The Role of Trust and Engagement in Organizational Citizenship Behavior of Chemical Manufacturing Industry in Indonesia

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ABSTRACT

Although research on the relationship between trust and engagement with organizational citizenship behavior (OCB) has been extensively explored, the connection between these variables in the context of the chemical industry remains underexplored. The aim of this study is to examine the influence of trust on OCB, the impact of engagement on OCB, and the combined effects of trust and engagement on OCB in the Chemical Manufacturing Sector in Indonesia. This research employs a quantitative associative approach. The sample comprises 249 employees from manufacturing companies in the city of Cilegon, Indonesia, selected through proportional stratified random sampling techniques. The data analysis technique employed is multiple linear regression analysis using SPSS version 26. The findings of this study reveal that trust has a significant positive influence on OCB, engagement has a significant positive impact on OCB, and both trust and engagement collectively exert a significant positive influence on OCB in the Chemical Manufacturing Sector in Indonesia. The results of this research contribute to providing insights for chemical manufacturing companies in Indonesia to enhance the quality of their employees in achieving OCB principles.

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Introduction

The Chemical Industry is a prioritized sector for development due to its significant contribution to the national economy of Indonesia. Chemical substances are strategic commodities used as raw materials in various other industrial sectors. Several factors underscore the importance of the chemical industry (Wen et al., 2021). Firstly, the substitution of hazardous chemicals with environmentally friendly alternatives, known as green chemistry, aims to reduce pollution and environmental impacts associated with industrial waste and product disposal (Kote, 2022). Secondly, the utilization of waste as raw materials, such as corn steep liquor (CSL), contributes to the sustainability of chemical manufacturing processes (Kumar & Ujor, 2022). Thirdly, the ability to produce value-added chemicals by microorganisms like Paenibacillus polymyxa DSM 365 holds potential for the chemical industry to generate essential raw materials for various sectors (Kumar & Ujor, 2022).

Since 2020, the Indonesian government has been actively overseeing national strategic projects, including chemical industry development with a total investment value of USD 31 billion. One such project is the PT Lotte Chemical Indonesia Project in Cilegon, an industrial city in Indonesia, providing employment for up to 15,000 people during construction and 1,300 people in commercial operation. This chemical manufacturing sector in Cilegon plays a crucial role in Indonesia’s economy, contributing not only to job creation but also meeting the public’s needs for various chemical products in everyday life.

In the operational context of chemical industry companies, the roles of employee trust and engagement are essential for enhancing company productivity (Anggraini & Rahardjo, 2016). This research aims to uncover the roles of trust and engagement in increasing the level of Organizational Citizenship Behavior (OCB) exhibited by employees in the chemical industry in Indonesia. OCB refers to an individual’s voluntary commitment to an organization that goes beyond their contractual duties (Veličkovska, 2017). It encompasses actions such as helping colleagues, providing constructive suggestions, and participating in organizational activities (Ratnasari, 2016). Therefore, enhancing the level of employee OCB, the focus of this study, is crucial for organizational development.

Trust serves as the fundamental foundation for building positive workplace relationships (Zahro, 2015). Employees who trust management and colleagues tend to exhibit high motivation and openness to new ideas (Manik, 2020). In the context of OCB, trust becomes a key factor driving employees to perform voluntary actions not explicitly outlined in their job descriptions. They believe that the organization will appreciate their contributions and treat them fairly (Waskito et al., 2023). On the other hand, employee engagement refers to the extent to which employees feel connected to their work, colleagues, and the organization as a whole (Sutarya et al., 2023). Engaged employees are more likely to be productive, exhibit high loyalty to the organization, and engage in OCB (Kim, 2023). They perceive that their work is meaningful, and their contributions are acknowledged by the organization.

Previous research has indicated a positive relationship between trust, engagement, and OCB. Amini and Kemal (2021) and Dai et al. (2022) found a positive influence of trust on OCB in the finance sector. Denny et al. (2023) discovered a positive and significant impact of trust in leadership on OCB, while Nasiroh (2023) revealed that organizational trust significantly influences OCB. Additionally, studies have found a positive relationship between engagement and OCB in organizational settings, including the financial sector.
(Dalimunthe & Zuanda, 2018; Kumiawati, 2018; Paramitha & Rijanti, 2022), and state-owned enterprises (Marwanto et al., 2020; Thufailah & Abdurrahman, 2020). Other studies also demonstrated that trust and engagement simultaneously have a significant positive impact on OCB in the healthcare sector (Basrowi & Utami, 2023; Febrida & Purwantoro, 2019; Indirasari & Mardiana, 2022; Suwanno et al., 2020).

