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ACADEMIC, PERSONAL AND INSTITUTIONAL PREDICTORS OF JOB READINESS : AN INSIGHT FROM RECENT COHORT UNIVERSITY GRADUATES

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ABSTRACT

The research seeks to explain the impact of academic achievements, personal competencies, institutional features, teaching and learning method and personal development on graduates' job readiness under the current economic situation. The dramatic changes in unemployment of youth (under 24 of age) started a new debate on the relevance and acquisition of employer-specific skills and competencies obtained from higher education institutions. Following the quantitative approach, data from 611 students who graduated in 2020 and surveyed in 2022 from a public university located in the West Java province of Indonesia, structural equation modeling (SEM) technique, the study evaluates the role and relevance of different skills and competencies obtained from a higher education institution for seeking formal employment. The findings indicate that academic achievements, personal competencies, institutional features and learning and teaching are significant whereas personal development are insignificant contributors to graduates' job readiness. The results also confirm a significant positive moderating impact of financial support in improving academic achievements, personal competencies and teaching and learning of graduates seeking formal employment. Similarly, the moderating results of job market conditions highlighted as one of the key contributors to pushing graduates to focus on academic excellence, personal competencies and development.

Keywords: Graduate employment, Higher education institution, Job competencies, Education policies, Academic excellence

ABSTRAK

Penelitian ini bertujuan menjelaskan pengaruh capaian akademik, kompetensi pribadi, karakteristik institusi, metode pengajaran dan pembelajaran, serta pengembangan diri terhadap kesiapan kerja lulusan dalam situasi ekonomi saat ini. Perubahan drastis pada tingkat pengangguran pemuda (di bawah usia 24 tahun) telah memicu perdebatan baru mengenai relevansi keterampilan yang diperoleh serta kompetensi spesifik yang dibutuhkan oleh pemberi kerja melalui institusi pendidikan tinggi. Dengan menggunakan pendekatan kuantitatif, penelitian ini menganalisis data dari 611 mahasiswa yang lulus pada tahun 2020 dan disurvei pada 2022 dari sebuah universitas negeri di Provinsi Jawa Barat, Indonesia. Melalui teknik structural equation modeling (SEM), penelitian ini mengevaluasi peran dan relevansi berbagai keterampilan serta kompetensi yang diperoleh dari institusi pendidikan tinggi dalam memperoleh pekerjaan formal. Hasil penelitian menunjukkan bahwa capaian akademik, kompetensi pribadi, karakteristik institusi, serta proses pengajaran dan pembelajaran berpengaruh signifikan terhadap kesiapan kerja lulusan, sedangkan pengembangan diri tidak berpengaruh signifikan. Selain itu, dukungan finansial terbukti memiliki dampak moderasi positif dalam meningkatkan capaian akademik, kompetensi pribadi, dan

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kualitas pengajaran lulusan pencari kerja formal. Kondisi pasar kerja juga menjadi moderator yang mendorong lulusan lebih fokus pada keunggulan akademik, kompetensi pribadi, dan pengembangan diri.

Kata kunci: ketenagakerjaan lulusan, institusi Pendidikan tinggi, kompetensi kerja, keuanggulan akademik

INTRODUCTION

Higher education institutions (HEIs) and their policies are keys to achieving the targets of 'Agenda 2030' and accelerating the economic expansion of modern knowledge economies (Ul Hassan et al., 2025). However, a worldwide increase of 13% in the unemployment rate of graduates (under the age of 24 years) started raising serious concerns about the effectiveness of educational policies and HEIs' contribution to global and national development goals (ILO, 2024). This represents a weak alignment of HEIs' policies with the dynamic skill and knowledge requirements of both students and employers. The desired competencies among fresh graduates and acquired skills and knowledge gaps persist due to differences in the perception of education excellence (Lee et al., 1995). Besides traditional academic knowledge and personal skills, modern job industries require university graduates to exhibit innovative and creative competencies to fulfill the needs of a high-technology business environment (Wahab et al., 2025). Whereas, excellence in HEIs refers to academic achievements, employability and employment rate of graduates (Cranmer, 2006; Wiśniewska and Grudowski, 2024). Hence, there is a need to evaluate whether existing academic excellence policies of HEIs align with the diverging requirements of the job industry and prepare graduates for employment.

There are three evolving research themes in the literature covering the impact of HEIs on graduate employment. The first stream is concentrated on the studies discussing the key ingredients and policy recommendations to improve education infrastructure for HEIs located in underdeveloped Asian and African regimes. These thematic studies emphasized HEIs to invest in quality education, collaborate with regional education providers for benchmarking their quality and appoint visionary leadership at key academic positions (Altbach and Salmi, 2011; Hou et al., 2023; Qazi and Al-Mhdawi, 2025). The second stream assesses the performance of HEIs using the United Nations Educational, Scientific and Cultural Organization (UNESCO) and Organisation for Economic Co-operation and Development (OECD) excellence

indicators and interesting theoretical models. Several policy documents and empirical studies acknowledged the contributions of HEIs to the economic and social developments of developing territories by reducing unemployment among younger generations (Ab Hamid, 2015; Chusniyah et al., 2025; Owens, 2017; UNSECO, 2025). Others criticized HEIs for their poor tertiary education system and failure to fully meet the human capital development requirements of modern economies (Chemli et al., 2024; Shyiramunda and van den Bersselaar, 2024).

