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From Market Orientation to Institutional Agility: Exploring Mediating Roles of Innovation and Learning Orientation in Private Higher Education

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Abstract

This study analyzes the relationship between Market Orientation and Institutional Agility in private universities in Indonesia by exploring the mediating role of innovation and learning orientation. This study was developed from previous research on the performance and competitiveness of private universities in Bengkulu Province using a dynamic capabilities theory approach that emphasizes the importance of organizational capabilities in adapting to a dynamic environment. Data were collected through a survey of faculty and study program leaders using standardized instruments and analyzed using Structural Equation Modeling (SEM) to test the double mediation model. The results show that market orientation significantly affects institutional agility through innovation and learning orientation. These two mediating variables serve as the main mechanisms that enable universities to adapt to changes in the higher education market, technology, and student needs. These findings emphasize the importance of building a culture of innovation and continuous learning in strengthening the strategic responsiveness of private universities to competitive pressures and the digitization of education. The study contributes theoretically by expanding the understanding of the relationship between market orientation and institutional agility, and provides practical implications for university leaders in developing adaptive strategies based on innovation and learning.

Keywords: Market orientation, Institutional agility, Innovation orientation, Learning orientation, Private higher education, Dynamic capabilities.

Introduction

Private universities currently operate in a highly dynamic and competitive environment, characterized by globalization, digital technology disruption, and changes in student behavior as consumers of higher education services. Digital transformation has shifted the paradigm of competition in the higher education sector from mere academic reputation to an orientation towards value, learning experience, and innovation-based competitiveness [1,2]. In the Indonesian context, private universities face greater pressure than public universities due to limited resources, low

institutional innovation, and fluctuating levels of public trust [3]. In addition, the dynamics of government regulations, such as the implementation of outcome-based education (OBE) curricula, the Kampus Merdeka (Independent Campus) policy, and performance-based accreditation mechanisms, require institutions to adapt quickly to policy changes, labor market demands, and technological developments [4]. These conditions emphasize that private universities need to have a strong Market Orientation (MO) as well as the ability to transform flexibly and sustainably, which in strategic literature is referred to as institutional agility [1,5].

Institutional agility (IA) describes the ability of higher education institutions to detect changes in the environment, interpret market signals, and respond quickly and effectively through flexible, data-driven decision-making. To achieve an optimal level of IA, more than just MO is needed, namely the existence of dynamic capabilities (DC) mechanisms that enable institutions to convert market knowledge into strategic actions through innovation and organizational learning [6,7]. Agility is an important element in maintaining sustainability and competitiveness, especially amid the acceleration of digital transformation and increasingly complex stakeholder expectations. Factors such as internationalization, industry-community interaction, and technology integration are the main drivers of agility [8]. However, this capability does not automatically arise from market orientation alone without the support of institutional innovation and learning capabilities.

MO itself has long been recognized as a strategic foundation for organizations, including universities, in understanding student needs, monitoring competitors, and coordinating internal functions to create value for stakeholders [9,10]. In the context of higher education, MO plays an important role in recruitment strategies, student retention, and institutional differentiation [11]. However, the effectiveness of MO in improving institutional performance is not always consistent. Several studies show mixed, even contradictory, results, indicating that MO is not the only determinant of organizational success [12–14]. This reinforces the view that MO must be supported by innovation orientation (IO) and learning orientation (LO) as mechanisms for driving organizational adaptation [15–17].

IO emphasizes the importance of a culture of creativity, exploration of new ideas, and the ability of institutions to develop new products, services, and processes in line with changing market needs [15]. In the context of higher education, IO is manifested in the development of adaptive curricula, digitization of academic processes, and innovation in learning models and student services. On the other hand, learning orientation serves as a mechanism for building a generative learning process that strengthens the institution's ability to adapt to environmental changes [18,19]. This orientation enhances the organization's ability to internalize new knowledge, strengthen absorptive capacity, and support the sustainability of innovative processes. The synergistic combination of MO, IO, and LO is believed to produce agility-driven strategies that are relevant to the dynamics of modern higher education [20].

Although many studies have examined the relationship between MO, innovation, and institutional performance, there is still a significant research gap. Most previous studies have focused on direct or partial relationships between variables without simultaneously testing the dual mediating role of IO and LO on IA[21,22]. In addition, the influence of contextual factors such as digital transformation and organizational subculture variations in private universities is rarely discussed in depth, even though both have important implications for the effectiveness of adaptive strategies [23,24]. Therefore, this study aims to develop and test a conceptual model that explains how IO and LO mediate the relationship between MO and IA in private universities. By integrating previous empirical findings [3], and the dynamic capabilities framework [25], his study is expected to contribute theoretically to the development of higher education strategic management literature and provide practical recommendations for the strategic management of private universities in Indonesia.

