

Research Article

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How Does Collaborative Experiential Learning Affect Adaptive University Performance?

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Abstract

Background/purpose. The education sector is currently encountering challenges and evolving concepts in the Society 5.0 era, which seeks to harmonize society and technology to build a more advanced and sustainable world. This study analyzes the influence of Supportive Leadership, Social Network Capability, and Openness to Experience on Adaptive University Performance, with Collaborative Experiential Learning as a mediating variable.

Materials/methods. Data were collected from 172 deans of autonomous public universities in Java through a survey using a quantitative method with the SEM-PLS approach.

Results. The findings indicate that Openness to Experience and Social Network Capability significantly influence Adaptive University Performance. Supportive Leadership significantly affects Collaborative Experiential Learning but does not directly impact Adaptive University Performance. Furthermore, Collaborative Experiential Learning neither directly influences Adaptive University Performance nor mediates the relationships between independent variables and Adaptive University Performance.

Conclusion. These results highlight that while experiential and collaborative learning contribute to the academic environment, university adaptability is more influenced by openness to experience and social networks. Strengthening academic networks and fostering a culture of innovation are crucial for enhancing adaptability in the evolving higher education landscape.

1. Introduction

The world of education today faces challenges and new concepts of the Society 5.0 era which aims to integrate society and technology to achieve a better world. In this concept, higher education has an important role in preparing individuals as future leaders and innovators. Higher education in Indonesia continues to experience significant developments, one of which is the existence of State Universities with Legal Entities (PTN-BH) which have greater autonomy in academic and non-academic management.

The Key Performance Indicators of State Universities (IKU-PTN) serve as a crucial framework for managing university performance, particularly for PTN-BH (State Universities with Legal Entities), to attain elevated standards in governance, academic excellence, and innovation. The employment contract between the Rector of PTN-BH and the Ministry of Education, Culture, Research, and Technology (Kemdikbudristek), as well as the agreement between the Rector and the Dean based on Key Performance Indicators (KPI), is essential for achieving these objectives.

Organizational management within the educational context involves recognizing volatile, uncertain, complex, or ambiguous situations. Every category of circumstance possesses distinct causes and remedies. This situation compels universities to confront not just the challenges of digital disruption affecting education but also the emergence of new educational innovations characterized by Volatility, Uncertainty, Complexity, and Ambiguity (VUCA).

Supportive leadership is a style in which leaders offer emotional assistance, attend to individual needs, promote personal and professional growth, and foster a healthy and inclusive workplace atmosphere (House, 1996). Supportive leadership is crucial in enhancing the quality and efficiency of achieving targets and objectives within higher education. Supportive leadership entails leaders fostering trust, providing inspiration, and assisting colleagues in surmounting problems. Leaders aspiring to enhance their support for teams should endeavor to promote collaboration, focus on interpersonal ties among members, and exhibit dedication (Monze-Amor et al., 2020). The capacity for social networking is an additional element that can enhance the adaptive performance of higher education.

This research explores the impact of both external and internal networks on the connection between social networking capability and adaptive performance in universities, grounded in Capability Theory (Teece et al., 1997). The significance of social networking in education is paramount, necessitating a more profound definition of networks within the educational context. Conrad and Schober (2008) novel concept of social networking capability posits that the relationship between expectations and reality, which pertains to students' technological competencies, industry requirements, and the resources available in the educational environment, is becoming progressively adaptable as access to the intersection of education and employment evolves.

The existing phenomena of social networking capabilities is evident in the limited social networks inside higher education that provide access to employment opportunities aligned with industry demands. Higher education institutions have not adequately addressed the difficulties posed by the evolving business of the Society 5.0 age. Limitations or impediments within higher education institutions might hinder the growth and adaptability of their components. Consequently, higher education institutions should not anticipate the instantaneous emergence of social networking capabilities and activities with diverse interaction horizons that will yield varied types of networks. Research Bouhaleb (2024) on social networking competence underscores that the capacity to establish and sustain international social networks is crucial for the adaptive performance of firms in the global marketplace. This competence enables organizations to swiftly adapt to alterations in the global business landscape, therefore enhancing their overall performance.

Openness to experience is a personality factor within the Big Five paradigm, indicating the degree to which an individual embraces new ideas, experiences, and changes (McCrae & Costa, 1997). Openness to experience is considered crucial for maintaining employee relevance amid these changes. The phenomenon of openness to experience in Indonesian universities is significantly relevant to adaptive performance, particularly within the evolving landscape of higher education confronted by globalization and digitalization issues. Lecturers and educators with a high degree of openness to experience are generally more receptive to novel learning approaches and curriculum improvements. This fosters the creation of a dynamic learning environment that adapts to student demands and advances scientific advancement.

Collaborative experiential learning is a notion that incorporates experiential learning theory across diverse domains, serving as a beneficial foundation for comprehending how individuals convert their experiences into knowledge. Collaborative experiential learning underscores the significance of practical experience in education, seeking to integrate theoretical knowledge with hands-on practice (Murray, 2017). Collaborative experiential learning is a method of education that occurs via reflection and the derivation of meaning from actual experience.