The third stream highlights the desired skills and knowledge by graduates and their prospective employers and evaluates the readiness of HEIs to offer these competencies. The findings of various studies claimed that existing business conditions and changing economic and political ecosystems of firms have transformed the hiring requirements of employees and increased the demand for hands-on skill, innovation and creative education and consistent financial support among graduate students (Demissie et al., 2021; Didier, 2024; Merie et al., 2022). Taking together, the arguments related to the changes in candidate's competency requirements in the job industry, it is essential to evaluate whether HEIs have geared up to accommodate these changes by decoding graduates' perception of desired skills and knowledge and tracing employment rate after graduation.

Our investigations are extended to Indonesia due to its complex employment landscape marked by persistent youth unemployment and a prominent mismatch between educational outcomes and labor market demand (Suharno et al., 2025). Although the national unemployment rate edged down to 4.76%, the unemployment of youth (between 15-24 years of age) continues to rise by 16.6% and many graduates are forced to seek informal jobs (BPS, 2025). Notably, vocational high school (SMK) graduates have the highest unemployment rate among educational groups (Huruta, 2024). This employment challenge is further compounded by competency requirements and developed skills and knowledge mismatch of graduates. Approximately 46% of companies in Indonesia report difficulties in finding suitable candidates, despite the high number of job seekers. Employers cite deficiencies in both technical and soft skills among applicants (Wardiyanto et al., 2025). This gap underscores the need for educational institutions to realign curricula with industry needs, emphasizing not only theoretical knowledge but also practical skills and competencies.

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Research Hypothesis

Unemployment affects all societal stakeholders including individuals, families, businesses and economies. The common consequences of a high unemployment rate in a country fuel economic and financial difficulties of households, families, individuals and societies (Chan and Tweedie, 2015). It is often characterized by poor financial and psychological health and people suffering from unemployment find themselves stranded in a vicious cycle often difficult to escape unless serious measures are taken to prevent it (Nunley et al., 2016; Taye, 2013). The firms operating in a highly unemployed consumer market may experience profitability, growth and capital acquisition challenges due to lack of demand and low purchasing power. The lack of immediate and effective interventions suppresses economic growth in countries suffering from high unemployment, reduces consumer spending and eventually leads to recession (Gousia et al., 2021).

Increasing unemployment among graduates features HEIs as the least contributing sector of the economy. ILO (2020) recently acknowledged graduate unemployment as a global problem and warned jurisdictions to take serious steps to resolve this issue. Although a few developing countries have stabilized their unemployment rate through unconventional policies, the employment of people under 24 years of age continues to rise indicating a slow progress for more than a decade now (ILO, 2024). A few seminal studies recommended employing collective efforts and sharing the graduate unemployment burden between countries and businesses (Justesen and Verner, 2007). The critics argue that developing countries predominantly facing demographic, social, economic and financial inequalities may not benefit from these policies (Mok et al., 2022). In fact, pushing the graduate unemployment burden to these jurisdictions may further escalate gender inequalities, low self-esteem and financial difficulties for businesses (Suharno et al., 2025; Yoana et al., 2024). This discussion further underscores the role of HEIs in reducing graduate unemployment by promoting human capital development. On the other hand, demographic characteristics, academic achievements of graduates, institutional features, course curriculum, teaching and learning methods and economic and labor market conditions are equally influential in reducing graduates' unemployment (Demissie et al., 2022).

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Following the rapid expansion of HEIs in Indonesia, enhancing graduates' employability has become their top priority (Sikki, 2024). However, the unemployment statistics in Indonesia and a growing trend among Indonesian youth to seek opportunities abroad, a phenomena encapsulated by the viral hashtag #KaburAjaDulu ("just flee first") (Lane, 2025). This movement reflects a broader sense of disillusionment with domestic employment prospects and a desire for better opportunities abroad. In this context, tracer study serves as a vital tool for assessing the effectiveness of HEIs in preparing graduates for employment. By analyzing the employment outcomes and skill relevance of graduates, HEIs may identify areas for improvement and align their curriculum with the evolving demands of the labor market. Accordingly, this study focuses on the cohort of public HEIs in Indonesia, aiming to provide insights into graduate employability and strategies for enhancing educational quality and relevance.

The conceptual framework of this study (Figure 1) is designed following the underpinnings of work integrated learning (WIL) framework. Schneider (an American scholar) promoted WIL to emphasize the integration of work experience with academic studies to prepare university students for employability (Sovilla and Varty, 2023). Later on, different scholars expanded WIL to familiarize students with innovation, creativity, critical thinking, and technological developments undertaking tertiary education (Ferns et al., 2019). The conceptual flexibility of WIL allows the integration of various factors with academic studies to prepare university graduates for future employment. Since the present study aims to evaluate different indicators contributing to graduates' job readiness hence, the use of WIL in developing our theoretical model is a valid approach. Several contextual studies have followed similar approaches for understanding the factors shaping graduates' job readiness (Behle, 2020; Cai, 2013; Kennedy et al., 2015; Wilson, 2012).