Literature Review

Market Orientation as the Basis of Market Culture

Market Orientation (MO) is one of the main foundations in strategic marketing theory that emphasizes the importance of a deep understanding of market needs, competitor behavior, and coordination between internal functions within an organization [10]. In the context of higher education, MO is defined as an institution's commitment to creating value for students and other stakeholders through the processes of intelligence generation, intelligence dissemination, and responsiveness to changing market needs [9].

MO in private universities covers three main dimensions: (1) customer orientation, which is the ability to understand the needs of students and graduate users; (2) competitor orientation, which is strategic awareness of the conditions of competitors in the higher education environment; and (3) interfunctional coordination, which is synergy between units in creating sustainable value for all stakeholders [3]. MO has been proven to have a positive effect on institutional performance and competitiveness [6,26]. Institutions with a strong market culture demonstrate better adaptability to policy changes, student preferences, and macroeconomic dynamics. However, the effectiveness of MO is not universal. Several studies show mixed results depending on the social, economic, and cultural context of the organization [10,13].

Recent research has identified a theoretical gap in the application of MO in the higher education sector, where this approach is often applied mechanically without considering the subcultural context between campus units and the internal capacity of institutions [23,27]. Therefore, MO needs to be viewed not only as a marketing function, but as an organizational culture that forms the basis for strategic capability building and continuous learning [28]. Thus, MO becomes an important foundation for developing organizational innovation and learning capabilities, which will further determine the level of institutional agility.

Innovation Orientation and Learning Orientation as Dynamic Capabilities

The concepts of innovation orientation (IO) and learning orientation (LO) are rooted in Dynamic Capabilities Theory (DCT) [25]. Within this framework, adaptive and competitive organizations are not only those that possess valuable resources, but also those that are able to continuously reconfigure these resources through learning and innovation processes.

Innovation Orientation (IO). Refers to an institution's ability to innovate and explore new customer-oriented opportunities by recognizing and utilizing innovative opportunities in strategy, products, and services [29]. n the context of higher education, innovation is crucial to achieving competitive advantage by utilizing external knowledge and overcoming resource constraints [22]. Forms of innovation in private universities can include the digitization of academic services, curriculum transformation, the development of online learning systems, and institutional governance reform [16]. This innovation has a positive effect on the institution's readiness to face change and improve adaptive work behavior [30]. Therefore, IO serves as an important adaptive mechanism for private universities to survive and compete amid resource constraints and global dynamics [3].

Learning Orientation (LO). Learning Orientation (LO). An important attribute in strategy formulation, especially for higher education institutions, LO refers to the capacity and commitment of institutions to continuously acquire, disseminate, and utilize knowledge to adapt, innovate, and strategically respond to environmental changes [20], O in institutions can be used to create, acquire, and transfer knowledge that can improve effectiveness and innovation [15]. In the context of higher education, LO enables institutions to build absorptive capacity that strengthens their ability to adopt new ideas and adjust strategies to external demands [19,18]. Empirical findings show that LO has a significant effect on the performance of private universities, particularly in strengthening innovation processes and increasing competitiveness [3], directly affecting institutional performance, with institutions that foster a learning culture tending to perform better [31]. LO is recognized as a dynamic capability that enables institutions to continuously adapt and innovate, and requires the involvement and commitment of institutions to continue learning and acquiring and developing new skills. This step enables institutions to respond effectively to changes in the environment and market [32], Learning-oriented institutions have a better ability to transform market information into sustainable innovative strategies [15,32]. Thus, IO and LO function as dynamic capabilities that bridge the relationship between MO and IA [12], and become the main source for private universities to maintain competitive advantage amid the uncertainty of the higher education environment.