The following figure illustrates the conceptual framework that outlines the interrelationships among the variables analyzed in this study.

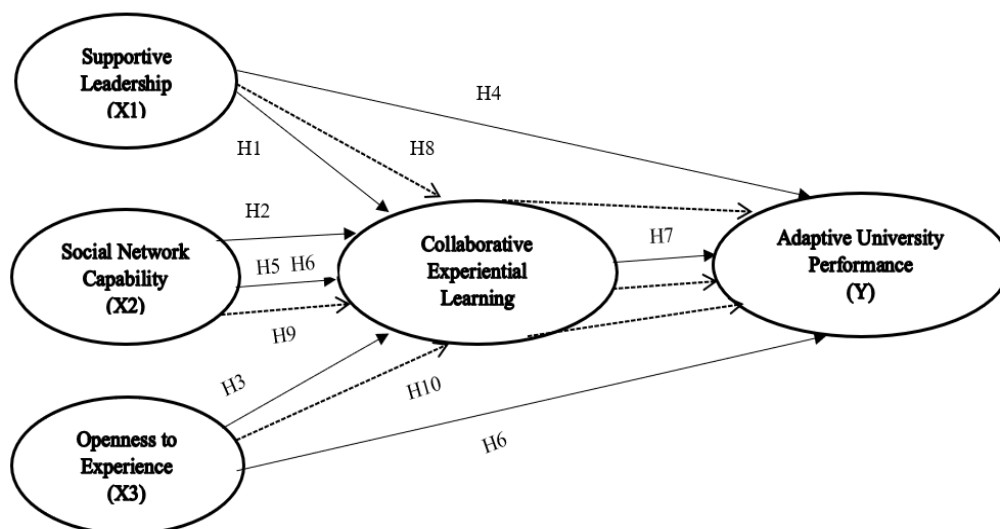


Figure 1. Proposed research model

2. Literature Review and Hypothesis Development

2.1. Supportive Leadership and Collaborative Experiential Learning

Supportive leadership is a crucial factor that enhances the exchange of knowledge among colleagues within an organization (Muhammed & Zaim, 2020). It synergizes with experiential learning to foster adaptive and innovative organizational outcomes (Huggins et al., 2016). Supportive leadership facilitates employee learning in the workplace, as learning serves not only to update organizational knowledge but also, more significantly, to provide long-term personal career advantages. Learning organizations cultivate environments conducive to learning and experience. In such environments, employees are inclined to utilize workplace resources (Gitsham, 2012; Kohn, 2024). As a result, the initial hypothesis of this study is formulated as follows:

H1. Supportive Leadership has a positive and significant effect on Collaborative Experiential Learning

2.2. Social Network Capability and Collaborative Experiential Learning

The capacity for social networking is favorably correlated with the acquisition of information and resources, as well as the development of inventive capacities, which are crucial for organizational performance (Ahuja, 2020). The Social Networking Capability Cartwright & Davies (2022) is positively correlated with enhancing organizational success. Organizations must develop Social Networking Capability to expand (Doleck & Lajoie, 2018; Heirati et al., 2013; Wang et al., 2013). Social networking can influence the viability and prosperity of nascent enterprises (Dhamera et al., 2021). Kainama et al. (2018) conducted research on behavioral models associated with the utilization of social networking sites within the framework of ubiquitous learning. The findings indicated that collective efficacy impacted student behavior via perceptions of utility and usability, which then altered the values of students' learning behavior. The second hypothesis proposed in this study is as follows:

H2. Social Network Capability has a positive and significant effect on Collaborative Experiential Learning

2.3. Openness to Experience and Collaborative Experiential Learning

The continuity of experience will be positively connected with (a) metacognitive factors, (b) cognitive factors, (c) motivational factors, and (d) behavioral factors. The meta-analytic method is utilized to examine contextual factors associated with the culture of skill acquisition, including duration of residence abroad, cultural awareness, prior cross-cultural experiences, cultural dissimilarity, linguistic proficiency, engagement with local and fellow citizens, and perceived discrimination (Magen-Nagar & Shonfeld, 2018). Freyn et al. (2021) provide a pedagogical framework that integrates real-world experiences to cultivate skills essential for professional environments, thereby addressing the disconnect between academics and industrial practice. The study's results demonstrate that this framework effectively enhances students' skills and equips them for professional challenges. The third hypothesis in this study is formulated as follows:

H3. Openness to Experience has a positive and significant effect on Collaborative Experiential Learning