Figure 1. Conceptual framework

The fundamentals of WIL assert that graduates seeking formal employment in private and public sector firms require proper skill, knowledge and personal planning (Ferns et al., 2019). Besides achieving excellent academic grades, employers expect fresh graduates to demonstrate and prove exceptional competencies in creative thinking, teamwork, decision-making, negotiation, communication and information technology

skills (Chemli et al., 2024; Jung et al., 2024). Recent studies have also highlighted that exhibiting strong personal competencies and academic achievements increases the employability of university students (Doskeyeva et al., 2024). Accordingly, HEIs through their institutional policies and teaching and learning approaches remain a cornerstone of human capital development in a country. The extant literature confirmed that graduates of HEIs with advanced study programs, blended course curriculum, opportunity to attend workshops and the use of novel information and communications technology (ICT) tools and commonly understandable language are better equipped with academic and personal competencies and personal development (Ab Hamid, 2015; Kibona, 2024). This discussion leads us to propose the following research hypotheses;

H1: Academic achievements have a significant impact on the job readiness of graduates.

H2: Personal competencies have a significant impact on the job readiness of graduates.

H3: Institutional features have a significant impact on the job readiness of graduates.

H4: Teaching and learning have a significant impact on the job readiness of graduates.

H5: Personal development has a significant impact on the job readiness of graduates.

The proponents of WIL argued that internal policies of HEIs such as financial support significantly drive academic and personal competencies which eventually improves graduates' job readiness (Ferns et al., 2019). Recent studies highlighted that educational and merit scholarship awards to students from economically suppressed and disadvantaged regions take away the financial burden and motivate them to focus on developing academic knowledge and personal competencies (Merie et al., 2022; Mekonnen Yimer et al., 2024). Public institutions offering financial support endeavors align their national curriculum following global educational trends of offering high-quality teaching and learning outlined by UNESCO and OECD (Demissie et al., 2021). Hence, the following research hypotheses are proposed;

H6: Financial support moderates the relationship between academic achievements and the job readiness of graduates.

H7: Financial support moderates the relationship between personal competencies and the job readiness of graduates.

H8: Financial support moderates the relationship between institutional features and the job readiness of graduates.

H9: Financial support moderates the relationship between teaching and learning and the job readiness of graduates.

H10: Financial support moderates the relationship between personal development and the job readiness of graduates.

WIL framework asserts that future employability and job readiness hinge on various internal and external factors. The dynamic business landscape of the firms pushes them to gain a competitive advantage by achieving economies of scale. This has become an ultimate goal of many modern-day firms which requires the acquisition of a strategic workforce with proper skills, knowledge and competencies (Wahab et al., 2025). The propensity of employers to recruit a highly skilled workforce increases competition in the job market and pushes university graduates and their education providers to exhibit a range of academic and interpersonal skills and competencies (Cranmer, 2006; Wiśniewska and Grudowski, 2024). This argument leads us to postulate the following research hypotheses;

H11: Job market conditions moderate the relationship between academic achievements and job readiness of graduates.

H12: Job market conditions moderate the relationship between personal competencies and job readiness of graduates.

H13: Job market conditions moderate the relationship between institutional features and job readiness of graduates.

H14: Job market conditions moderate the relationship between teaching and learning and job readiness of graduates.

H15: Job market conditions moderate the relationship between personal development and job readiness of graduates.

RESEARCH METHOD

Method is a method of work that can be used to obtain something. While the research method can be interpreted as a work procedure in the research process, both in searching for data or disclosing existing phenomena (Zulkarnaen, W., et al., 2020:229). The research performed by sampling the alumni who graduated in the 2020 cohort from a public higher education institution located in West Java City (Bandung) in Indonesia. Institutional and respondents' identities are kept anonymous due to confidentiality and privacy policies. We applied two main criteria while selecting potential respondents for

this study. First, the participants were under 24 years of age at the time of graduation, and are already employed and pursuing professional and entrepreneurial careers in different (private and public) firms across Indonesia. Second, targeted participants included both self-funded and Bidikmisi (external scholarship funding for economically disadvantaged students) recipients. The sampling of respondents based on these criteria allowed us to evaluate the factors essential for seeking employment after graduation and decoding how HEIs have contributed to developing the desired competencies among graduates currently employed at professional and entrepreneurial positions in local companies. The selection of an indicative population was a crucial phase to successfully achieve the objectives of this study.

We designed a self-administered survey questionnaire to evaluate the skills and competencies essential for seeking employment among the graduates of HEIs. We conducted a focused literature review discussing the competencies required for seeking employment in firms operating in a highly competitive business environment (Jung et al., 2024; Kibona, 2024). The shortlisted items were carefully screened and reviewed before importing into the survey questionnaire. The finalized survey included academic achievements and personal competencies, institutional features, teaching and learning, personal development, financial support and job market conditions indicators, categorized as the factors shaping job readiness among graduates of HEIs (Demissie et al., 2021; Didier, 2024; Merie et al., 2022). The questionnaire was pretested by consulting with academics and industry professionals who had relevant expertise. This strategy was effective in removing complex and irrelevant items from the questionnaire. The finalized items were valid as they were taken from notable studies and had passed expert evaluation. These key items are synchronized accordingly to ensure that the conceptual framework appears as a reflective construct.

