Journal of Open Innovation: Technology, Market, and Complexity

Article

Does Engaging in Global Market Orientation Strategy Affect HEIs' Performance? The Mediating Roles of Intellectual Capital Readiness and Open Innovation

Bambang Tjahjadi [1,*], Noorlailie Soewarno [1], Johnny Jermias [2], Hariyati Hariyati [3], Atika Fairuzi [1] and Dewi Nabilah Anwar [1]

[1] Faculty of Economics and Business, Universitas Airlangga, Surabaya City 60285, Indonesia; noorlailie-s@feb.unair.ac.id (N.S.); atika.fairuzi-2018@feb.unair.ac.id (A.F.); dewi.nabilah.anwar-2018@feb.unair.ac.id (D.N.A.)
[2] Beedie School of Business, Simon Fraser University, Burnaby, BC V5A 1S6, Canada; jjermias@sfu.ca
[3] Faculty of Economics and Business, Universitas Negeri Surabaya (UNESA), Surabaya City 60213, Indonesia; hariyati@unesa.ac.id
* Correspondence: bambang.tjahjadi@feb.unair.ac.id; Tel.: +62-816-527-484

Abstract: This study aims to examine the effect of global market orientation strategy on the performance of Indonesian Higher Education Institutions. Furthermore, it investigates whether this relationship is mediated by intellectual capital readiness and open innovation. This is a quantitative study employing a multi-mediation research model conceptualizing the relationship among the five constructs. This study employs a resource-based view to explain the relationships among constructs and partial least squares-structural equation modeling to test the hypotheses studied. A sample of 119 schools/faculties, derived from the 50 best state and private institutions in Indonesia and based on the Webometrics 2021, was used. This research reveals the following main results. First, intellectual capital readiness fully mediates the influence of global market orientation strategy on the institutions' performances. Second, open innovation does not mediate the effect of global market orientation strategy on institutions' performances. This study is the first attempt to understand how global market orientation strategy enhances institutions' performances via intellectual capital readiness and open innovation. This study reveals the insignificant effect of open innovation on performance. Thus, the main implication of these findings is that institutions need to downstream their innovations to the community for future performance and communities' benefits. The applied execution does matter in the open innovation–institution performance relationship.

Keywords: global market orientation strategy; intellectual capital readiness; open innovation; higher education institutions' performance; education

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Citation: Tjahjadi, B.; Soewarno, N.; Jermias, J.; Hariyati, H.; Fairuzi, A.; Anwar, D.N. Does Engaging in Global Market Orientation Strategy Affect HEIs' Performance? The Mediating Roles of Intellectual Capital Readiness and Open Innovation. *J. Open Innov. Technol. Mark. Complex.* **2022**, *8*, 29. https://doi.org/10.3390/joitmc8010029

Received: 1 December 2021
Accepted: 17 January 2022
Published: 21 January 2022

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1. Introduction

Which factors trigger organizational performance during rapid and dynamic change? The answer to this question is important for society when faced with the role of higher education institutions (HEIs) in the era of globalization and during the COVID-19 pandemic. In global competition, the quality of human capital will determine the competitive advantage of a nation. HEIs are needed in every country because of their strategic role in improving the quality of human capital through higher education [1–3] Thus, HEIs are demanded to enhance their quality by using global standards because they are compared to each other by the rating agencies, such as the ARWU, Times Higher Education (THE), and Quacquarelli Symonds (QS). Moreover, the COVID-19 pandemic has increased the complexity of problems in the management of HEIs, especially with various restrictions on community activities. How strategy, intellectual capital readiness, and open innovation affect the HEIs' performance is the focus of this paper.