2.4. Supportive Leadership and Adaptive University Performance

Bonini et al. (2024) performed a systematic review and meta-analysis to assess the impact of different leadership styles on adaptive performance within companies. The results revealed a strong positive relationship between leadership and adaptive performance. This research underscores the significance of leadership in facilitating employee adaptation to change via motivational and relational dimensions. Bataineh et al. (2022) investigated the correlation between inclusive leadership and adaptive performance, considering inventive work behavior as a mediating variable. This study's results demonstrate that inclusive leadership significantly enhances adaptive performance directly. This research underscores the significance of inclusive leaders in fostering innovation and flexibility, hence enhancing their performance in navigating changes and problems within the workplace. Kim and Park (2018) investigated the correlation among intrapreneurship, emotional intelligence, supportive leadership, and adaptable performance inside businesses. The study's results indicated that supportive leadership significantly moderated the favorable association between intrapreneurship and adaptive performance. This research underscores the significance of emotional intelligence and supportive leadership in enhancing the adaptive performance of individuals possessing intrapreneurial qualities. The fourth hypothesis in this study is formulated as follows:

H4. Supportive leadership positively and significantly influences adaptive university performance

2.5. Social Network Capability and Adaptive University Performance

Prior research indicates that social network capabilities positively and significantly impact the adaptive performance of higher education institutions. This competence, encompassing the formation and usage of inter-organizational linkages, significantly enhances the adaptability of higher education institutions. A pertinent study by Walter et al. (2006) revealed that robust network capabilities enhance the innovation and adaptability of university spin-offs to market and technical developments, hence improving their overall performance. The study by Suharti & Pramono (2016) investigated the determinants of cultural intelligence and its effect on the formation of social networks and adaptive performance in Indonesian students. This study underscores the significance of cultural intelligence in fostering social network development and enhancing students' adaptive performance. The fifth hypothesis of this investigation is articulated as follows:

H5. Social network capability exerts a positive and significant influence on adaptive university performance

2.6. Openness to Experience and Adaptive University Performance

Corazzini et al. (2024) conducted a study that identified a positive relationship between openness to experience and academic performance and adaptability of freshmen in Italy, indicating that students with greater openness tend to achieve higher academically and adapt more effectively to new environments. This study demonstrates that openness to experience enhances adaptive performance via creativity and flexibility in problem-solving within higher education settings. The sixth hypothesis of this investigation is articulated as follows:

H6. Openness to experience positively and significantly impacts adaptive university performance

2.7. Collaborative Experiential Learning and Adaptive University Performance

Antonini et al. (2021) investigated the efficacy and influence of experiential learning techniques and novel educational instruments in education. This study indicated that collaborative and experiential learning, characterized by conversation among diverse communities, can improve educational efficacy. Innovative techniques are crucial for equipping pupils to confront the intricate environmental and social concerns of the future. Seow et al. (2019) conducted research assessing the efficacy of experiential learning methodologies in equipping students to navigate volatile, unpredictable, complex, and ambiguous (VUCA) work situations. This study indicated that experiential learning methodologies can effectively prepare students to adapt and thrive in dynamic and uncertain job situations. The seventh hypothesis of this investigation is articulated as follows:

H7. Collaborative experiential learning positively and significantly influences adaptive university performance

2.8. Mediating Role of Collaborative Experiential Learning

Collaborative Experience Learning (CEL) is an experience learning methodology that entails cooperation among individuals or groups in educational and professional contexts (Kolb & Kolb, 2019). Within the university setting, CEL can enhance knowledge transfer, foster collaborative skill development, and promote practice-based problem resolution, hence contributing to enhanced adaptive performance of the institution (Romero-Rodríguez et al., 2023). As a mediator, CEL facilitates the connection between leadership elements, social networks, and personality traits with university adaptive performance. Through collaborative experiential learning, institutions can enhance their efficacy in formulating adaptation strategies to the evolving dynamics of academic and industrial landscapes (Vijayakumar Bharathi & Pande, 2024).

Supportive Leadership (SL) is a leadership approach that offers emotional and practical assistance to organizational members in attaining their objectives (Al-Hadrawi et al., 2023). In the university setting, supportive leaders foster an academic atmosphere that is inventive, inclusive, and receptive to change (Graifoner et al., 2024). Numerous research studies indicate that SL positively influences the adaptive performance of universities (Kim et al., 2023). This influence can be enhanced through CEL processes, wherein supportive leaders promote active engagement in experiential and collaborative learning (Kulichyova et al., 2024).

Social Network Capability (SNC) denotes the ability of individuals or organizations to establish, sustain, and leverage social networks to enhance access to resources and information (Burt, 2020). Within the university framework, SNC significantly fosters innovation, academic collaborations, and the cultivation of sustained academic competencies (Gupta & Gulati, 2022). Prior research indicates that SNC enhances university performance by broadening access to key resources (Mazurek et al., 2022). Moreover, teamwork in experiential learning facilitates enhanced information transmission between academic and professional networks (Lundvall, 2018).

