

Competence, Qualifications and Employment Placement: Evidence From An Industrial City In Indonesia

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Abstract.

This study examines the effects of competence and qualifications on employment placement and investigates the mediating role of competitiveness in the context of Cilegon City, one of Indonesia's major industrial centers. Despite rapid industrial development, local workers continue to experience difficulties in securing employment, indicating a mismatch between labor market requirements and workforce characteristics. A quantitative approach was employed using a survey of 202 human resource personnel from 115 companies operating in Cilegon City. Data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM). The findings reveal that competence and qualifications have positive and significant effects on employment placement and competitiveness. However, competitiveness does not significantly affect employment placement and does not mediate the relationship between competence, qualifications, and employment placement. These findings suggest that recruitment and placement decisions in industrial labor markets tend to prioritize direct indicators of human capital, particularly competence and formal qualifications, rather than relative competitiveness among job seekers. The study contributes to the human resource management literature by providing evidence from an industrial city context and offers practical implications for workforce development policies and industry-oriented training programs.

Keywords: Competence, Qualifications, Employment Placement, Competitiveness and Industrial Labor Market.

I. INTRODUCTION

Unemployment remains one of the most persistent socio-economic challenges in developing countries, including Indonesia. Although economic growth and industrial expansion have generated significant employment opportunities, many regions continue to experience difficulties in matching labor supply with labor market demand. According to Badan Pusat Statistik (2026), the open unemployment rate in Cilegon City increased from 6.08% in 2024 to 7.41% in 2025, indicating that industrial expansion has not been fully accompanied by effective labor market absorption and workforce readiness. This condition has resulted in labor market mismatches, where available job opportunities cannot be optimally filled by local workers due to differences in competence, qualifications, and employment readiness.

Cilegon City presents an interesting context for examining this issue. As one of Indonesia's major industrial centers, Cilegon is home to large-scale steel, petrochemical, manufacturing, and energy industries that contribute significantly to regional economic growth. Despite the rapid industrial development and increasing labor demand, the absorption of local workers remains relatively limited. Many companies continue to recruit workers from outside the region because local job seekers are often perceived as lacking the competencies and qualifications required by industry. This phenomenon indicates a gap between the characteristics of the available workforce and the expectations of employers regarding employment readiness and job suitability.

Previous studies have consistently identified competence and qualifications as important determinants of employment outcomes. Competence, which encompasses knowledge, skills, and abilities, is considered an essential component of human capital that enhances individual productivity and employability. Similarly, qualifications, including formal education, professional certifications, and relevant training, serve as important signals of an individual's readiness to meet organizational requirements. However, empirical evidence suggests that competence and qualifications alone may not fully explain employment placement outcomes.

Another factor that has attracted considerable attention is competitiveness, which refers to an individual's ability to compete effectively in the labor market and demonstrate value relative to other candidates. Several studies have argued that competitiveness plays an important role in connecting individual

capabilities with employment outcomes. Nevertheless, empirical findings regarding the role of competitiveness remain inconclusive, particularly in industrial labor markets characterized by high technical requirements and intense competition among job seekers.

Therefore, examining the relationships among competence, qualifications, competitiveness, and employment placement in the context of an industrial city is important both theoretically and practically. Understanding these relationships is expected to provide valuable insights for policymakers, educational institutions, and industries in designing strategies to improve workforce quality and employment placement outcomes.

Despite continuous industrial growth and increasing labor demand in Cilegon City, the absorption of local workers remains relatively low, indicating persistent inefficiencies in employment placement. Previous studies have generally confirmed the importance of competence and qualifications in improving employability and labor market outcomes. However, most of these studies have focused on students, graduates, or job seekers and have rarely examined employment placement from the perspective of employers responsible for recruitment decisions.

Furthermore, the role of competitiveness as an intervening mechanism linking competence and qualifications to employment placement remains underexplored and has produced inconsistent findings. Some studies suggest that competitiveness significantly improves employment outcomes, whereas others indicate that direct indicators of human capital are more influential than relative competitiveness in determining employment placement.

