# Influence of Transformational and Transactional Leadership Style toward Food Safety Management System ISO 22000:2018 Performance of Food Industry in Pati Central Java

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ABSTRACT

The purpose of this study is to analyze the influence of transformational and transactional leadership styles to the performance of the implementation of a food safety management system ISO 22000: 2018 at PT. SPN a food packaging beverage industry located in Pati Central Java. The study population are employees at PT. SPN as many as 88 people and data collection methods by giving a census questionnaire to all employees. The analysis tool this study uses SEM (Structural Equation Model) the LISREL program version 8.70. The results show that the transformational leadership style have positive and significant affected to the performance of implementation ISO 22000: 2018 and the transactional leadership style also have significant and positive affected the performance of implementation of the food safety management system ISO 22000:2018.

Keywords: Leadership, transformational, transactional, food safety, performance

## 1. Introduction

In the industrial era 4.0, The level of competition has become more intense industry food and beverage industry and to maintain the viability of the company required a high performance of the overall human resources. The implementation of a food safety management system ISO 22000 in the food industry ensures safe products produced and will increase the company's competitiveness in the global market (Segovia et al, 2014). Some food manufacturers companies implement ISO 22000 with a market share abroad to implement ISO 22000 to improve the efficiency, productivity and quality of food products and many companies do not realize the potential benefits of its application and feel the high cost associated implementation (María & Vijande, 2014). The main obstacles to the implementation of food safety management system ISO 22000 in general lack of financial resources, the size of the organization, infrastructure and inadequate facilities, and lack of top management commitment, the primary motivation for the implementation of ISO 22000 is to improve the quality and safety of products as well as improving the skills of employees , improved corporate image, increase product sales, increased market share, and access to new markets (Macheka et al, 2013). In clause 5 of ISO standard 22000: 2018 required the importance of leadership and commitment of top management to implementation goes well, the senior management must show leadership and

responsibility, establish, implement, and maintain food safety policy (ISO, 2018).

Several previous studies began the topic of leadership style influence on the performance of that F.I. Dwiantoro (2017) has been observed that the type of leadership style transformational significant positive effect on performance, transactional leadership style type significant adverse effect on performance. The results of the uterus, Lengkong & Dotulong (2018) examines the impact of transformational leadership on employee performance, and transactional leadership does not affect the performance of employees. Ong, Ariwibowo & Isnawati (2018) conducted research and concluded that the effect of transformational leadership style on performance. Transactional leadership style does not affect performance. Aqmarina, Utami & Prasetya (2016) conducted research and concluded that the type of transformational leadership negatively and not significantly influence employee performance transactional leadership while no significant influence on employee performance. Wahyuniardi & Nababan (2018) conducted research and concluded that the type of transformational leadership has a significant effect on job satisfaction, the kind of transformational leadership has no significant influence on employee performance, organizational culture has no significant impact on employee performance, and job satisfaction did not significantly affect the performance of the employee. To improve employee performance

can be done by increasing job satisfaction if job satisfaction increases, the performance of employees will also increase. Birasnav (2014) has also researched leadership and research results show that the type of transformational leadership and transactional models have a strong and positive effect on organizational performance after controlling for the impact of transactional leadership. Research conducted by Shih, Ming &Tsai (2019), Qijun & Batt (2016) and Bouzembrak & Klüche (2019) concluded that food safety benefit to the company.

PT.SPN is an industrial company engaged in beverage packaging located in Tangerang and has implemented a food safety management system ISO 22000: 2018 for 1 year as the company's commitment to maintaining the quality of its products are currently having problems not optimal application of ISO 22000: 2018 looks of each internal audit implementation is still a lot finding. On findings in 2018, there were 12 significant and 14 minor results while in 2019 there were 8 and 17 significant findings still finding their minor. With these findings indicate that the application of the quality management system ISO 22000: 2018 not going well. According to some employees that one of the alleged cause of non-optimal implementation of ISO 22000: 2018 for top and middle management engagement is not optimal. Therefore in this study wanted to determine the effect of transformational leadership and transactional leadership on the performance of the application of ISO 22000: 2018.Several previous studies have addressed the influence of leadership on performance in general, and this research will discuss the more specific is the performance of the implementation of a food safety management system ISO 22000: 2018. The objective of this study was to analyze the effect of transformational leadership and transactional leadership influence on the performance of the application of the safety management system food ISO 22000: 2018 in PT. SPN.