From a review of previous research, it can be concluded that trust and engagement variables have a positive influence on the OCB level of employees in several industrial sectors, such as finance, health, and state-owned enterprises. There is a gap that serves as the background for conducting this study, namely, the limited exploration of the relationship between trust and engagement variables and the increase in the level of OCB among employees in the chemical manufacturing sector in Indonesia. This research aims to address the gap by exploring the relationship between trust and engagement variables and the increased level of OCB in employees in the chemical manufacturing sector in Indonesia. Consequently, this study contributes valuable insights for the government and stakeholders to enhance employee OCB, impacting the growth of the chemical manufacturing industry and the overall economic development in Indonesia.

**Hypothesis Development**

This study involves variables related to Organizational Citizenship Behavior (OCB), trust, and engagement. OCB is a concept in organizational management that refers to voluntary and extra-role behaviors performed by members of an organization to support the overall effectiveness of the organization (Guiling et al., 2022; Ocampo et al., 2018). These behaviors are not part of their official duties or job descriptions, but individuals undertake them voluntarily to enhance the work climate, productivity, and relationships among organizational members (Harvey et al., 2018). OCB encompasses various actions such as helping colleagues, participating in organizational activities, providing constructive suggestions, and maintaining a positive work culture (Yang et al., 2020). As for trust within the organization in this study, it is the perception regarding the availability, honesty, and integrity of individuals or units entrusted with valuable resources, as well as the willingness to be vulnerable to the actions of those individuals or units (Mustofa et al., 2023). Additionally, engagement in this study refers to the level of involvement or participation of employees in behaviors that positively contribute to their organization beyond their core duties. This includes various voluntary activities that can help improve organizational performance and the overall work environment. Employees engaged in OCB tend to be more involved in their work and have a greater commitment to their organization (Suseno & Basrowi, 2023). Thus, this study aims to test the following hypotheses:

**H1**: Trust has a positive and significant effect on Organizational Citizenship Behavior (OCB) in the chemical manufacturing sector in Indonesia.

**H2**: Engagement has a positive and significant effect on Organizational Citizenship Behavior (OCB) in the chemical manufacturing sector in Indonesia.

**H3**: Trust and engagement collectively have a positive and significant effect on Organizational Citizenship Behavior (OCB) in the chemical manufacturing sector in Indonesia.
Method

A quantitative associative research method was employed to explore correlations/relationships among variables, and data collection was conducted through the use of questionnaires distributed to respondents. The population of this study consisted of 850 employees in chemical manufacturing companies in the city of Cilegon, Banten Province, Indonesia. Since the participant population in this study was drawn from a heterogeneous group, the sampling technique utilized was stratified random sampling. Sample size calculations were performed using a table developed by Stephen Isaac and William B. Michael (Sugiyono, 2010) to determine sample sizes at error levels of 1%, 5%, and 10%. Considering the population size (N) of 850 with a 5% error rate, a sample size (n) of 247 respondents was obtained. To minimize the potential lack of respondent data due to errors in survey techniques, a sample size (n) of 249 respondents was established for the questionnaire survey.

The data were gathered using a questionnaire scrutinizing the variables of Organizational Citizenship Behavior (OCB), Trust, and Employee engagement of chemical manufacturing in Indonesia. The questionnaire was developed based on the indicator of each variable as presented in Table 1. After distributing the questionnaire, a total of 249 responses were used for this study. The data were further analyzed through multiple linear regression using SPSS version 26, comprising respondents’ profile, validity, reliability, and hypotheses testing. The validity of all indicator items was checked using Pearson Correlation Test and yielded the significance value 1% for variable trust, engagement, and OCB (r table: 0.162963874); thus, all items were valid. In terms of reliability, all items were measured using Cronbach alpha and considered reliable with the values were higher than 0.6 (trust: 0.971; engagement: 0.972; OCB: 0.984).