Institutional Agility as a Strategic Outcome

Institutional agility (IA) is a concept that has evolved from the literature on strategic agility and the dynamic capabilities framework [25]. Agility is described as an organization's ability to detect opportunities and threats from the external environment, then respond quickly and effectively through

resource flexibility and data-driven decision making [7,33]. In the context of higher education, IA reflects the ability of universities to anticipate changes in the education market, modify academic programs, and adjust organizational structures to digital transformation and stakeholder expectations [4,5]. IA is the main strategic outcome of digital transformation, driven by strong digital leadership and adaptability, requiring the continuous development of robust strategies to foster agility and overcome resistance to change in higher education institutions [2]. Agility is not only the result of market orientation, but also a manifestation of the integration of innovation orientation and learning orientation, which enables organizations to learn quickly and act in a timely manner (sense-respond capability). Private universities that are highly committed to learning and innovation demonstrate superior performance, both in terms of internal efficiency and public perception [3]. These findings are in line with the concept of dynamic capability maturity, in which institutional agility is the highest form of organizational capability in maintaining competitive advantage in a volatile environment [25]. Thus, IA can be viewed as a strategic outcome of the synergy between MO, IO, and LO. The integration of these three orientations forms a conceptual framework that describes how market culture and learning processes contribute to institutional agility in facing disruption and systemic change in the higher education sector.

Conceptual Model and Research Hypotheses

Conceptual Model

Based on theoretical foundations and previous research findings, this study developed a conceptual model that explains the relationship between MO, IO, LO, and IA. This model departs from the DCT framework [25], which emphasizes the importance of institutional capabilities in integrating, building, and reconfiguring internal and external competencies to respond to rapid environmental changes. In the context of private universities, MO functions as the basic organizational culture that encourages behavior responsive to market changes and student needs [9]. However, the effect of MO on IA is not direct. MO requires intermediate mechanisms in the form of IO and LO to transform market knowledge into valuable innovation and continuous learning [12,15]. IO enables universities to explore new opportunities through product, service, and academic management system innovations [29], while LO strengthens the institution's capacity to learn, adapt, and absorb new knowledge to improve agility in decision-making [18,20].

This research model also considers IA as a strategic outcome, which is a condition in which universities have the ability to anticipate environmental changes and respond to them quickly, accurately, and in a value-oriented manner [7,25]. IA is seen as the result of synergy between MO, IO, and LO. Conceptually, this model assumes that: (1) MO has a direct influence on IA; (2) MO influences IO and LO; (3) IO and LO jointly mediate the relationship between MO and IA. The conceptual model (see Fig. 1) explains the integration of DCT [25] with three main concepts of

organizational orientation, namely MO, IO, and LO, as well as strategic outcomes in the form of IA. This model positions MO as an antecedent that influences IA both directly and indirectly through two mediating variables, namely IO and LO. The direction of the relationship between variables is illustrated in the form of structural arrows that show the hypothetical path tested empirically using Partial Least Squares (PLS)-based Structural Equation Modeling (SEM).

Figure 1: Conceptual Model of the Relationship between Market Orientation (MO), Innovation Orientation (IO), Learning Orientation (LO), and Institutional Agility (IA).

Hypothesis Development

The influence of Market Orientation (MO) on Institutional Agility (IA). MO serves as the basis of organizational culture that emphasizes customer orientation, competitor orientation, and inter-functional coordination to create sustainable value [10,34]. In the context of private universities, market-oriented institutions are able to respond more quickly to changes in student preferences and the dynamics of higher education policy [6]. Thus, the stronger the market orientation of an institution, the greater its ability to achieve organizational agility.

The influence of Market Orientation (MO) on Innovation Orientation (IO) and Learning Orientation (LO). MO creates an environment that supports cross-functional information exchange and encourages the formation of new ideas and organizational experimentation [15]. In the context of private universities, MO enables institutions to recognize opportunities for innovation in the academic and administrative fields [22], and develop a culture of continuous learning [20]. Therefore, market orientation is expected to influence both of these dynamic mechanisms.

The influence of Innovation Orientation (IO) on Institutional Agility (IA). Institutions with high IO tend to be able to respond quickly to change through the development of new ideas, process digitization, and the adoption of educational technology [16,30]. Systematic innovation enables institutions to increase structural flexibility and accelerate decision-making processes [29]. Thus, IO is expected to have a positive impact on institutional agility.

The influence of Learning Orientation (LO) on Institutional Agility (IA). LO strengthens the ability of institutions to adapt to external changes by increasing organizational learning capabilities [18]. Learning-oriented institutions are able to integrate past experiences and new information into adaptive strategies [15]. Therefore, the higher the LO, the greater the institution's ability to achieve organizational agility.

The Mediating Role of Innovation Orientation (IO) and Learning Orientation (LO). Based on the theory of dynamic capabilities, MO does not directly produce agility, but through internal mechanisms in the form of continuous innovation and learning.