The respondents were approached to seek their written informed consent before engaging them in this study. The content of the questionnaire is covered in two sections. Section A covers respondents' demographic information such as employment status, time duration to secure a job offer, time to employment, job relevance and funding and support. The main content evaluating the competencies essential for seeking employment is covered in section B. We used 40 items to explore graduates' perspectives on the role of HEIs' educational policies including teaching and learning in

developing desired competencies essential for obtaining jobs in popular Indonesian companies. The discussion presented in the literature review highlighted that employers of firms operating a highly competitive high-performance business environment prefer recruiting candidates who demonstrate diverging skills, knowledge and competencies. Accordingly, the role of HEIs in preparing graduates for job readiness (JR) through academic achievements (AA), personal competencies (PC), institutional features (IF), teaching and learning (TL), personal development (PD), financial support (FS) and job market conditions (JMC) are evaluated by importing and modifying items from earlier studies of Demissie et al. (2021), Doskeyeva et al. (2024), Hosain et al. (2023), Graham and Mlatsheni (2015) and Ismail (2011) and Jung et al. (2024). To capture responses to each item, respondents were provided a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The survey was conducted between year 2021 through alumni institutional e-mails. Initially, 618 surveys were distributed and we obtained a 100% response rate as all the respondents returned the completed surveys. During the data preparation, we excluded 7 surveys due to missing information leaving us with 611 valid surveys. The response rate of our survey indicated approximately 86 respondents to measure each item exceeding the recommended threshold of cases and verifying the validity of cases (Hair et al., 2017). The demographic profiles of the respondents are presented in Table 1.

Table 1. Demographic profiles of respondents

The dearth of studies in the context allowed us to classify this study as explorative research focused on investigating the role of HEIs in developing desired skills and competencies among university graduates seeking employment. The analytical framework is tested using the partial least squares (PLS) technique due to its accuracy in estimating the predictability of exogenous variables. The empirical literature is yet to investigate these hypothetical assumptions inferring that our empirical assumptions are relevant which validates the use of the PLS technique to analyze our research data. The model estimation was performed in two phases using Henseler et al.'s (2014) procedures.

RESULTS AND DISCUSSION

Results

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The first phase of analysis estimates the validity and reliability of the measurement model. The validity of the measurement model was checked. The quality of the structural model was checked following Hair et al. (2017) procedures. Generally, the quality of the measurement model is indicated by three key matrices known as general (Chi-square statistic, RMSEA, SRMR), incremental (e.g., CFI, TLI, NFI), and parsimonious (X^2/DF) fitness. The results of the measurement model's quality (Table 2) confirmed that our measurement model was adequate and fit well with the data. The results of measurement indices also highlighted that the incorporation of new variables and the removal of less contributing variables may enhance the quality of the measurement model.

Table 2. Model goodness-of-fit test

The validity measurement model is estimated by analyzing the coefficient values of scale composite reliability (SCR), Cronbach's alpha, and average variance extracted (AVE). The findings of the measurement model's quality are presented in Table 3. It is observed that SCR and Cronbach's alpha coefficients are greater (>) than the established criteria (0.70) for all the constructs (Hair et al., 2017). It is confirmed that the measurement model is reliable and the latent constructs explain at least 50% variance in the items.

Table 3. The reliability statistics of items and factor loadings

The correlation between latent variables is estimated by performing the Pearson correlation test. The results of the correlation matrix (Table 4) indicate that the values of AVE coefficients are greater (>) than the correlation coefficients establishing that the measurement model's discriminant validity is satisfactory.

Table 4. Correlation matrix

The survey-based studies may exhibit common method biasness (CMB) issues which are generally addressed by using several items to measure each construct (Kock, 2015). The CMB issues in this study are handled by following Kock's (2015) technique. The respondents are requested to fill out the questionnaire according to the formally established JR policies (required skills, knowledge and competencies) of their companies instead of using personal experiences while applying for the jobs. Next, we estimated CMB by performing Harman's single-factor test and evaluated the results.

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The statistical results presented in Table 5 render that the single factor's maximum covariance was 42.83% confirming this study does not suffer from CMB issues.

Table 5. Results of Harman's single factor.

The endogeneity of the exogenous variables is another major concern in empirical studies. To address this issue, we referred to the literature review and conceptualized JR as an exogenous variable and assumed that academic achievements, personal competencies, institutional features, teaching and learning, personal development, financial support and job market conditions are indicators of JR and endogenous variables indicating that endogeneities will not affect our findings. Additionally, the Durbin-Wu-Hausman test was performed by regressing these indicators with JR, and then their residuals were used as the regressions to verify the hypothetical linkage. The results of parameter estimates were statistically insignificant confirming that our conceptual underpinnings are valid as academic achievements, personal competencies, institutional features, teaching and learning, personal development, financial support and job market conditions were not endogenous to JR.