Openness to Experience (OE) is a personality characteristic under the Big Five Personality Traits that indicates an individual's propensity for flexibility, imagination, and receptiveness to novel ideas and experiences (McCrae & Costa, 1997). In an academic setting, persons with elevated levels of OE exhibit greater receptivity to change, pursue new opportunities, and participate in educational innovation (Cui et al., 2023). Numerous research indicates that organizational effectiveness positively influences adaptive performance, particularly within higher education settings (Barrick et al., 2013). This effect can be enhanced through CEL, enabling individuals and academic institutions to use their openness in collaborative and experiential learning settings (England et al., 2020). The eighth, ninth, and tenth hypotheses of this investigation are delineated as follows:

Hypothesis 8: Collaborative experiential learning serves as a mediator in the relationship between supportive leadership and adaptive university performance.

Hypothesis 9: Collaborative experiential learning mediates the connection between social network capability and adaptive university performance.

Hypothesis 10: Collaborative experiential learning acts as an intermediary in the relationship between openness to experience and adaptive university performance.

3. Methodology

3.1. Research Design

This study employs a quantitative causal research model with a cross-sectional survey method. Data were collected from 172 deans of autonomous public universities in Java to analyze the direct and indirect effects of Supportive Leadership, Social Network Capability, and Openness to Experience on Adaptive University Performance, with Collaborative Experiential Learning as a mediator. The study examines whether experiential and collaborative learning enhances university adaptability in the Society 5.0 era.

3.2. Population and Sample

The study's population consisted of the deanery members from State Legal Entity Universities (PTN BH) situated in Java, Indonesia. The study's sample was chosen using purposive sampling, requiring respondents to have a strategic position in academic and managerial decision-making at the faculty or university level. This study utilized 172 samples from the PTN BH deanery in Java. This quantity satisfies the minimal criteria for Structural Equation Modeling- Partial Least Squares (SEM-PLS) analysis, necessitating that the sample size be no less than tenfold the number of indicators within the latent variable (Leguina, 2015).

3.3. Data Analysis

This study employs Path Analysis as the analytical technique, utilizing SmartPLS 4.0 software for data processing. The PLS method is employed due to its minimal sample size requirements and its predictive aim, wherein it is considered that all variance measurements are valuable for explanation. The analysis of data utilizing SmartPLS 4.0 software is conducted in two phases: the Measurement Model and the Structural Model.

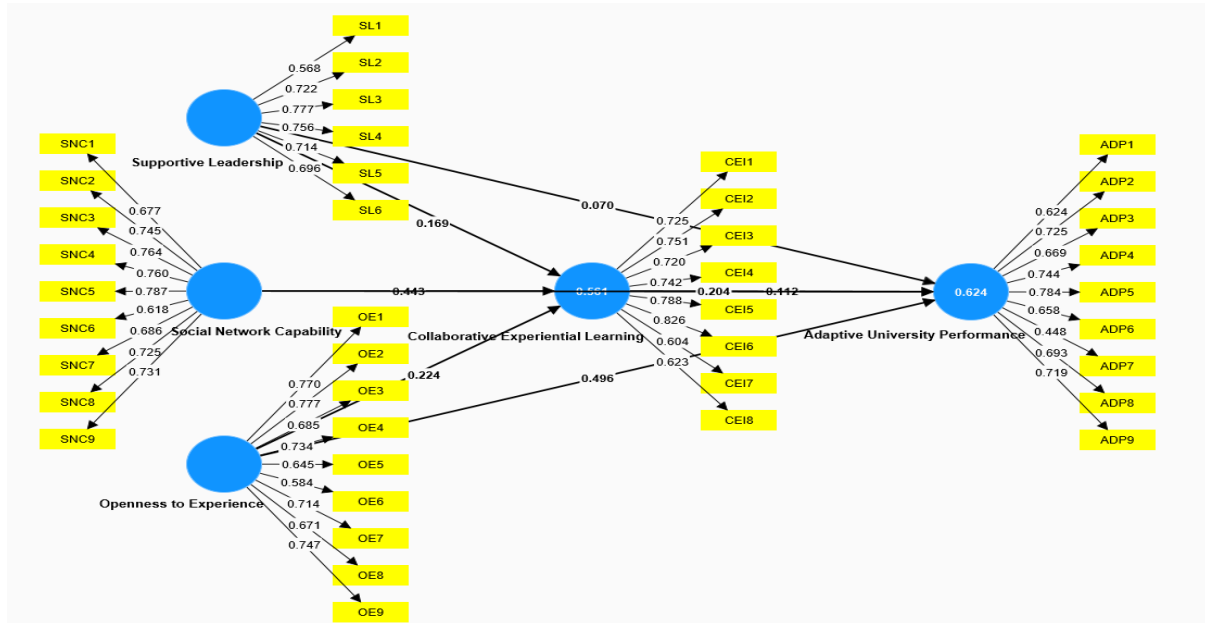


Figure 2. Structural Model

3.4. Measurement

The evaluation of the outer model using data analytic techniques using SmartPLS is based on three criteria: Convergent Validity, Discriminant Validity, and Composite Reliability. The convergent validity of the measuring model with indicator reflection is evaluated through the association between item scores and component scores obtained using PLS software. The validity of the indicator is assessed using the Loading Factor (LF) value according to specified guidelines.