One of the theoretical arguments regarding organizational performance and competitiveness is provided by the resource-based view (RBV), which explains that resources owned by an organization must have the characteristics of valuable, rare, inimitable, and non-substitutable [4–8]. RBV argues that a strategy that is unique and cannot be imitated by competitors creates a competitive advantage [6,7]. Thus, a global market orientation strategy as a set of assets, skills, and capabilities should be used by organizations to create a sustainable competitive advantage and to obtain achieve a superior result in the global era. However, according to [9], market orientation is an area that needs further investigation, especially in international contexts. In the context of global education, it is crucial for HEIs to adopt the global market orientation strategy to improve the quality of their services using the global standards. Thus, identifying the factors that contribute to the relationship between global market orientation strategy and organizational performance is strategically important. Although the issue of globalization is becoming increasingly prevalent, empirical studies using the construct of global market orientation are still rare, especially in the context of HEIs. Some scholars used the construct of market orientation in their studies, though even this achieved inconsistent results. This research gap requires further studies. To effectively execute the global market orientation strategy, organizations need to develop and prepare their intellectual capital to outperform their competitors. Intellectual capital drives organizational innovations and competitiveness. Intellectual capital is the most important strategic resource for creating competitive advantage because it integrates innovation from external sources [10]. A more specific construct of intellectual capital is introduced, namely intellectual capital readiness together with open innovation as the mediating variables. Intellectual capital readiness has a more specific meaning, related to the effectiveness of strategy execution. Some previous studies indicated the relationships between strategy and human capital [11], strategy and intellectual capital [12,13], and intellectual capital and open innovation [14,15], as well as open innovation and organizational performance [16,17]. Therefore, a multi-mediation conceptual framework is employed by this study to provide a more comprehensive understanding.

This study is important for Indonesia for the following reasons. First, Indonesia, as one of the most populous countries, is very concerned about the quality of higher education institutions, especially for improving its competitive position in the world [18,19]. Second, in 2021, one of the best universities in Indonesia was only ranked 254 in the QS WUR. Third, the participation of Indonesian universities in a global context is still low, as evidenced by only 5 out of 4621 universities being included in the best 500 of QS WUR 2021. Fourth, during the COVID-19 pandemic, the HEIs must be faster and more creative in adapting to changes in the global higher education industry, including internationalization programs. In summary, this study addresses the following research problems: (1) Does intellectual capital readiness mediate the effect of global market orientation strategy on HEIs' performance? (2) Does open innovation mediate the influence of global market orientation strategy on HEIs' performance? and (3) Do intellectual capital readiness and open innovation sequentially mediate the influence of global market orientation strategy on HEIs' performance?

This research has the following novelties. First, studies regarding the effect of global market orientation strategy on HEIs' performance are still rarely conducted. Second, this is the first study investigating the effect of global market orientation strategy on HEIs' performance using intellectual capital readiness and open innovation as mediating variables. Third, it uses a more specific construct, namely intellectual capital readiness because of its importance to strategy execution. Fourth, it employs a dual mediation conceptual framework for a more comprehensive understanding.

2. Literature Review and Hypothesis Development

RBV states that resources owned by the organization are the key to achieving organizational competitiveness. In HEIs, RBV refers to the unique, internal resources possessed by each HEI and their optimal use to outperform its competitors. Internal resources that

support the competitive advantage of HEIs must meet the criteria of being valuable, rare, inimitable, and non-substitutable. Furthermore, the advantages of these internal resources can be further developed into new resources that are useful as a strategy for maintaining market position [20,21]. In the context of HEIs, it can be concluded that the better the management of internal resources, the better their performance. Internal resources can be tangible or intangible assets [22–25]. The most significant internal resources owned by universities are intangible assets [26]. In the era of a knowledge economy, the most critical intangible resource is intellectual capital [27,28] which consists of human capital, relational capital, and structural capital [29–31]. Intellectual capital can improve HEIs' performance because of their ability to transfer knowledge. Scholars [29,31,32] also argue that the process of internationalization and the priority of accessibility of higher education resources are the primary motivations for interacting globally to achieve a competitive advantage [33,34].