To test the research hypotheses, we estimated the standard errors and the significance levels of the latent constructs following the PLS-based bootstrapping approach. This technique is useful in measuring the parameter estimates and effective in assuming multivariate' normal distribution (Hensler et al., 2014). The results of PLS output are obtained using WarPLS 7.0 (Figure 2) showing that R2 = 0.488 establishing that AA, PC, IF, TL, PD, FS and JMC are explaining a significant variance in JR. The hypothetical relationship between latent variables is analyzed by reviewing the coefficient of standardized β and significance (ρ) level. PLS estimates for H1 (AA → JR) indicate that it is accepted (β = 0.321; ρ = < 0.01). Similarly, H2 (PC → JR) was also supported (β = 0.213; ρ = < 0.001). Also, H3 (IF → JR) represented a significant positive effect leading to establish that it was supported (β = 0.168; ρ = < 0.01). The results of H4 (TL → JR) indicated a significant positive effect hence, it was accepted (β = 0.262; ρ = < 0.01). The results of H5 (PD → JR) confirmed that it was not supported (β = 0.076; ρ = > 0.01).

The hypotheses (H6, H7, H8, H9 and H10) related to moderating impact of FS indicated that it has a significant positive impact on AA/JR (β = 0.142; ρ = < 0.01), PC/JR (β = 0.167; ρ = < 0.01) and TL/JR (β = 0.192; ρ = < 0.01) whereas and an

insignificant positive impact on IF/JR (β = 0.041; ρ = > 0.01) and PD/JR (β = 0.078; ρ = > 0.01). Similarly, the hypotheses (H11, H12, H13, H14 and H15) related to moderating impact of JMC indicated that it has a significant positive impact on AA/JR (β = 0.116; ρ = < 0.01), PC/JR (β = 0.140; ρ = < 0.01) and PD/JR (β = 0.209; ρ = < 0.01) whereas and an insignificant positive impact on IF/JR (β = 0.085; ρ = > 0.01) and TL/JR (β = 0.069; ρ = > 0.01).

Figure 2. PLS estimates

Further, PLS path coefficients are obtained by running 500 bootstrapping to analyze standardized β and their ρ-values (Table 6).

Table 6. Results of structural paths

The results of path coefficients (Table 6) confirmed that academic achievements, personal competencies, institutional features, teaching and learning, personal development, financial support and job market conditions are the job readiness indicators for graduates seeking formal employment in Indonesia. Our findings validate the results of seminal and novel studies discussing the major factors contributing to the employability of recent university graduates (Behle, 2020; Cai, 2013; Chemli et al., 2024; Ferns et al., 2019; Jung et al., 2024; Kennedy et al., 2015; Wilson, 2012).

Discussion

Particularly, the findings of H1 (AA → JR) indicate that academic achievements are one of the key factors of job readiness of university graduates. This result extends the findings of Ab Hamid (2015), Demissie et al. (2021), Doskeyeva et al. (2024) and Merie et al. (2022) highlighted the role of HEIs in fostering academic knowledge of students by classifying them into different grade point averages (GPAs) and timely completion of their studies. This result is logical as the higher academic performers are still considered the right candidates in many traditional corporations. H2 (PC → JR) results highlight that personal competencies are also basic prerequisites to prepare graduates for employment. This finding confirms the claims of recent empirical studies (Chemli et al., 2024; Jung et al., 2024; Kibona, 2024; Wahab et al., 2025) emphasizing that university graduates with exceptional and proven competencies in creative thinking, teamwork, critical and analytical thinking, negotiation, decision making, soft skills, and communication and information technology skills are preferred by the employers hunting young and talented workforce. Similarly, H3 (IF → JR) results indicate the

influence of institutional features in preparing graduates for future employment. This finding is consistent with Cranmer's (2006) Wiśniewska and Grudowski's (2024) studies resonated that HEIs need to rebrand their education policies, study programs and course curriculums to fulfill UNESCO and OECD's tracer study requirements of bridging the skills and competencies mismatch between job industry and HEIs (Lee et al., 1995).

The results of H4 (TL → JR) elucidate that teaching, learning and evaluation methods of HEIs are the predictors of job readiness of graduates. This finding is consistent with Chusniyah et al. (2025), Qazi and Al-Mhdawi (2025), Ul Hassan et al. (2025) and UNESCO (2025) studies proposed actionable strategies for HEIs striving to look to legitimatize their sustainable role by overcoming youth unemployment issues in developing economies. These theoretical and empirical studies recommended HEIs to apply WIL approaches such as research projects, internships, field works, class discussions, and brainstorming sessions while teaching, evaluating and developing study programs so that it is beneficial for the graduates seeking formal employment. Whereas, H5 (PD → JR) indicates an insignificant contribution of personal development on job readiness. This finding is consistent with Suharno et al. (2025) and Yoana et al. (2024) results established that the personal development of Indonesian university graduates is still premature due to the lack of focus on these developments both by university students and their education providers. Although in the context of the present, this result is logical and explainable, it also generates early warning signs for the HEIs looking to contribute to the human capital development of the country.