4. Results

The validity assessment of this research was carried out in multiple stages, including Convergent Validity evaluation through Outer Loadings (Loading Factor) and Average Variance Extracted (AVE), as well as Discriminant Validity assessment using the Fornell-Larcker Criterion and Cross Loading. The results of the Convergent Validity test indicated that several Outer Loading and AVE values did not surpass the 0.5 threshold. The initial AVE values are as follows:

Table 1. Average Variance Extracted Value in Research

	AVE
Adaptive University Performance	0.562
Collaborative Experiential Learning	0.527
Openness to Experience	0.598
Social Network Capability	0.523
Supportive Leadership	0.502

Table 1 indicates that all variables satisfy the AVE criterion, with values equal to or exceeding 0.5. The AVE values are as follows: Adaptive University Performance (0.562), Collaborative Experiential Learning (0.527), Openness to Experience (0.598), Social Network Capability (0.523), and Supportive Leadership (0.502). This signifies that the Convergent Validity Test meets the required standards. Additionally, the study's validity is further reinforced through the Discriminant Validity assessment, employing the Fornell-Larcker Criterion and cross-loading evaluations. The Fornell-Larcker Criterion test compares the Average Variance Extracted (AVE) value with other latent variables. To meet the criterion, the AVE correlation for a given construct must be higher than its correlation with other constructs. This comparison is reflected in both the diagonal and vertical alignments of each variable column.

Table 2. Fornell-Larcker Criterion Processing Value

	Adaptive University Performance	Collaborative Experiential Learning	Openness to Experience	Social Network Capability	Supportive Leadership
Adaptive University Performance	0.68				
Collaborative Experiential Learning	0.619	0.726			
Openness to Experience	0.757	0.647	0.706		
Social Network Capability	0.671	0.707	0.691	0.723	
Supportive Leadership	0.609	0.607	0.687	0.641	0.709

The results in Table 2 indicate that the Fornell-Larcker criterion value for each indicator item relative to its construct is higher than the cross-loading value. Therefore, it can be concluded that all constructs or latent variables exhibit strong discriminant validity, as each construct's indicator block outperforms the indicator blocks of other constructs. In addition to evaluating the fornell-larcker criterion value, researchers also consider the cross-loading value. Cross-loadings serve as a measure indicating that the outer loading value of an indicator for its respective construct must be higher than its cross-loading value on other constructs. Below are the cross-loading values of each variable construct.

The previous calculations indicate that the study has demonstrated its validity through Convergent Validity and Discriminant Validity assessments. Additionally, reliability testing was conducted using Composite Reliability and Cronbach's Alpha, both of which exceeded the threshold of 0.6. The following are the reliability values obtained in this study:

Table 3. Composite Reliability and Cronbach's Alpha Values

	Cronbach's alpha	Composite reliability
Adaptive University Performance	0.852	0.884
Collaborative Experiential Learning	0.869	0.898
Openness to Experience	0.873	0.899
Social Network Capability	0.885	0.908
Supportive Leadership	0.800	0.857

A statistical analysis of the structural model was conducted through simulation to examine the hypothesized relationships. Hypothesis testing in this study was performed using the bootstrapping method on the sample. This approach also helps mitigate issues related to data abnormality. The bootstrapping results obtained from the SmartPLS v.4.0 analysis are presented as follows:

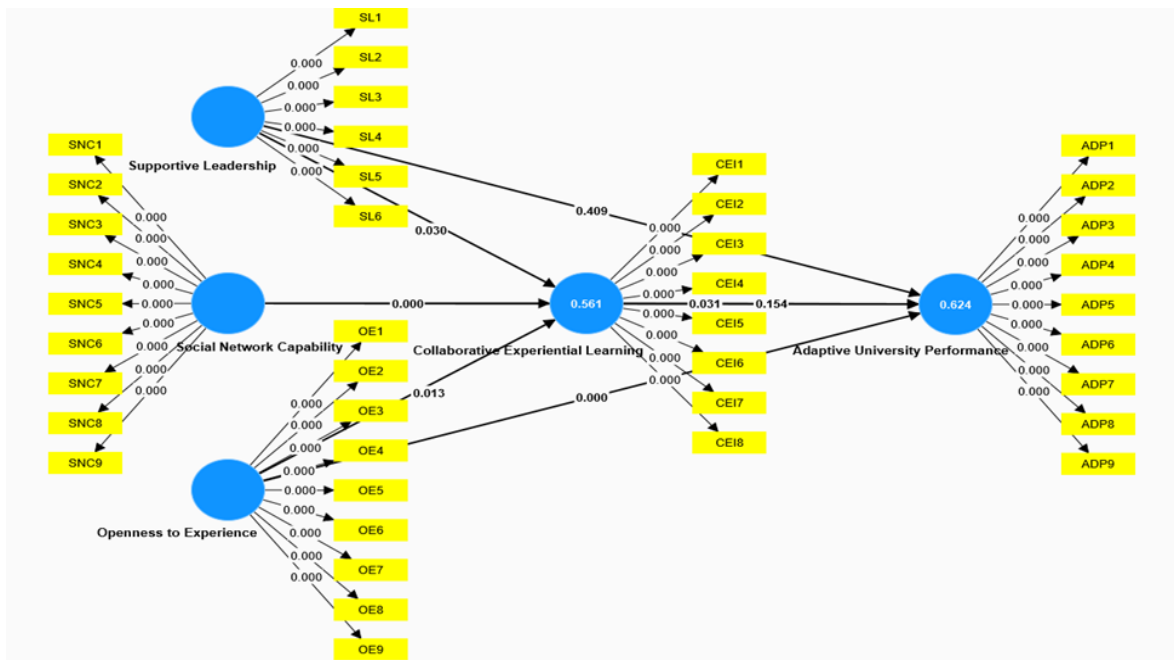


Figure 3. Model Bootstrapping Results

The inner model refers to a framework used to assess the causal relationships between variable constructs. According to Hair (2017), the evaluation of the inner model involves the following tests:

a. Coefficient of Determination (R^2)

The coefficient of determination (R^2) is the most commonly used metric for evaluating the inner model. R^2 measures the model's predictive power by calculating the squared correlation between the actual and predicted values of a specific endogenous construct. It reflects the combined influence of exogenous latent variables on endogenous latent variables, indicating the proportion of variance in the endogenous construct explained by all associated exogenous constructs. R^2 values are categorized as follows: 0.75 (strong), 0.50 (moderate), and 0.25 (weak). The following table presents the R^2 values:

Table 4. Processing Value of Determination Coefficient (R^2)

	R-square	R-square adjusted
Adaptive University Performance	0.624	0.615
Collaborative Experiential Learning	0.561	0.553

According to the R^2 test results presented in Table 4, Supportive Leadership, Social Network Capability, and Openness to Experience affect Adaptive University Performance by 0.624 or 62.4%, while 37.6% is influenced by other variables. Meanwhile, Collaborative Experiential Learning is influenced by the variables Supportive Leadership, Social Network Capability, and Openness to Experience by 0.561 or 56.1%, and the remaining 43.9% is influenced by other variables.

b. Hypothesis Testing

The significance of the estimated parameters offers valuable insights into the relationships among the research variables. Hypothesis testing is based on the values obtained from the inner weight output. Since this study employs a non-directional (two-tailed) hypothesis, the t-statistic must exceed 1.96. The following are the results of the direct and indirect effect tests conducted in this study:

Table 5. Direct Effect Processing Value

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Supportive Leadership → Collaborative Experiential Learning	0.169	0.173	0.078	2.173	0.030
Social Network Capability → Collaborative Experiential Learning	0.443	0.439	0.086	5.173	0.000
Openness to Experience → Collaborative Experiential Learning	0.224	0.229	0.090	2.484	0.013
Supportive Leadership → Adaptive University Performance	0.089	0.097	0.084	1.054	0.292
Social Network Capability → Adaptive University Performance	0.254	0.258	0.079	3.230	0.001
Openness to Experience → Adaptive University Performance	0.521	0.513	0.093	5.580	0.000
Collaborative Experiential Learning → Adaptive University Performance	0.112	0.112	0.078	1.425	0.154

Based on Table 5, the analysis results show that:

1. The Influence of Supportive Leadership and Collaborative Experiential Learning. Path Coefficient Value: 0.169, T-Statistic: 2.173 (> 1.96) and P-value: 0.030 (< 0.05). Then, the Influence of Supportive Leadership and Collaborative Experiential Learning has a positive and significant relationship. This shows that supportive leadership encourages collaborative-based learning.

2. The Influence of Social Network Capability and Collaborative Experiential Learning. Path coefficient value: 0.443, T-Statistic: 5.173 (> 1.96) and P-value: 0.000 (< 0.05). Then, the Influence of Social Network Capability and Collaborative Experiential Learning has a positive and significant relationship. This shows that social network capability plays an important role in improving collaborative learning.

3. The Influence of Openness to Experience and Collaborative Experiential Learning. Path coefficient value: 0.224, T-Statistic: 2.484 (> 1.96), P-value: 0.013 (< 0.05), then the Influence of Openness to Experience on Collaborative Experiential Learning has a positive and significant relationship. This shows that openness to experience increases participation in collaborative learning (Collaborative Experiential Learning).

4. The Influence of Supportive Leadership and Adaptive University Performance. Path Coefficient Value: 0.089 T-Statistic: 1.054 (< 1.96), P-value: 0.292 (> 0.05) then the influence of

Supportive Leadership and Adaptive University Performance has an insignificant relationship. This shows that supportive leadership does not directly affect the adaptive performance of the university.