Table 1. Variables’ Indicators

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
<th>Indicator</th>
</tr>
</thead>
</table>
| 1   | Organizational Citizenship Behavior (OCB) is a concept in organizational management that pertains to voluntary and extra-role behaviors exhibited by members of an organization to enhance the overall effectiveness of the organization. These behaviors are not part of their official duties or job descriptions; rather, individuals engage in them voluntarily to improve the work climate, productivity, and relationships among organizational members. OCB encompasses a variety of actions such as assisting colleagues, participating in organizational activities, providing constructive suggestions, and fostering a positive work culture (Organ, 1988). | a. Altruism (Concern for Others)  
b. Conscientiousness (Orderliness)  
c. Civic Virtue (Participation in Organization)  
d. Courtesy (Politeness)  
e. Sportsmanship (Sportsmanship Spirit)  
f. Helping (Assistance)  
g. Organizational Loyalty (Loyalty to the Organization)  
h. Courtesy (Courtesy)  
i. Organizational Compliance (Compliance with Organizational Rules)  
j. Organizational Support (Support for the Organization)  
k. Interpersonal Helping (Interpersonal Assistance)  
l. Organizational Justice |
Trust in an organization is the perception concerning the availability, honesty, and integrity of individuals or units entrusted with valuable resources, along with the willingness to be vulnerable to the actions of those individuals or units (Rousseau et al., 1998).

Engagement refers to the level of involvement or participation of employees in behaviors that contribute positively to their organization beyond their core duties. This includes various voluntary activities that can help improve organizational performance and the overall work environment. Employees engaged in Organizational Citizenship Behavior (OCB) tend to be more involved in their work and have a greater commitment to their organization (Netemeyer & Ryn, 1991).
Results

**Respondents' Demographic Information**

First of all, the data analysis was begun with describing the respondents’ demographic information, as presented in Table 2. A total of 249 samples were examined. The distribution of respondents based on gender revealed that 130 respondents (52.21%), were female, while 119 respondents (47.79%), were male. Regarding the age, respondents aged 40-50 years were 83 (33.33%), those aged 30-40 years were 77 (30.92%), followed by those aged more than 50 years were 45 (18.07%), and respondents aged 20-30 years were 44 (17.67%). In terms of educational background, respondents with Bachelor’s degree accounted for 97 (38.96%), those with high school/vocational school/general high school/equivalent education were 80 respondents (32.13%), followed by those who completed their last education at the Diploma I/II/III level with 46 respondents or 18.47%, and the respondents with postgraduate (S2/S3) degrees were 26 (10.44%). Moreover, with regards to employees’ length of service, within the 2-6 years range, there were 55 respondents (22.09%), followed by 6-10 years with 69 respondents (27.71%), 10-15 years with 61 respondents (24.50%), 15-25 years with 43 respondents (17.27%), and for those with working experience exceeding 25 years, there were 21 respondents (8.43%).

<table>
<thead>
<tr>
<th>No.</th>
<th>Aspects</th>
<th>Classification</th>
<th>N</th>
<th>Total</th>
<th>Per</th>
<th>Tot Per</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gender</td>
<td>Male</td>
<td>119</td>
<td>249</td>
<td>47.79%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>130</td>
<td></td>
<td>52.21%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Age</td>
<td>20-30 years</td>
<td>44</td>
<td>249</td>
<td>17.67%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;30-40 years</td>
<td>77</td>
<td></td>
<td>30.92%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;40-50 years</td>
<td>83</td>
<td></td>
<td>33.33%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;50 years</td>
<td>45</td>
<td></td>
<td>18.07%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Education</td>
<td>Senior High</td>
<td>80</td>
<td>249</td>
<td>32.13%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diploma</td>
<td>46</td>
<td></td>
<td>18.47%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bachelor</td>
<td>97</td>
<td></td>
<td>38.96%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Postgraduate</td>
<td>26</td>
<td></td>
<td>10.44%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Working Experience</td>
<td>2-6 years</td>
<td>55</td>
<td>249</td>
<td>22.09%</td>
<td>100.00%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;6-10 years</td>
<td>69</td>
<td></td>
<td>27.71%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;10-15 years</td>
<td>61</td>
<td></td>
<td>24.50%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;15-25 years</td>
<td>43</td>
<td></td>
<td>17.27%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;25 years</td>
<td>21</td>
<td></td>
<td>8.43%</td>
<td></td>
</tr>
</tbody>
</table>