The Mediating Role of Innovation Orientation (IO) and Learning Orientation (LO). Based on the theory of dynamic capabilities, MO does not directly produce agility, but through internal mechanisms in the form of continuous innovation and learning [12,25]. IO enables institutions to translate market insights into strategic innovations, while LO ensures the sustainability of the adaptation process and organizational capacity building. Thus, these two orientations are expected to mediate the relationship between MO and IA.

H5a: Innovation Orientation mediates the relationship between Market Orientation and Institutional Agility.

H5b: Learning Orientation mediates the relationship between Market Orientation and Institutional Agility.

Research Methodology

Research Design

This study uses a quantitative approach with an explanatory design to examine the causal relationship between the variables of Market Orientation (MO), Innovation Orientation (IO), Learning Orientation (LO), and Institutional Agility (IA). This approach was chosen because it is suitable for analyzing the structural multiple mediation relationship between latent variables [35]. This study is an extension of a previous empirical study on the performance and competitiveness of private universities in Bengkulu Province [3], expanding the model through the integration of dynamic capabilities theory [25].

Research Population and Sample

The research population includes all faculty leaders, study programs, and strategic units in private universities in Bengkulu Province. The sampling technique used purposive sampling with criteria for respondents who have at least three years of managerial experience and are directly involved in strategic decision-making. Based on data from the Higher Education Database (PDDikti), there are 17 active private universities in Bengkulu Province. From this population, a total of 210 questionnaires were sent out and 168 questionnaires were deemed suitable for analysis (response rate of 80%). This number meets the minimum sample size recommendation for SEM analysis with complex models [35].

Measurement of Variables and Research Instruments

The research instruments were developed from scales that had been validated in previous literature. Each item was measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The details and sources of the measurements are as follows:

1. Market Orientation (MO) measures three dimensions, namely customer orientation, competitor orientation, and interfunctional coordination[9,34].
2. Innovation Orientation (IO), measures the extent to which institutions develop innovative ideas and solutions in the fields of academics, services, and governance [22,36].
3. Learning Orientation (LO), measures the extent to which organizations encourage continuous learning, knowledge sharing, and organizational reflection [15,37].
4. Institutional Agility (IA), measures an institution's ability to detect opportunities, respond to change, and quickly reconfigure resources [7,33].

Table 1 below presents a summary of the constructs, indicators, and measurement source references.

Table 1. Operational Definitions and Measurement Sources of Variables.

Variable	Dimension	Items	Sources
Market Orientation	Customer, Competitor, Interfunctional	9	[9,34]
Innovation Orientation	Creativity, Experimentation, Risk-taking	6	[22,36]
Learning Orientation	Commitment to Learning, Shared Vision, Open-mindedness	6	[15,37]
Institutional Agility	Sensing, Responding, Resource Flexibility	7	[7,33]

Data Analysis Techniques

Data analysis was conducted in two stages, namely measurement model analysis and structural model analysis using a Partial Least Squares (PLS-SEM) based SEM approach with SmartPLS version 4.0 software. The reason for choosing the PLS-SEM method was because this research model was predictive and exploratory in nature with complex multiple mediation relationships [35].

Measurement Model Analysis (Outer Model). Construct validity and reliability were tested through:

1. Convergent validity with factor loading criteria > 0.7 and Average Variance Extracted (AVE) > 0.5.
2. Discriminant validity using the Fornell-Larcker criterion and HTMT ratio < 0.85.
3. Composite reliability (CR) and Cronbach's alpha were used to test internal consistency (> 0.7).

Structural Model Analysis (Inner Model). After the measurement model met the validity and reliability criteria, the relationship between latent variables was tested to examine the research hypothesis. Path significance was tested using bootstrapping of 5,000 subsamples with a significance level of 5%. Mediation tests were conducted following the indirect effect procedure with bootstrapped confidence intervals [38]. In addition, R-squared (R^2), f-squared (f^2), and Q-squared (Q^2) were used to assess the strength of the model and its predictive relevance.

Common Method Bias Testing. To avoid common method bias, several approaches were used: (1) respondent anonymity procedures; (2) separation of construct items in the questionnaire; and (3) Harman's single factor test with a single variance limit < 50%[39].

Instrument Validity and Reliability

Content validity was tested through expert judgment by three experts in strategic management and higher education. Reliability was tested in a pilot test involving 30 respondents outside the main research sample. The pilot test results showed that all constructs had Cronbach's alpha values above 0.7, indicating adequate instrument reliability.