## 2. Research Methods

### 2.1 Research Design and Hypothesis

Based on the results of the research presentation - of previous studies of the obtained frame design concept following research:
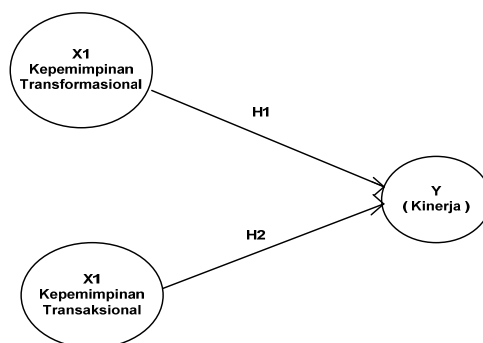


Figure 1 Concept Framework Research

Based on the above research model framework concept then received the following hypotheses:

H1: Anticipated significant influence the type of transformational leadership style (X1) on the performance of the implementation of food safety management system ISO 2200: 2018 (Y).

H2: Anticipated significant influence transactional leadership style type (X2) on the performance of the implementation of food safety management system ISO 2200: 2018 (Y).

For hypothesis 1, the independent variable (independent variable) is the type of transformational leadership style (X1), while the dependent variable (dependent variable) is the performance of the implementation of food safety management system ISO 22000: 2018 (Y). For hypothesis 2, the independent variable (independent variable) is transactional leadership style (X2) Average dependent variable (dependent variable) is the performance of the implementation of food safety management system ISO 22000: 2018 (Y).

### 2.2 Method of collecting data

Data needed in this research is the primary data from respondents. This method of primary data collection using questionnaires or using "Method Questionnaire". Joshi, Kale, Chandel & Pal (2015) using a measurement method with a Likert scale. Answer each statement made five alternative answers and assessments for each answer given weight a). Never (TP) score: 1, b). Seldom (HTP) score of 2, c). Sometimes (KK) score of 3, d). Often (SR) score of 4 and e). Always (SL) score of 5.

Indicators on the type of transformational leadership variable (X1) which factors Charisma, Inspirational, Intellectual stimulation, as well as consideration with five items Individulized statement. While indicators on the type of transactional leadership variables, including factors contingent reward, management by exception (active and passive) and Laissez-faire. Signs for employee performance variables include factors such as the quantity of employment, quality of work, efficiency, business employees, professional standards, accuracy and creativity with item 5 statement. The population in this study were all employees of PT. SPN, amounting to 88 people and all the population census as respondents called method.

Table 1 Profile of respondents by educational level

| No | Education | Quantity |
|----|-----------|----------|
| 1 | SMK | 40 |
| 2 | D3 | 24 |
| 3 | S1 | 20 |
| 4 | S2 | 4 |
| Total | | 88 |

Source: Internal data is processed

Table 2 Profile of respondents according to tenure

| No | Years | Total |
|----|-------|-------|
| 1 | 0 - 5 | 31 |
| 2 | 6 - 10 | 33 |
| 3 | 11 - 15 | 18 |
| 4 | 16 - 20 | 6 |
| | | 88 |

Source: Internal data is processed

Table 3 Profile of respondents by section

| No | Part | Total |
|----|------|-------|
| 1 | Production | 34 |
| 2 | Warehouse | 22 |
| 3 | Quality Control | 19 |
| 4 | Office | 13 |
| | Total | 88 |

Source: Internal data is processed

Based on the above respondent profile data already shows the distribution of respondents are evenly from the level of employment, education as well as sections or departments where they perform a work activity.

## 2.3 Technical Analysis Data

The data analysis in this study will use the Structural Equation Modeling (SEM) software tools Linear Structural Model (LISREL). Lisrel software can be tested with the relationship between the latent variables and indicators - indicators. The value of the construct validity and reliability of each of the indicators in this study can be done by using Confirmatory Factor Analysis (CFA). Testing the validity and reliability will be performed using confirmatory factor analysis to obtain valid and reliable data. Second-order confirmatory factor analysis (2nd Order CFA) is a measurement model consists of two Level, the first by an analysis done of latent constructs into every aspect of the indicators and the second, an analysis will be made of latent constructs to construct its aspects. CFA not only be done testing the validity of a construct (Construct Validity) but also can perform reliability testing constructs (Construct Reliability). The construct is said to have good reliability is if the value of Construct Reliability (CR) ≥ 0.70 and variance extracted values ≥ 0.50. Size can be inferred either construct reliability if the value is more than 0.40.