These inconsistencies highlight the need for further empirical investigation, particularly in industrial labor markets where recruitment decisions tend to emphasize technical competence and formal qualifications. Therefore, this study seeks to examine the direct effects of competence and qualifications on employment placement and to investigate whether competitiveness functions as an intervening variable in the context of Cilegon City, Indonesia.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Competence and Employment Placement

Human Capital Theory posits that individuals who possess higher levels of knowledge, skills, and abilities tend to have better labor market outcomes because they are perceived as more productive and capable of meeting organizational requirements (Becker, 1993). In employment contexts, competence enables individuals to perform tasks effectively and adapt to workplace demands. Previous studies have consistently reported that competence positively influences employability and employment opportunities (Adegbite & Hoole, 2024; Andriansyah & Kamalia, 2021). Therefore, the following hypothesis is proposed:

H₁: Competence has a positive and significant effect on employment placement.

Qualifications and Employment Placement

Qualifications, including educational attainment, professional certifications, and training experiences, serve as important indicators of an individual's readiness to perform job-related tasks. Formal qualifications also function as signals that reduce information asymmetry during recruitment and selection processes. Empirical evidence suggests that individuals with higher qualifications have greater opportunities to secure suitable employment. Several empirical studies have demonstrated that educational attainment, professional certification, and participation in training programs significantly improve individuals' employability and employment outcomes (Adegbite & Hoole, 2024; Andriansyah & Kamalia, 2021). Therefore, the following hypothesis is proposed:

H₂: Qualifications have a positive and significant effect on employment placement.

Competence and Competitiveness

Individuals with strong competencies generally possess greater abilities to adapt, solve problems, and create value in the workplace. Such capabilities enhance their ability to compete with other candidates in the labor market. Previous studies have demonstrated that competence contributes positively to individual competitiveness and employability. Competence enables individuals to adapt to changing workplace demands and enhances their ability to create value and compete effectively in increasingly dynamic labor markets. These

findings indicate that individuals with higher levels of competence tend to possess greater adaptive capacity and are more capable of competing in increasingly dynamic labor markets (Adegbite & Hoole, 2024). Therefore, the following hypothesis is proposed:

H₃: Competence has a positive and significant effect on competitiveness.

Qualifications and Competitiveness

Educational achievements, professional certifications, and training experiences provide individuals with additional knowledge and credibility that improve their competitive position in the labor market. Higher qualifications increase an individual's ability to meet employers' expectations and respond to labor market requirements. Educational qualifications and professional certifications also function as important signals that strengthen individuals' competitiveness and perceived employability in the labor market (Andriansyah & Kamalia, 2021). Therefore, the following hypothesis is proposed:

H₄: Qualifications have a positive and significant effect on competitiveness.

Competitiveness and Employment Placement

Competitiveness reflects an individual's relative advantage in the labor market and may influence employment opportunities by differentiating one candidate from another. Individuals who are more competitive are generally expected to have greater opportunities to obtain employment. However, the extent to which competitiveness influences employment placement may vary across labor market contexts and industrial sectors. Therefore, the following hypothesis is proposed:

H₅: Competitiveness has a positive and significant effect on employment placement.

Mediating Role of Competitiveness

Competence and qualifications may indirectly influence employment placement through competitiveness in the labor market. Individuals with higher levels of competence, relevant skills, and appropriate qualifications are generally more competitive when applying for available positions. This competitiveness can improve their chances of being selected by employers, increasing employment opportunities and supporting better alignment between individual capabilities and organizational job requirements. Therefore, the following hypotheses are proposed:

H₆: Competitiveness mediates the effect of competence on employment placement.

H₇: Competitiveness mediates the effect of qualifications on employment placement.