Results and Discussion

Measurement Model Analysis (Outer Model)

The measurement model testing results showed that all indicators met the convergent validity criteria with factor loadings above 0.70 and Average Variance Extracted (AVE) greater than 0.50. The Composite Reliability (CR) value for each construct was also above 0.80, indicating good internal consistency [35]. Additionally, the discriminant validity results through the HTMT ratio test show that all values are below 0.85, meaning there are no discrimination issues between constructs. Thus, all constructs used in this study are declared valid and reliable for use in structural analysis.

Table 2: Summary of Construct Validity and Reliability Test Results

Construct	AVE	CR	Cronbach Alpha	HTMT(<0.85)	Conclusion
Market Orientation	0.623	0.886	0.853	0.749	Valid & Reliable
Innovation Orientation	0.671	0.902	0.871	0.799	Valid & Reliable
Learning Orientation	0.695	0.914	0.884	0.812	Valid & Reliable
Institutional Agility	0.714	0.928	0.902	0.821	Valid & Reliable

Structural Model Analysis (Inner Model)

The results of structural model analysis using 5,000 subsample bootstrapping show that all relationships between latent variables are significant at a 95% confidence level. The R-squared (R^2) value for IA is 0.692, indicating that 69.2% of the variation in institutional agility can be explained by MO, IO, and LO. Meanwhile, IO and LO have R^2 values of 0.574 and 0.611, respectively, indicating a strong influence of MO on both mediators [35].

Table 3. Structural Model Test Result

Relationship	Path Coefficient (β)	t-statistic	p-value	HTMT(<0.85)	Conclusion
MO → IA	0.218	3.972	0	Significant	MO → IA
MO → IO	0.582	10.341	0	Significant	MO → IO
MO → LO	0.601	11.112	0	Significant	MO → LO
IO → IA	0.324	6.215	0	Significant	IO → IA
LO → IA	0.283	5.902	0	Significant	LO → IA

Mediation Test

The mediation test was conducted following the bootstrapped indirect effect procedure [38]. The test results showed that the indirect effect of MO on IA through IO was significant ($\beta = 0.189$, $p < 0.001$) and through LO was also significant ($\beta = 0.170$, $p < 0.001$). Thus, the two mediating variables, IO and LO, were simultaneously proven to mediate the relationship between MO and IA. This indicates that MO not only has a direct impact on institutional agility but also works through dynamic mechanisms in the form of innovation and organizational learning.

Discussion

The results of this study confirm that MO acts as a strategic foundation that influences IA both directly and indirectly. These results are consistent with findings that institutions with a strong market culture are more adaptive to external environmental changes [6,26]. However, the contribution of MO to IA becomes significant when reinforced by IO and LO, as explained in the DCT framework [25]. The finding that IO has a positive effect on IA [16,30], emphasizes the importance of digital innovation and adaptive governance in higher education. Private universities that adopt curriculum digitization, academic information systems, and innovative service strategies have proven to be more responsive to disruptions in the education market. Meanwhile, LO has been proven to be an important mechanism that strengthens the absorptive capacity of organizations [18,37]. hese results show that institutions that foster a culture of continuous learning are able to convert market information into

strategic decisions that increase institutional competitiveness and resilience. The double mediation effect of IO and LO confirms that the combination of innovation and learning is the key to achieving IA [12]. Theoretically, the results of this study expand the understanding of how MO interacts with dynamic capabilities to produce IA. Practically, these findings provide recommendations for private university leaders to build management systems that support a culture of innovation and adaptive learning as a strategy in facing policy changes, education digitization, and labor market expectations.

Conclusion

This study aims to empirically test the relationship between MO and IA by exploring the dual mediating role of IO and LO in private universities in Indonesia. Based on the results of SEM-PLS analysis, the following main conclusions were obtained: (1) MO has a direct and significant effect on IA. This finding indicates that strong MO is achieved through understanding students, competitors, and cross-functional coordination, which encourages the institution's ability to respond quickly and adaptively to changes in the higher education environment; (2) MO has a significant effect on IO and LO. This confirms that an open market culture encourages innovative behavior and continuous learning within higher education organizations; (3) IO and LO have a significant effect on IA. Private universities that instill a culture of innovation and adaptive learning are able to develop agile organizational structures, accelerate decision-making, and increase resilience to disruption; (4) IO and LO mediate the relationship between MO and IA. This finding confirms the importance of these two variables as dynamic capabilities that convert market insights into strategic actions that increase institutional agility. Overall, the results of this study support DCT [25] which emphasizes that institutional competitive advantage in a dynamic environment is determined by the ability to integrate market knowledge, innovation, and continuous learning.

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