5. The Influence of Openness to Experience and Adaptive University Performance. Path coefficient value: 0.521, T-Statistic: 5.580 (> 1.96), P-value: 0.000 (< 0.05) then the Influence of Openness to Experience and Adaptive University Performance has a positive and significant relationship, This shows that the higher the openness to experience (Openness to Experience), the higher the adaptive performance of the university.

6. The Influence of Social Network Capability and Adaptive University Performance. Path coefficient value: 0.254, T-Statistic: 3.230 (> 1.96), P-value: 0.001 (< 0.05), then the Influence of Social Network Capability and Adaptive University Performance has a positive and significant relationship. This shows that the higher the social network capability, the higher the adaptive performance of the university.

7. The Influence of Collaborative Experiential Learning and Adaptive University Performance. Path Coefficient Value: 0.112. T-Statistic: 1.425 (< 1.96) and P-value: 0.154 (> 0.05). Then, the Influence of Collaborative Experiential Learning and Adaptive University Performance has an insignificant relationship. This shows that collaborative-based learning does not have a direct influence on the adaptive performance of the university.

Table 6. Indirect Effect Processing Value

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Supportive Leadership → Collaborative Experiential Learning → Adaptive University Performance	0.019	0.019	0.017	1.096	0.273
Social Network Capability → Collaborative Experiential Learning → Adaptive University Performance	0.049	0.049	0.037	1.350	0.177
Openness to Experience → Collaborative Experiential Learning → Adaptive University Performance	0.025	0.026	0.022	1.134	0.257

Based on Table 6, the analysis results show that:

1. The relationship between Supportive Leadership and Adaptive University Performance through Collaborative Experiential Learning. With the path coefficient value: 0.019, T-Statistic 1.096 (< 1.96), P-value: 0.273 (> 0.05), this relationship is not significant. This shows that collaborative-based learning cannot bridge the influence of supportive leadership on the adaptive performance of universities.”

2. The relationship between Social Network Capability and Adaptive University Performance through Collaborative Experiential Learning. With the path coefficient value: 0.049, T-Statistic 1.350 (< 1.96), P-value: 0.177 (> 0.05), then this relationship is not significant. This shows that collaborative-based learning does not act as a mediator between social network capability and university adaptive performance.

3. The relationship between Openness to Experience and Adaptive University Performance mediated by Collaborative Experiential Learning. The path coefficient value is 0.025, T-Statistic: 1.134 (< 1.96), P-value 0.257 (> 0.05), so this relationship is not significant. This shows that collaborative-

based learning does not effectively mediate the relationship between openness to experience and university adaptive performance.

5. Discussion

The results of this study demonstrate that Supportive Leadership positively influences Collaborative Experiential Learning. Hence, H1 is accepted. This demonstrates that supportive leadership fosters a more favorable academic atmosphere for experiential learning. The study by Kulichyova et al. (2024) concluded that supportive leadership offers the motivation and resources needed for individuals to participate effectively in experiential and collaborative learning.

Additional findings indicate that Social Network Capability positively influences Collaborative Experiential Learning. Hence, H2 is accepted. Universities with broad social networks are more inclined to use experiential learning methodologies. Cui et al. (2023) research corroborates these findings, asserting that intimate academic collaboration with diverse stakeholders can enhance the efficacy of experiential learning via information exchange and active participation in joint projects.

The study's results indicate that Openness to Experience (OE) positively influences Collaborative Experiential Learning (CEL), therefore confirming H3. Individuals with a high degree of openness are more inclined to participate in experiential and collaborative learning. This result is consistent with the study by Barrick et al. (2013), which found that individuals with high openness are more likely to engage in experiential learning and adapt effectively in collaborative environments.

The study found no significant correlation between Supportive Leadership and Adaptive University Performance, leading to the rejection of H4. Supportive leadership does not immediately enhance the agility of universities. This finding contradicts the study of Kim & Park (2018), which indicates that supportive leadership significantly moderates and enhances the favorable link between intrapreneurship and adaptive performance. In the context of universities, the influence of leadership may be comparatively restricted relative to other elements such as institutional policies and the preparedness of academic infrastructure.

The study concluded that Social Network Capability positively influences Adaptive University Performance, therefore confirming H5. The power of social networks enables institutions to access additional resources, enhance academic collaboration, and bolster innovation in higher education. This outcome aligns with the findings of Nahapiet & Ghoshal (1998), which underscore the significance of academic social networks in the creation and distribution of knowledge to strengthen the competitiveness of educational institutions.

The results of the study indicate that Openness to Experience (OE) has a positive and significant effect on Adaptive University Performance (ADP), so H6 is accepted. This shows that individuals who are open to experience are better able to adapt to changes in the academic environment. This finding supports the research of Bouhalleb (2024), which emphasizes that individuals with a high level of openness are more flexible in dealing with change and tend to seek new experiences to improve performance. In the context of universities, openness to experience allows institutions to more quickly adopt innovative policies and adapt to the dynamics of higher education (England et al., 2020).