III. METHOD

This study employed an explanatory quantitative research design to examine the causal relationships among competence, qualifications, competitiveness, and employment placement. A survey method was adopted to collect primary data using structured questionnaires administered to respondents. This approach is considered appropriate because it enables the testing of direct and indirect relationships among variables and facilitates the examination of the proposed mediation model.

Population and Sample

The population of this study consisted of large-scale companies operating in Cilegon City, Indonesia, one of the country's major industrial centers. A total of 156 companies were identified as the population frame. Purposive sampling was employed to select respondents, focusing on human resource (HR) personnel because they are directly involved in recruitment and employment placement decisions.

Data were successfully collected from 115 companies, resulting in 202 individual HR respondents. The sample size exceeds the minimum requirements for Partial Least Squares–Structural Equation Modeling (PLS-SEM) and is therefore considered adequate for testing the proposed research model according to Hair et al. (2022).

Data Collection

Primary data were collected using self-administered questionnaires distributed to human resource personnel of the sampled companies. The questionnaire consisted of closed-ended statements measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). To ensure content validity, the measurement instrument was developed based on established theories and previous empirical studies and was subsequently reviewed by experts in the field of human resource management.

Variables and Measurement

This study examined four latent variables. Competence (X1) was measured using indicators of knowledge, skills, and abilities. Qualifications (X2) were measured through educational attainment, professional certifications, and participation in training programs. Competitiveness (Z) was assessed through indicators related to the ability to compete, adaptability, and added value relative to other job seekers. Employment Placement (Y) was measured based on the degree of fit between job seekers' profiles and organizational requirements.

All indicators were operationalized into multiple questionnaire items and measured using a five-point Likert scale. Reliability was evaluated using Cronbach's Alpha and Composite Reliability (CR), while construct validity was assessed through the Average Variance Extracted (AVE).

Data Analysis Technique

Data were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS software to examine the relationships among competence, qualifications, competitiveness, and employment placement. This technique was selected because it supports predictive analysis and the examination of complex structural relationships, including mediation effects. The analysis began with an assessment of the measurement model to establish convergent validity, discriminant validity, and construct reliability. Subsequently, the structural model was evaluated using the coefficient of determination (R^2), path coefficients, t-statistics, and p-values obtained through the bootstrapping procedure to determine the significance of the hypothesized relationships. Mediation analysis was then conducted to assess the indirect effects of competence and qualifications on employment placement through competitiveness as an intervening variable. The study examined four main constructs: competence (X1), qualifications (X2), competitiveness (Z), and employment placement (Y). Competence was measured through knowledge, skills, and abilities, referring to Spencer and Spencer (1993). Qualifications included education level, professional certification, and training, based on Becker (1993) and Warsida (2023). Competitiveness encompassed the ability to compete, adaptability, and added value, referring to Porter (1990) and Warsida (2023). Employment placement was assessed through job-person fit and relevance to company requirements, drawing on Kristof-Brown et al. (2005).

IV. RESEARCH RESULTS AND DISCUSSION

Model Fit and Explanatory Power

The results of the PLS-SEM analysis indicate that the proposed model demonstrates satisfactory explanatory power. The coefficient of determination (R^2) for Competitiveness is 0.667, indicating that Competence and Qualifications jointly explain 66.7% of the variance in Competitiveness. Meanwhile, the R^2 value for Employment Placement is 0.486, suggesting that Competence, Qualifications, and Competitiveness collectively explain 48.6% of the variance in Employment Placement.

According to Hair et al. (2022), R^2 values of 0.75, 0.50, and 0.25 can be described as substantial, moderate, and weak, respectively. Therefore, the explanatory power of the proposed model can be considered moderate to substantial.

Measurement Model Evaluation

Validity and Reliability

The assessment of the measurement model indicates that all constructs satisfy the recommended reliability and validity criteria. The Cronbach's Alpha and Composite Reliability (CR) values for all constructs exceed the threshold value of 0.70, confirming adequate internal consistency reliability.