The findings of moderating variables show that financial support catalyzes high academic achievements, personal competencies and teaching and learning. This result extends the recent studies of (Demissie et al., 2021), Merie et al. (2022) and Mekonnen Yimer et al. (2024) deliberated that the provision of educational and merit scholarships to economically suppressed students remove their financial burden and allow them to focus on their academic and personal achievements. The findings also confirm that allocating research and development budgets for HEIs allows modifying their teaching and learning methods according to academic knowledge, skills and competency requirements of graduates' job readiness. Finally, the findings associated with the moderating influence of job market conditions indicate that the saturation of job markets

has increased employers' quest for candidates with exceptional academic and interpersonal competencies. This result validates the findings of Cranmer (2006), Wahab et al. (2025) and Wiśniewska and Grudowski (2024) recommended firms recruit a highly skilled workforce to achieve economies of scale and outperform their competitors.

CONCLUSION

The finding shows that HEIs are responsible for human capital development in the countries. However, dynamic changes in the business landscape have increased the demand for a workforce with diverging skills, knowledge and competencies gained. This study evaluates the factors essential to prepare university graduates for formal employment in Indonesian companies. The empirical results indicate that besides academic and personal competencies institutional features and teaching and learning methods are the keys to job readiness. Our results further establish the facilitating/moderating role of financial support and job marketing conditions in motivating university graduates to improve their academic, personal and developmental competencies while considering different employment options.

Overall, our findings present notable implications for practical considerations. First, enhance soft skills training in the curriculum: The feedback that skills like communication, negotiation, and teamwork should be addressed by integrating more project-based learning, presentations, and leadership opportunities for students. This recommendation is bolstered by UNESCO's insight that employers value practical and soft skills as much as academic knowledge and by the World Bank's call to prepare graduates for a fast-changing future with adaptive skills. Second, to strengthen industry collaboration, the institution should continue and expand partnerships with industry for internships, guest lectures, and joint projects. Such practical exposure will ensure students gain relevant experience and ease the school-to-work transition. This aligns with global education excellence practices recommended by UNESCO and OECD. Third, support entrepreneurship and innovation: Given that some graduates pursue entrepreneurship (and global organizations view entrepreneurship as a route to job creation , HEIs may provide more entrepreneurial training, incubators, and mentorship to help aspiring student entrepreneurs succeed. This would not only help those inclined to start businesses but also foster an innovative mindset among all students. Fourthly,

leverage tracer data for continuous improvement: The university should regularly use tracer study results, in line with the Ministry of Education's guidelines, to evaluate academic programs. Programs with lower field relevance or lower skill preparedness should adapt their curricula. For instance, if a certain program's graduates often work outside their field, curricula might be updated to be more versatile or aligned with market demands. Similarly, the university needs to invest in career services to guide students in translating their academic achievements (like GPA) into workplace competencies, bridging the gap identified between academic performance and job skills. Lastly, continue supporting scholarships and lifelong learning: the institution and policymakers should maintain and expand scholarship opportunities both at undergraduate and postgraduate levels, ensuring that talented individuals from all backgrounds can access education and that alumni can upskill or reskill as needed.

The conceptual framework, survey instrument, data collection and analysis approaches may limit the generalizability of this study. Our conceptual framework was robust as it contained both institutional and personal factors contributing to the job readiness of university graduates. However, the impact of demographic factors such as gender, geographic region, institutional reputation and accreditation may influence the employability of graduates. Future studies are encouraged to design an exclusive framework to analyze the composite factors of graduates' job readiness. The validity, reliability and suitability of the survey instrument with the sampled population was checked through various statistical tests. Yet, the generalization of findings remains limited due to common method variance and Halo effects. Future researchers should consider designing survey instruments to cater to the variable needs of different individuals so that job readiness experiences and opinions of a large population can be captured. The data collection and analysis techniques were discussed and justified from scientific and statistical fronts. Yet, data sources used in this study may not offer an inclusive insight into actual problems encountered while seeking employment under certain circumstances such as in post-pandemic conditions. Future studies should employ mixed-method approaches by conducting focus group interviews to validate the survey outcome.