**Hypotheses Testing Results**

Based on the results of hypothesis testing, each variable of trust and engagement demonstrates a significant positive influence on Organizational Citizenship Behavior (OCB). This is evidenced by the t-test results (see Table 3), where the calculated t-value \( t=8.971 \) exceeds the tabulated t-value \( 1.9696147 \) at a significance level of \( 0.000 \) (< 0.05). Consequently, trust plays a positive and significant role in Organizational Citizenship Behavior (OCB) in the chemical manufacturing sector in Indonesia. Therefore, H1 in this study is deemed accepted. The t-test results also indicate that the Engagement variable has a positive and significant impact on Organizational Citizenship Behavior (OCB). This
is confirmed by the t-value (t=12.036) being greater than the tabulated t-value (1.9696147) with a significance level of 0.000 (< 0.05). This suggests that Engagement has a positive and significant influence on Organizational Citizenship Behavior (OCB) in the chemical manufacturing sector in Indonesia. Thus, H2 in this study is accepted.

Table 3. T-test Result

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficientsa</th>
<th>t count &gt; t table</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized Coefficients</td>
<td>Standardized Coefficients</td>
<td>Beta</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>3.878</td>
<td>1.457</td>
<td></td>
</tr>
<tr>
<td>X1</td>
<td>.816</td>
<td>.091</td>
<td>.416</td>
</tr>
<tr>
<td>X2</td>
<td>1.073</td>
<td>.089</td>
<td>.558</td>
</tr>
</tbody>
</table>

Regarding the simultaneous relationship of the trust and engagement variables with OCB, Table 4 presents the results of the F-test. Based on Table 4, there is a significant positive simultaneous effect of trust and engagement on Organizational Citizenship Behavior (OCB) with an F-value of 1163.936, surpassing the tabulated F-value (3.032511609) at a significance level of 0.000 (< 0.05). This confirms that trust and engagement collectively have a positive and significant impact on Organizational Citizenship Behavior (OCB) in the chemical manufacturing sector in Indonesia. Consequently, H3 in this research is affirmed.

Table 4. F-test Result

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>36112.771</td>
<td>2</td>
<td>18056.385</td>
<td>1163.936</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>3816.249</td>
<td>246</td>
<td>15.513</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39929.020</td>
<td>248</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussion

This study aims to measure the influence of trust and engagement variables on the level of Organizational Citizenship Behavior (OCB) among employees in chemical manufacturing companies in Indonesia. Through multiple linear regression analysis, the results of this research indicate that both trust and engagement variables have a positive effect on OCB among employees in chemical manufacturing companies in Indonesia, both partially and simultaneously. This suggests that the higher the level of employees’ trust in the company and their engagement in their work, the higher the level of OCB they exhibit. Therefore, the findings of this study have implications for efforts that
companies can undertake to enhance employee trust and engagement, thereby creating a high level of OCB.

Regarding the impact of Trust on Organizational Citizenship Behavior (OCB), this research supports studies conducted by Denny et al. (2023) which found that Trust in leadership significantly influences OCB. Additionally, Tentama and Yuliantin (2021), and Nasiroh (2023) state that trust significantly influences Organizational Citizenship Behavior (OCB). In specific, Nasiroh (2023) found that organizational trust has a significant impact on Organizational Citizenship Behavior (OCB). This result implies that in the chemical industry, the relationship between trust and Organizational Citizenship Behavior (OCB) is crucial for fostering a positive workplace environment and enhancing employee contributions beyond their formal roles. Trust in management and colleagues creates a foundation where employees feel secure and valued, leading to a willingness to engage in voluntary behaviors that contribute to the overall effectiveness of the organization. This could include initiatives such as assisting colleagues, participating in organizational activities, and maintaining a positive work culture. The higher the trust level within the organization, the more likely employees are to exhibit OCB, thus emphasizing the significance of cultivating trust as a catalyst for organizational citizenship behavior in the context of chemical industry companies.