## 3. Result and Discussion

Williams & Gavin (2004) conducted research uses software LISREL 8.71 and the initial stage of analysis that we make the usual research model or referred to as path diagram, then connect between variables. Furthermore, the data obtained from the questionnaire collection was added to the file or Excel or SPSS LISREL, shall be retained by .psf format or a .csv or .txt or .dat. After the data is converted into .psf format, then the data is processed using LISREL 8.71. Methods for data analysis can be done using Structural Equation Model (SEM) is a software Linear Structural Model (LISREL) version 8.71 of Joreskog and Sorbom (2008) through the 2nd Order CFA criteria for value loading factor (> 0.5) and to the value of t (> 1.96) are shown in Figure 2.
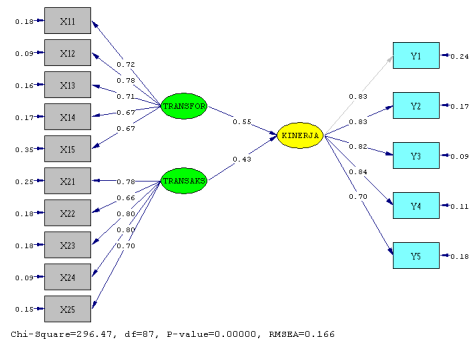


Chi-Square=296.47, df=87, P-value=0.00000, RMSEA=0.166

Figure 2 Value loading factor CFA order



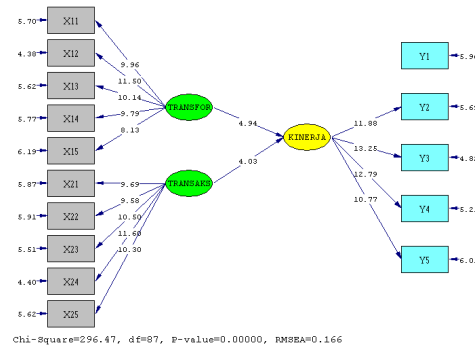Chi-Square=296.47, df=87, P-value=0.00000, RMSEA=0.166

Figure 3 Value t order CFA

Based on Figure 1 and Figure 2 can be seen that there is a negative value error variance because there is no error variance value is negative. If there is an error variance is negative, then the observed variables in the equation will be removed from the model. The initial step of the analysis is done of latent constructs aspect to their indicators. Based on the review above shows that the value of all of the above loading factor of 0.5 (> 0.5) and all the t value required to test the significance of the value of the loading factor of greater than 1.96 (> 1.96). It is that the whole item is valid and significant. A summary of the analytical results of the above can be seen in the Table 4.

Table 4 Analysis For the 2nd Order CFA Construct Validity (Aspect-Indicator)

| Variable | Item | Loading factor | T-Value |
|----------|------|---------------|---------|
| (X1) | X11 | 0.74 | 9.96 |
| | X12 | 0.78 | 11.5 |
| | X13 | 0.71 | 10.14 |
| | X14 | 0.67 | 9.79 |
| | X15 | 0.67 | 8.13 |
| (X2) | X21 | 0.78 | 9.69 |
| | X22 | 0.66 | 9.58 |
| | X23 | 0.80 | 10.5 |
| | X24 | 0.80 | 11.68 |
| | X25 | 0.70 | 10.3 |
| Performance (Y) | Y1 | 0.83 | |
| | Y2 | 0.83 | 11.88 |
| | Y3 | 0.82 | 13.25 |
| | Y4 | 0.84 | 12.79 |
| | Y5 | 0.70 | 10.77 |

Source: Internal data that has been processed

The second level next analysis performed on the latent constructs to construct its aspects. Based on the above test results showed that the

## Structural Equations

$$KINERJA = 0.55*TRANSFOR + 0.43*TRANSAKS, \quad Errorvar. = 0.11 \quad, R^2 = 0.89$$
$$(0.11) \qquad\qquad (0.11) \qquad\qquad\qquad\qquad (0.030)$$
$$4.94 \qquad\qquad\quad 4.03 \qquad\qquad\qquad\qquad\quad 3.55$$

Figure 4. Structural Equations

value of the loading factor is obtained entirely above 0.5 (> 0.5) and all the t value required to test the level of significance value received loading factor greater than 1.96 (> 1.96). A summary of the analytical results mentioned above can be seen in Table 5.

These results can be concluded that both aspects are composed of transformational leadership and transactional leadership style is valid and significant inferred. Results of validity are also reinforced by the value of Chi-Square (r) that results in an amount of 296.47. Based on the calculation formula CR construct reliability was obtained results of 0.98 and 0.76 were concluded VE that variable has good reliability. Hair (2010) states that the value construct has good reliability when the value of Construct Reliability (CR) ≥ 0.07 and variance extracted (VE) ≥ 0.40.