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FIGURES AND TABLES

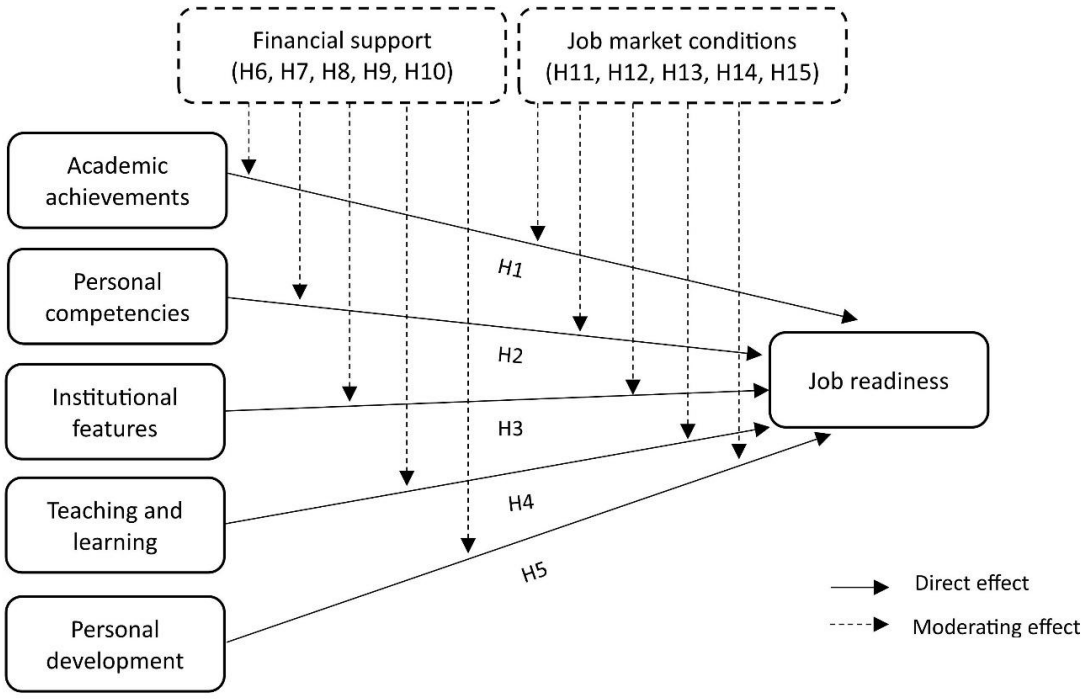

Figure 1. Conceptual framework

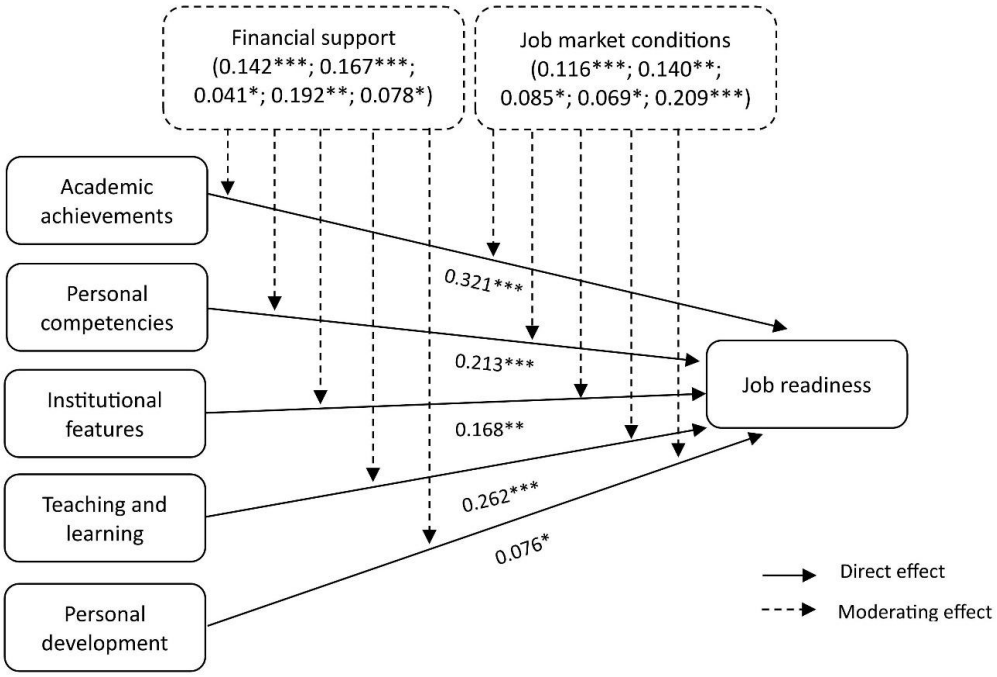

Figure 2. PLS estimates

Table 1. Demographic profiles of respondents.

Demographics	Items	Frequencies	Percentage
Gender	Male	341	55.81
	Female	270	44.19
	Total	611	100
Graduated (within stipulated timeline)	Yes	524	85.77
	No	87	14.23
	Total	611	19.47
Field of study	Science	124	20.30
	Engineering	437	71.52
	Humanities and Social Sciences	50	8.18
	Total	611	100
Geographic region	From Jawa Province	534	87.40
	Outside Jawa province	77	12.60
	Total	611	100

Table 2. Model goodness-of-fit test.

X^2/DFI	GFI	AGFI	CFI	NFI	IFI	TLI	RMSEA	[90% CI]
2.375	0.912	0.917	0.926	0.904	0.940	0.956	0.041	0.037

Table 3. The reliability statistics of items and factor loadings.