RBV is relevant for this study because of its ability to explain the importance of internal organizational factors such as global market orientation, intellectual capital, and open innovation as the main determinants of improving the competitiveness and performance of Indonesian HEIs. To succeed in the global market, HEIs need to identify their potential customers and competitors and prepare their intellectual capital to meet global standards. HEIs also need to create various innovations to meet customer demand and win global competition. Open innovation provides another way to access new sources of knowledge outside the organization so that it is more efficient and minimizes barriers, such as finance, technology, and human resources. Organizations that implement open innovation activities need to analyze their impacts on competitiveness because innovation may affect several competitiveness constructs [35]. A global market orientation strategy combined with the ability to commercialize internal innovations to external parties will provide a better competitive advantage [36,37]. Thus, it is mandatory for every university to develop the appropriate strategies and management of internal resources to achieve a global competitive advantage.

2.1. Previous Studies

Table 1 presents the map of previous studies [38–52] relating to the construct of global market orientation or market orientation and its effect on the performance of mostly profit-oriented organizations.

2.2. Global Market Orientation Strategy and HEIs' Performance

Global market orientation is a strategy used for maximizing the value of products or services to achieve a competitive advantage in the global market [20,53,54]. The global market plays an essential role in increasing the success of organizations, implementing internationalization strategies for entering global markets [55–57]. Market orientation strategy encourages organizations to continue to seek information about the needs and conditions of consumers, competitors, and others to maximize their output [58,59]. Achieving global market performance has become a significant concern of universities today with the hope of increasing external financial sources and attracting qualified international students and researchers [60].

Several scholars examined the influence of market orientation strategy on performance, but studies of HEIs' performance on the same topic are still rare. In the context of profit-oriented companies, research by [61] in Albania revealed that market orientation strategy influences firms' performance; a study of [46] on the pharmaceutical companies in Jordan proved that market orientation positively affects companies' performance; and a study by [48] on UAE private companies demonstrated that international market orientation positively influences internationalization performance. Another study by [47] showed that the market orientation strategy implemented by the hospitality industry in Portugal has a positive influence on performance. This research confirms the results of earlier findings using the research setting of universities as non-profit organizations. This study also argues

that the more effective the implementation of the global market orientation strategy, the better the performance of HEIs. Based on these reasons, the first hypothesis is formulated:

Hypothesis 1 (H1). *Global market orientation strategy has a positive effect on HEIs' performance.*

Table 1. Map of some previous studies.

#	Researcher(s), Year	Independent Variable	Dependent Variable	Subject	Result
1	Greenley (1995)	Market Orientation	Performance	Companies in UK	No effect
2	Appiah-Adu (1998)	Market Orientation	Performance (ROI dan Sales Growth)	Companies in Ghana	No effect
3	Caruana, Ramaseshan and Ewing (1999)	Market Orientation	Performance	Governmental departments in Australia	Positive effect
4	Grewal and Tansuhaj (2001)	Market Orientation and StrategicFlexibility	Performance After Crisis	Companies in Thailand	Negative effect
5	Sandvik and Sandvik (2003)	Market Orientation	Business Performance	Hotels in Norway	Negative effect
6	Langerak, Jan Hultink and Robben (2004)	Market Orientation	Organizational Performance	Companies in Netherland	No effect
7	Xie, Liu and Chen (2007)	Market Orientation	Organizational Performance	Companies in China	No effect
8	Zebal and Goodwin (2012)	Market Orientation	Performance	Private universities in Bangladesh	Positive effect
9	Masa'deh et al. (2018)	Market orientation, technology orientation, entrepreneurial orientation	Organizational Performance	Pharmaceutical companies in Jordan	Positive effect
10	Sampaio, Hernández-Mogollón and Rodrigues (2019)	Market Orientation	Business Performance	Hotels in Portugal	Positive effect
11	Nakos, Dimitratos and Elbanna (2019)	Global Market Orientation	International Performance	Companies in UAE	Positive effect
12	Udriyah and Azam (2019)	Market Orientation	Competitive Advantage and Business Performance	Textile SMEs	Positive effect
13	Bamfo and Kraa (2019)	Competitor Orientation	Business Performance	SMEs in Ghana	No effect
14	Anabila et al. (2020)	Market Orientation	Market Performance of HEIs	Private universities in Ghana	Positive effect
15	Abbu and Gopalakrishna (2021)	Market Orientation	Firm Performance	Companies	Positive effect