Table 5 Results of 2nd Order Analysis Reliability CFA Construct OCB

| Item | Loading factor | Error | CR | VE |
|------|------|------|------|------|
| X11 | 0.74 | 0.18 | | |
| X12 | 0.78 | 0.09 | | |
| X13 | 0.71 | 0.16 | | |
| X14 | 0.67 | 0.17 | | |
| X15 | 0.67 | 0.35 | | |
| X21 | 0.78 | 0.25 | | |
| X22 | 0.66 | 0.18 | | |
| X23 | 0.80 | 0.18 | 0.98 | 0.76 |
| X24 | 0.80 | 0.09 | | |
| X25 | 0.70 | 0.15 | | |
| Y1 | 0.83 | 0.24 | | |
| Y2 | 0.83 | 0.17 | | |
| Y3 | 0.82 | 0.09 | | |
| Y4 | 0.84 | 0.11 | | |
| Y5 | 0.70 | 0.18 | | |

Source: Internal data that has been processed

Therefore, based on the results of the analysis of the reliability calculation can be concluded that the reliability of the measurement model is good. Testing measurement models, it has been proven that the research meets the requirements of all stages of testing.

**Analysis Goodness Of Fit (GOF)**

Test the suitability of the model as a whole or overall model fit about the analysis of statistical GOF value generated by the program and the results GOF lisrel statistics exist in Figure 4. For the suitability of the model (model fit) are good enough and for its model fit criteria, as shown in Table 6.

Based on the results in Table 6, it can be seen that as many as 6 of 9 indexes fit to state that the model fit. These results indicate that the variable is declared valid and reliable so that it

can be concluded that the overall model is still a good match.

Table 6 Criteria Model Fit

| Fit Index | Value | Value Standard |
|------|------|------|
| Chi-Square | 296.47 | >0.5 |
| Root Mean Square Error of Approximation (RMSEA) | 0.17 | <0.08 |
| Normed Fit Index (NFI) | 0.93 | >0.90 |
| Non-Normed Fit Index (NNFI) | 0.93 | >0.90 |
| Comparative Fit Index (CFI) | 0.94 | >0.90 |
| Incremental Fit Index (IFI) | 0.99 | >0.90 |
| The goodness of Fit Index (GFI) | 0.69 | >0.90 |
| Adjusted Goodness of Fit Index (AGFI) | 0.57 | >0.90 |
| Relative Fit Index (RFI) | 0.91 | >0.90 |

Source: Internal data that has been processed

Based on the results of the above analysis it can be seen that the transformational leadership style is a positive and significant effect on the performance of the food safety management system with the value of t statistics obtained amounted to 4.94> 1.96 with its unstandardized coefficient at 0:55. For transactional leadership style is also a positive and significant effect on the performance of the food safety management system with the value of t statistics obtained for 4:03> 1.96 with a coefficient unstandardized at 0:43. The goodness of fit models is produced pretty well with a chi-square value of 296.4. For the goodness of fit criteria, the other also already qualified as needed. Lisrel software is already widely used to process and analyze the data in some of them is Cavusoglu research (2012). Boe (2015), Ebrahimi, Moosavi & Chirani (2016), Acharya, Boonrawd & Chianchana (2014), Wiguna& Ismail (2019).

## 4. Conclusion

Based on the research that has been done can be concluded that the variables of transformational leadership style (X1) it has a positive and significant impact on the performance variable food safety management system ISO 22000: 2018 (Y) and variable transactional leadership style (X2) also have a positive influence and significant to the variable performance of the food safety management system ISO 22000: 2018 (Y). For the management of PT. SPN should use a leadership style transformational and transactional because both affect positively on the performance of the

food safety management system, if notice of the results of the research, leadership style type of transformational more positive effect on system performance improvement of food safety management but leadership is more effective is a combination or a combination of both the leadership style. For the leaders should pay attention to the style of leadership that will be used to a subordinate because of the style of leadership is the most influential factor to the improved performance of food safety management systems.

For further research will examine the effect of leadership style on the performance of the security management system pagans can add several other variables that allegedly can affect the performance of food safety management systems, for example as motivation, ability or competence of individuals and work culture.

### Limitation

This study maybe has some limitations, the sample not representative of the target population, the number of samples use that are not much due to limited time and cost, the object of this study is only in the food industry companies even though more other companies have implemented Food Management System ISO 22000. Software used for data analysis is Lisrel and many people not yet familiar with this software. Data analysis in this study uses the Structural Equation Model (SEM) and the results will be more valid if also use Key Performance Indicator trend of ISO 22000 performance. The research study was only limited to company in Pati and the result of questionnaire may not be the same when applied to other place.

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