Variables	Items	Factor loadings	Variance	Error	SCR	AVE
JR	JR1	0.853	0.860	0.721	0.88	0.77
	JR2	0.834	0.854	0.783		
	JR3	0.785	0.816	0.825		
AA	AA1	0.768	0.786	0.666	0.79	0.74
	AA2	0.839	0.874	0.657		
	AA3	0.710	0.756	0.718		
PC	PC1	0.734	0.793	0.749	0.84	0.80
	PC2	0.796	0.828	0.676		
	PC3	0.756	0.761	0.617		

	PC4	0.903	0.918	0.540		
	PC5	0.849	0.872	0.553		
	PC6	0.885	0.907	0.586		
IF	IF1	0.902	0.949	0.875	0.76	0.72
	IF2	0.827	0.881	0.826		
	IF3	0.752	0.763	0.673		
	IF4	0.826	0.839	0.659		
	IF5	0.898	0.914	0.639		
	IF6	0.884	0.924	0.664		
	IF7	0.840	0.864	0.735		
TL	TL1	0.883	0.925	0.856	0.79	0.77
	TL2	0.815	0.876	0.664		
	TL3	0.796	0.802	0.683		
	TL4	0.831	0.847	0.673		
	TL5	0.754	0.769	0.584		
	TL6	0.817	0.847	0.731		
	TL7	0.847	0.869	0.642		
	TL8	0.863	0.874	0.666		
	TL9	0.780	0.794	0.549		
PD	PD1	0.924	0.946	0.692	0.81	0.78
	PD2	0.892	0.908	0.653		
	PD3	0.761	0.769	0.660		
	PD4	0.823	0.864	0.767		
	PD5	0.807	0.837	0.855		
	PD6	0.758	0.786	0.806		
	PD7	0.892	0.959	0.734		
	PD8	0.916	0.900	0.669		
FS	FS1	0.846	0.883	0.608	0.85	0.80
	FS2	0.727	0.745	0.759		
JMC	JMC1	0.788	0.797	0.785	0.78	0.71
	JMC2	0.864	0.925	0.846		

Table 4. Correlation matrix.

Constructs	JR	AA	PC	IF	TL	PD	FS	JMC
JR	0.552							
AA	0.145	0.693						
PC	0.321	0.375	0.731					
IF	0.184	0.220	0.317	0.658				
TL	0.114	0.210	-0.127	0.219	0.703			
PD	0.284	0.098	0.068	0.036	0.041	0.728		
FS	0.138	0.085	0.121	0.112	0.117	0.150	0.740	
JMC	0.038	0.010	0.014	0.034	0.048	0.059	0.055	0.703

Table 5. Results of Harman's single factor

Components	Eigenvalues			Extraction Sums of squared loadings		
	Total	Variance %	Cumulative %	Total	Variance %	Cumulative %
1	10.341	42.833	42.872	10.341	10.341	42.833
2	2.447	5.420	48.583			
3	2.341	5.481	50.698			
4	2.329	5.472	55.591			
5	2.550	4.468	58.603			
6	3.524	4.374	59.593			
7	2.518	3.385	61.384			
8	2.519	3.571	60.867			
9	1.376	3.539	62.320			
10	1.482	2.649	68.649			
11	1.529	2.592	65.484			
12	1.482	2.420	69.483			

13	1.423	1.492	68.834
14	1.520	1.532	67.873
15	1.515	1.429	66.274
16	1.637	1.389	72.549
17	1.634	1.247	74.543
18	1.610	1.321	76.423
19	0.407	1.110	78.349
20	0.589	0.589	78.464
21	0.496	0.649	80.540
22	0.546	0.549	83.592
23	0.561	0.550	81.540
24	0.465	0.327	85.374
25	0.529	0.984	88.384
26	0.538	0.867	82.540
27	0.487	0.639	78.538
28	0.463	0.648	77.473
29	0.459	0.736	76.849
30	0.451	0.863	74.841
31	0.448	0.732	70.440
32	0.388	0.738	70.683
33	0.376	0.645	69.833
34	0.369	0.583	68.649
35	0.366	0.836	67.638
36	0.362	0.538	63.876
37	0.358	0.669	62.384
38	0.330	0.439	61.539
39	0.319	0.749	60.782
40	0.292	0.647	58.648

Extraction method: principal component analysis.

Table 6. Results of structural paths

Hypothesis	Effect of	On	β	p-value	Decision criteria
H1	AA	JR	0.321	< 0.01	Supported
H2	PC	JR	0.213	< 0.01	Supported
H3	IF	JR	0.168	< 0.01	Supported
H4	TL	JR	0.262	< 0.01	Supported
H5	PD	JR	0.076	> 0.01	Not supported
H6	FS	AA/JR	0.142	< 0.01	supported
H7	FS	PC/JR	0.167	< 0.01	Supported
H8	FS	IF/JR	0.041	> 0.01	Not supported
H9	FS	TL/JR	0.192	< 0.01	Supported
H10	FS	PD/JR	0.078	> 0.01	Not supported
H11	JMC	AA/JR	0.116	< 0.01	Supported
H12	JMC	PC/JR	0.140	< 0.01	Supported
H13	JMC	IF/JR	0.085	> 0.01	Not supported
H14	JMC	TL/JR	0.069	> 0.01	Not supported
H15	JMC	PD/JR	0.209	< 0.01	Supported