The study revealed that Collaborative Experiential Learning did not exert a substantial direct influence on Adaptive University Performance, leading to the rejection of H7. This indicates that while experiential learning can enhance personal skills, its effect on university adaptability may not be readily apparent. This finding contrasts with Kolb & Kolb's (2009) study, which highlighted that experience learning can enhance organizational adaptation when bolstered by suitable structural elements. The examination of the indirect link revealed that Collaborative Experiential Learning did not mediate the relationship between Openness to Experience, Social Network Capability, and Supportive Leadership concerning Adaptive University Performance; thus, hypotheses H8, H9, and

H10 were rejected. This finding contradicts the research of Vijayakumar Bharathi & Pande (2024), which asserted that experience learning enhances organizational adaptation. In the context of universities, elements such as educational policy, technological assistance, or curriculum flexibility may have a more significant influence in enhancing the adaptability of academic institutions than experiential learning.

6. Conclusion

This research aims to investigate the influence of Supportive Leadership, Openness to Experience, and Social Network Capability on Adaptive University Performance, with Collaborative Experiential Learning acting as a mediating variable. The SEM-PLS study results indicate that Openness to Experience and Social Network Capability positively and significantly influence Adaptive University Performance, whereas Supportive Leadership does not exert a significant direct effect on Adaptive University Performance. Furthermore, Collaborative Experiential Learning exerts no direct influence on Adaptive University Performance and does not serve as a mediator in the indirect association between the independent variables and Adaptive University Performance. This indicates that alternative factors may play a more significant role in influencing the adaptability of universities than experiential and collaborative learning. This study demonstrates that universities' performance in addressing academic issues and adapting to changes in the higher education landscape is predominantly impacted by openness to experience and social network capacities rather than by leadership and experiential learning elements.

7. Suggestion

7.1. Practical Implications

Drawing upon the results of this research, there are several practical implications that can be adopted by universities and higher education stakeholders to improve the adaptability of academic institutions:

1. Encourage Openness to Experience in Academic Environments. Universities need to develop an academic culture that is more open to innovation and curriculum change. Training and professional development programs for lecturers and education staff can focus on strengthening openness to new experiences and flexibility in teaching.

2. Strengthen Academic Social Network Capability. Universities should increase collaboration with other institutions, industries, and international organizations to expand access to academic resources and collaboration opportunities. Academic exchange programs, research partnerships, and involvement in global conferences can enhance the social network capabilities of academic institutions.

3. Optimize the Role of Leadership in Supporting Experiential Learning. Although supportive leadership does not directly affect Adaptive University Performance, academic leaders continue to play a crucial role in fostering an environment that facilitates experiential learning. Universities can provide leadership training that emphasizes strategies for facilitating academic collaboration and innovation in learning.

4. Review the Implementation of Experiential Learning. Because Collaborative Experiential Learning has not been proven to improve Adaptive University Performance directly, universities need to evaluate the effectiveness of the experiential learning model implemented. Integration of project-based learning, industry case studies, and strengthening collaboration with the professional sector can increase the relevance and impact of experiential learning on the adaptation of academic institutions.

7.2. Limitations and Future Research Suggestions

While this study enhances the understanding of factors affecting Adaptive University Performance, there are several limitations that need to be considered. This study has not considered external variables such as national education policies, digital infrastructure, and industry dynamics that may also affect university adaptability. Collaborative Experiential Learning in this study may not fully reflect the complexity of experiential learning implemented in various universities. Further research can be conducted with a wider scope, covering various types of universities (public, private, international) and comparing higher education contexts across countries, and adding external variables such as national education policies, digital infrastructure readiness, and engagement with the industry can be incorporated to attain a more comprehensive insight into the factors affecting Adaptive University Performance. Since collaborative experiential learning did not prove significant in this study, future studies can explore broader experiential learning approaches, such as service learning, action research, or technology integration in collaborative learning.

Declarations

Author Contributions. The authors have contributed equally to this paper. Inneke Qamariah: Corresponding author, responsible for conceptualization, supervision, revising the original draft, and developing the research instrument. Prihatin Lumbanraja: Contributed to conceptualization, formal analysis, investigation, methodology, visualization, drafting the initial manuscript, as well as reviewing and editing. Yeni Absah: Assisted in preparing the research instrument and data curation. Amlys Syahputra Silalahi: Involved in revising the original draft, reviewing, and editing. All authors have read and approved the final published version of the article.

Conflicts of Interest. The authors declare no conflict of interest.

Ethical Approval. The Ethical Committee of the Universitas Sumatera Utara, Medan, Indonesia has granted approval for this study on 03 December 2024 (Ref.No.05/12/EC/2024)

Data Availability Statement. All data generated and analyzed during this study are included in this published article.

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