org/10.1080/13683500.2020.1829569>

- [24] Mushtaque, I., Raza, A. Z., Khan, A. A., & Jafri, Q. A. (2022). Medical Staff Work Burnout and Willingness to Work during COVID-19 Pandemic Situation in Pakistan. *Hospital Topics*, 100(3), 123–131. <https://doi.org/10.1080/00185868.2021.1927922>
- [25] Najla, Dewanthi, Y., & Permana, E. (2023). Strategi Mempertahankan Usaha Franchise Pada Minuman Mixue di Indonesia. *Journal Of Business, Finance, and Economics (JBFE)*, 3(2), 189–198. <http://journal.univetbantara.ac.id/index.php/jbfe/article/view/4099>
- [26] Nurjanah, S., Pebianti, V., & Handaru, A. W. (2020). Cogent Business & Management The influence of transformational leadership , job satisfaction , and organizational commitments on Organizational Citizenship Behavior (OCB) in the inspectorate general of the Ministry of Education and Culture The influence. *Cogent Business & Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1793521>
- [27] Ölçer, F., & Florescu, M. S. (2015). Mediating Effect of Job Satisfaction in the Relationship Between Psychological Empowerment and Job. *Business Excellence and Management*, 5(1), 5–32.
- [28] Pham, N. T., Vo Thanh, T., Tučková, Z., & Thuy, V. T. N. (2020). The role of green human resource management in driving hotel's environmental performance: Interaction and mediation analysis. *International Journal of Hospitality Management*, 88(September). <https://doi.org/10.1016/j.ijhm.2019.102392>
- [29] Riyanto, S., Endri, E., & Herlisha, N. (2021). Effect of work motivation and job satisfaction on employee performance: Mediating role of employee engagement. *Problems and Perspectives in Management*, 19(3), 162–174. [https://doi.org/10.21511/ppm.19\(3\).2021.14](https://doi.org/10.21511/ppm.19(3).2021.14)
- [30] Rizvi, Y. S., & Garg, R. (2020). *The simultaneous effect of green ability-motivation-opportunity and transformational leadership in environment management: the mediating role of green culture*. <https://doi.org/10.1108/BIJ-08-2020-0400>
- [31] Saks, A. M. (2021). Human Resource Management Review Caring human resources management and employee engagement. *Human Resource Management Review*, March, 100835. <https://doi.org/10.1016/j.hrmr.2021.100835>
- [32] Salas-Vallina, A., Alegre, J., & López-Cabralés, Á. (2021). The challenge of increasing employees' well-being and performance: How human resource management practices and engaging leadership work together toward reaching this goal. *Human Resource Management*, 60(3), 333–347. <https://doi.org/10.1002/hrm.22021>
- [33] Subramony, M., Segers, J., Chadwick, C., & Shyamsunder, A. (2018). Leadership development practice bundles and organizational performance: The mediating role of human capital and social capital. *Journal of Business Research*, 83(September 2017), 120–129. <https://doi.org/10.1016/j.jbusres.2017.09.044>
- [34] Swanson, E., Kim, S., Lee, S. M., Yang, J. J., & Lee, Y. K. (2020). The effect of leader competencies on knowledge sharing and job performance: Social capital theory. *Journal of Hospitality and Tourism Management*, 42(November 2019), 88–96. <https://doi.org/10.1016/j.jhtm.2019.11.004>
- [35] Weller, I., Süß, J., Evanschitzky, H., & von Wangenheim, F. (2020). Transformational Leadership, High-Performance Work System Consensus, and Customer Satisfaction. *Journal of Management*, 46(8), 1469–1497. <https://doi.org/10.1177/0149206318817605>
- [36] Wijayanti, R. P., & Panggiarti, E. K. (2022). Analysis of joint venture implementation at pt nugraha indah citarasa indonesia. *Jurnal Ekonomi, Manajemen Dan Akuntansi (JEKMA)*, 1, 110–114.
- [37] Wilson, G. (2012). *The Times 100 Business Case Studies PDFDrivecom -1*.
- [38] Wu, I. L., & Chiu, M. L. (2018). Examining supply chain collaboration with determinants and performance impact: Social capital, justice, and technology use perspectives. *International Journal of Information Management*, 39(June 2016), 5–19. <https://doi.org/10.1016/j.ijinfomgt.2017.11.004>