Furthermore, all Average Variance Extracted (AVE) values are above 0.50, indicating satisfactory convergent validity. These results suggest that all measurement indicators adequately represent their respective constructs.

Table 1. Construct Reliability and Validity

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
Competence (X1)	0.882	0.913	0.639

Qualifications (X2)	0.864	0.902	0.606
Competitiveness (Z)	0.879	0.913	0.636
Employment Placement (Y)	0.884	0.917	0.650

Discriminant Validity

Discriminant validity was assessed using the Fornell-Larcker criterion. This assessment was also conducted in accordance with the recommendations of Henseler et al. (2015) regarding discriminant validity evaluation in PLS-SEM. As presented in Table 3, the square roots of the AVE values for each construct are greater than the correlations with other constructs. This finding indicates that each construct is empirically distinct and demonstrates satisfactory discriminant validity.

Table 2. Fornell–Larcker Criterion

Construct	Competence	Qualifications	Competitiveness	Employment Placement
Competence	0.799			
Qualifications	0.621	0.779		
Competitiveness	0.726	0.680	0.797	
Employment Placement	0.682	0.644	0.589	0.806

Structural Model Assessment

Path Coefficients

The structural model assessment reveals that Competence has a positive and significant effect on Employment Placement ($\beta = 0.332$; $p = 0.007$), supporting H₁. Similarly, Qualifications positively and significantly influence Employment Placement ($\beta = 0.326$; $p = 0.001$), supporting H₂. Furthermore, Competence positively affects Competitiveness ($\beta = 0.544$; $p < 0.001$), and Qualifications also have a positive and significant effect on Competitiveness ($\beta = 0.325$; $p < 0.001$), supporting H₃ and H₄.

However, Competitiveness does not significantly affect Employment Placement ($\beta = 0.098$; $p = 0.358$), resulting in the rejection of H₅. Consequently, the indirect effects of Competence and Qualifications on Employment Placement through Competitiveness are not significant, indicating that H₆ and H₇ are not supported.

Table 3. Results of Hypothesis Testing

Hypothesis	Path	β (Coefficient)	t-value	p-value	Result
H ₁	Competence → Employment Placement	0.332	2.715	0.007	Supported
H ₂	Qualifications → Employment Placement	0.326	3.386	0.001	Supported
H ₃	Competence → Competitiveness	0.544	9.204	0.000	Supported
H ₄	Qualifications → Competitiveness	0.325	5.765	0.000	Supported
H ₅	Competitiveness → Employment Placement	0.098	0.919	0.358	Not Supported
H ₆	Competence → Competitiveness → Employment Placement	0.053	0.919	0.358	Not Supported
H ₇	Qualifications → Competitiveness → Employment Placement	0.032	0.868	0.385	Not Supported

Discussion

This discussion outlines the relationships among competence, qualifications, competitiveness, and job placement within the context of the industrial labor market in Cilegon City. Seven hypotheses are examined based on human capital and job fit theories, with findings compared against existing literature. The analysis focuses on the significance of the findings, the characteristics of industrial labor demand, and the implications for enhancing job placement opportunities.

1. The Effect of Competence On Employment Placement (H₁)

The findings indicate that competence has a positive and significant effect on employment placement, supporting H₁. This result suggests that individuals with stronger technical knowledge, practical skills, and

work-related abilities have greater opportunities to obtain appropriate employment. Becker's (1993) Human Capital Theory explains that competence represents an investment in human capital that enhances productivity and improves labor market outcomes. Similarly, Kristof-Brown et al. (2005) emphasize the importance of compatibility between individual capabilities and job requirements in organizational recruitment decisions.

In Cilegon City, where industrial activities require specialized technical capabilities, competence is particularly important for matching job seekers with available positions. Employers in manufacturing and other industrial sectors generally require workers who can perform operational tasks, follow safety procedures, and adapt to workplace technologies. Consequently, competence may directly influence recruitment and placement decisions. These findings highlight the importance of vocational training, practical experience, and competency certification in preparing job seekers for industrial employment. Strengthening these aspects can help reduce mismatches between workforce capabilities and industry requirements.