Regarding the influence of engagement on Organizational Citizenship Behavior (OCB), the results of this study support research conducted by Kurniawati (2018), Dalimunthe and Zuanda (2020), Thufailah and Abdurrahman (2020), and Solichin (2018) indicating a significant positive influence of engagement variables on Organizational Citizenship Behavior (OCB). In a similar direction, Paramitha and Rijanti (2022) also concluded that Employee engagement has a positive effect on Organizational Citizenship Behavior (OCB). Consistently, Bagyo and Siswidyatutik (2021) stated that Employee engagement significantly influences Organizational Citizenship Behavior (OCB) among employees in the financial and asset management sectors. This result indicates that the relationship between employee engagement and Organizational Citizenship Behavior (OCB) is integral to cultivating a positive and proactive workforce. Employee engagement, characterized by a deep connection to one’s work, colleagues, and the organization, plays a pivotal role in encouraging behaviors that go beyond formal job duties. Engaged employees are more likely to actively contribute to the organization’s success by exhibiting OCB, such as helping colleagues, participating in organizational initiatives, and contributing constructively to the work environment. The positive correlation between employee engagement and OCB underscores the importance of fostering a work culture that promotes engagement, as it serves as a catalyst for employees to voluntarily contribute to the organizational objectives in the chemical industry.

Furthermore, this study also found that trust and engagement collectively have a significant influence on Organizational Citizenship Behavior (OCB). The results of this research align with previous studies conducted by Alamsyah et al. (2020), Indirasari and Mardiana (2022), and Febria and Purwantoro (2019) which revealed that organizational trust and organizational engagement simultaneously have a significant positive impact on organizational citizenship behavior (OCB). This study’s result suggests that in the chemical industry, the simultaneous relationship between trust, employee engagement, and Organizational Citizenship Behavior (OCB) creates a synergistic dynamic that
significantly influences the overall organizational climate. When employees concurrently experience high levels of trust in management and colleagues while being actively engaged in their work, they are more likely to exhibit positive OCB. This combined influence fosters a workplace culture where employees voluntarily contribute to the organization’s success, go beyond their prescribed roles, and collaborate effectively. The interplay of trust and employee engagement in the chemical industry serves as a catalyst for enhanced Organizational Citizenship Behavior, reflecting a holistic approach to cultivating a positive and productive work environment.

The research findings highlighting the positive relationship between trust, employee engagement, and Organizational Citizenship Behavior (OCB) among employees in a chemical manufacturing company hold significant contributions and implications for both academic and practical domains. Understanding that higher levels of trust and engagement lead to increased OCB underscores the importance of fostering a workplace culture that prioritizes these elements. The results contribute valuable insights for organizations in the chemical industry, shedding light on the key drivers that enhance employee commitment, collaboration, and voluntary contributions beyond formal roles. The implications extend to practical strategies that companies can adopt to improve trust and engagement, ultimately fostering a positive work environment that encourages OCB. These findings serve as a guide for industry practitioners, offering actionable insights to enhance organizational effectiveness, employee satisfaction, and overall success in the dynamic landscape of chemical manufacturing.

**Conclusion**

Drawing on the data analysis, this research concludes that the roles of trust and engagement have a positive and significant impact on Organizational Citizenship Behavior (OCB), both partially and simultaneously. Therefore, the better the trust and engagement of employees in a company, the greater the opportunity to enhance Organizational Citizenship Behavior (OCB) in the chemical manufacturing sector in Indonesia. This study implies that trust creates an environment where engagement can thrive, and high engagement can motivate OCB (Organizational Citizenship Behavior) actions. Practically, this research implies that corporate management plays a crucial role in building trust and managing employee engagement through effective strategies to generate an increase in Organizational Citizenship Behavior (OCB). However, this research has limitations, namely its focus on the chemical manufacturing sector in the city of Cilegon, Banten Province. Subsequent research could broaden the geographical scope to gain a more comprehensive understanding of the influence of trust and engagement on Organizational Citizenship Behavior (OCB). Additionally, future research could evaluate or add other variables that might enhance OCB in different companies and sectors.

**Authors’ Declaration**

The authors made substantial contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation and discussion of results. The authors read and approved the final manuscript.
References


Nuryanto & Pratiwi (The Role of Trust and Engagement on Organizational Citizenship Behavior...)