2. The Effect of Qualifications on Employment Placement (H₂)

The findings demonstrate that qualifications have a positive and significant effect on employment placement, supporting H₂. This result indicates that educational attainment, professional certifications, and other recognized credentials contribute to individuals' opportunities to secure employment. According to Becker (1993), education and training represent investments that improve individuals' productive capacities and economic prospects. Qualifications also provide employers with relatively standardized information for assessing candidates' preparedness for particular positions.

This finding is consistent with the person-job fit perspective discussed by Kristof-Brown et al. (2005), which emphasizes the alignment between individual attributes and job requirements. In Cilegon City, industrial employers may establish minimum educational and certification requirements for technical, administrative, and supervisory positions. Such requirements help organizations assess whether applicants possess the necessary foundational knowledge before entering the workplace. Nevertheless, qualifications should be accompanied by practical competence to ensure that workers can perform effectively. The findings therefore emphasize the importance of aligning educational programs, professional certification, and industry requirements to improve employment placement opportunities.

3. The Effect of Competence on Competitiveness (H₃)

The results reveal that competence has a positive and significant effect on competitiveness, supporting H₃. Individuals who possess relevant knowledge, technical skills, problem-solving abilities, and adaptability are generally better equipped to compete in the labor market. These attributes allow job seekers to demonstrate their readiness to respond to organizational demands and changing industrial conditions. Becker's (1993) Human Capital Theory provides a theoretical explanation because investments in knowledge and skills can enhance individual productivity and economic value.

This finding also corresponds with the person-job fit perspective of Kristof-Brown et al. (2005), particularly the relevance of individual capabilities to workplace expectations. In industrial labor markets, competence can distinguish candidates who possess practical experience and specialized skills from those whose preparation is primarily theoretical. For example, familiarity with industrial equipment, workplace safety, and production procedures may strengthen an applicant's competitive position. The results suggest that competency development remains an important strategy for improving workforce competitiveness. Training institutions and employment agencies should therefore prioritize practical learning, technical certification, and continuous skills development to prepare workers for increasingly demanding industrial environments.

4. The Effect of Qualifications on Competitiveness (H₄)

The findings indicate that qualifications have a positive and significant effect on competitiveness, supporting H₄. Educational attainment and professional credentials can strengthen an individual's position in the labor market by demonstrating relevant knowledge and formal preparation. From the perspective of Human Capital Theory, Becker (1993) explains that education and training can increase productivity and improve individuals' economic opportunities. Qualifications may consequently help job seekers satisfy employer expectations and distinguish themselves from other applicants.

This result is relevant to Cilegon City, where industrial organizations may require specific educational backgrounds and professional certifications for different occupational categories. Applicants whose

qualifications correspond to industry standards may have access to a wider range of employment opportunities and demonstrate greater readiness for particular positions. Nevertheless, qualifications alone do not automatically establish superior performance because practical experience and technical competence remain important. The findings imply that educational institutions should align curricula and certification programs with changing industrial requirements. By integrating formal qualifications with practical training, workforce preparation initiatives can strengthen individual competitiveness and improve the relevance of available labor to the needs of local industries.

5. The Effect of Competitiveness on Employment Placement (H_5)

Contrary to the expected relationship, the findings indicate that competitiveness does not have a positive and significant effect on employment placement; therefore, H_5 is not supported. This result suggests that possessing a competitive position in the labor market does not necessarily translate into successful employment placement. Although competitiveness may reflect an individual's perceived value relative to other applicants, employers may rely more heavily on specific job requirements when making recruitment decisions.

This finding provides a different perspective from employability literature, which commonly associates individual capabilities and labor market adaptability with improved employment prospects. Fugate et al. (2004), for example, conceptualize employability as a combination of personal adaptability, career identity, and social and human capital that supports individuals in navigating changing employment conditions. However, employability and competitiveness are not necessarily identical to actual placement outcomes. In Cilegon City, recruitment may depend on vacancies, technical requirements, certification, and organizational selection procedures. Thus, competitiveness may help candidates prepare for recruitment without independently determining the final outcome. Employment placement strategies should therefore connect workforce development with actual employer requirements and available vacancies.

6. The Mediating Role of Competitiveness in the Effect of Competence on Employment Placement (H_6)

The findings indicate that competitiveness does not mediate the relationship between competence and employment placement; consequently, H_6 is not supported. Although competence positively and significantly influences competitiveness, the indirect pathway through competitiveness does not establish a significant relationship with employment placement. This result suggests that the contribution of competence to placement cannot be explained through competitiveness as an intervening mechanism in the examined context.

The result can be interpreted through Becker's (1993) Human Capital Theory, which emphasizes the productive value of knowledge and skills. Competence may contribute directly to placement because employers assess applicants' abilities against occupational requirements. Kristof-Brown et al. (2005) similarly highlight the relevance of matching individual attributes with job demands. In industrial recruitment, demonstrated technical skills and practical capabilities may provide more immediate evidence of suitability than general assessments of competitiveness. Therefore, competency development should prioritize job-specific training, practical assessments, and recognized certification. These measures can help ensure that acquired capabilities correspond directly to the requirements of available positions, while competitiveness remains a supporting rather than decisive factor in employment placement.

7. The Mediating Role of Competitiveness in the Effect of Qualifications on Employment Placement (H_7)

The findings show that competitiveness does not mediate the relationship between qualifications and employment placement; therefore, H_7 is not supported. Although qualifications positively and significantly influence competitiveness, the indirect effect on employment placement through competitiveness is not significant. This indicates that the benefits of formal qualifications may operate independently of the proposed mediating mechanism in the context examined.

Becker's (1993) Human Capital Theory suggests that education and training can improve employment prospects by strengthening individuals' productive capacities. Meanwhile, Kristof-Brown et al. (2005) explain that the alignment between individual attributes and job requirements is relevant to organizational decisions. In Cilegon City, employers may evaluate qualifications directly against minimum educational standards, technical certifications, and occupational requirements. Consequently, qualifications may support placement without requiring competitiveness to function as an intermediary. This finding emphasizes the importance of connecting educational credentials with the actual needs of industrial employers. Educational institutions,

certification bodies, and employment services should coordinate qualification standards with recruitment requirements so that formal credentials translate more effectively into appropriate employment opportunities.

V. CONCLUSION

This study examines the effects of competence and qualifications on employment placement, with competitiveness considered as an intervening variable, in the context of an industrial city. The findings demonstrate that competence and qualifications have positive and significant effects on employment placement, indicating that these two factors play an important role in determining successful employment outcomes. Furthermore, competence and qualifications significantly influence competitiveness, suggesting that individuals with stronger capabilities and credentials tend to possess higher levels of competitiveness in the labor market.

However, the study also reveals that competitiveness does not significantly affect employment placement and does not mediate the relationship between competence, qualifications, and employment placement. These findings suggest that employment placement decisions in industrial contexts are primarily driven by direct indicators of human capital, particularly competence and formal qualifications, rather than by relative competitiveness among job seekers.

Theoretically, this study contributes to the human resource management literature by providing empirical evidence that the mediating role of competitiveness may be limited in industrial labor markets. Practically, the findings imply that workforce development policies should prioritize the enhancement of competencies, professional qualifications, and industry-oriented training programs to improve employment placement outcomes.

This study is limited to companies operating in Cilegon City and focuses on the perspective of human resource personnel. Future studies may expand the geographical scope, incorporate additional variables related to employability and labor market dynamics, and compare findings across different industrial sectors and regions. The findings of this study are expected to support evidence-based workforce development policies and strengthen the link and match between labor supply and industrial demand in Indonesia.

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