2.3. The Mediating Role of Intellectual Capital Readiness on Global Market Orientation Strategy—HEIs' Performance Relationship

Globalization is a challenge for organizations and their interactions with global markets. Organizations that focus their orientation on global markets need to adjust their resources' values and capabilities [62], especially their intellectual capital, per global standards. RBV argues that intellectual capital plays an important role as an intangible asset that improves organizational performance. Organizations that optimally manage intellectual capital will increase their organizational value [63–66]. In the context of higher education, intellectual capital can be an indicator used by universities to attract international students and lecturers and improve their academic performance [67,68].

Intellectual capital is one of the key strategic factors for improving organizational performance. As stated by [13], intellectual capital facilitates the implementation of organizational strategy. A study by [69] on universities in Thailand showed that intellectual capital positively affects the universities' performances, while a study by [70] on universities in Columbia proved that intellectual capital improves performance, including productivity, graduate quality, and international collaboration. Referring to [71], "readiness" means that intangible assets must be ready to support effective strategy execution. Intellectual capital readiness also implies that human capital, structural capital, and relational capital must be developed and prepared by HEIs to support strategy execution. HEIs need

to pay special attention to the development and readiness of intellectual capital to meet the global standards. Thus, this study argues that the higher the level of global market orientation strategy implementation, the higher the need for intellectual capital readiness to support strategy execution; furthermore, this will influence HEIs' performance. Based on the previous arguments, the second hypothesis can be proposed as follows:

Hypothesis 2 (H2). *Intellectual capital readiness mediates the effect of global market orientation strategy on HEIs' performance.*

2.4. The Mediating Role of Open Innovation on Global Market Orientation Strategy—HEIs' Performance Relationship

Global market orientation strategy is a strategy for determining orientation and the actions necessary to create added value when marketing products in global markets. Organizations that adopt the global market orientation strategy need to better understand their consumer needs, competitor capabilities, and other external forces [48,57,72]. Organizations with a global market orientation strategy will encourage the creation of innovation [61,73], and open innovation plays an important role in the process of improving performance [16,17]. A study conducted by [17] on 178 universities in Sri Lanka showed that open innovation has a positive influence on HEIs' performance. A study by [16] on 244 organizations in Spain also proved that open innovation strategy positively influences organizational performance. In the context of HEIs, this study argues that the more extensive the adoption of global market orientation strategy, the higher the need for innovations; consequently, this will enhance HEIs' performance. Based on the previous explanation, the following third hypothesis is proposed:

Hypothesis 3 (H3). *Open innovation mediates the effect of global market orientation strategy on HEIs' performance.*

2.5. The Mediating Role of Intellectual Capital Readiness and Open Innovation on Global Market Orientation Strategy—HEIs' Performance Relationship

RBV argues that intellectual capital is a driver of competitive advantage because it can integrate innovation from within and outside an organization, thus its readiness is important. Therefore, an organization adopting a global market orientation strategy requires intellectual capital readiness for an effective strategy execution and triggers open innovation to enhance performance. Although previous scholars partially examined the relationships between strategy, intellectual capital, open innovation, and performance [11,15–17], a more integrative and comprehensive model does not exist. In the context of HEIs, this study argues that the more extensive the adoption of global market orientation strategy, the more important the role of intellectual capital readiness in strategy execution. This triggers the need for open innovation, and finally, these innovations improve HEIs' performance. Based on the previous arguments, the following fourth hypothesis is proposed:

Hypothesis 4 (H4). *Intellectual capital readiness and open innovation sequentially mediate the effect of global market orientation strategy on HEIs' performance.*

This study employs a multi-mediation approach. Figure 1 depicts the conceptual framework of this research involving four constructs, namely global market orientation strategy, intellectual capital readiness, open innovation, and HEIs' performance.

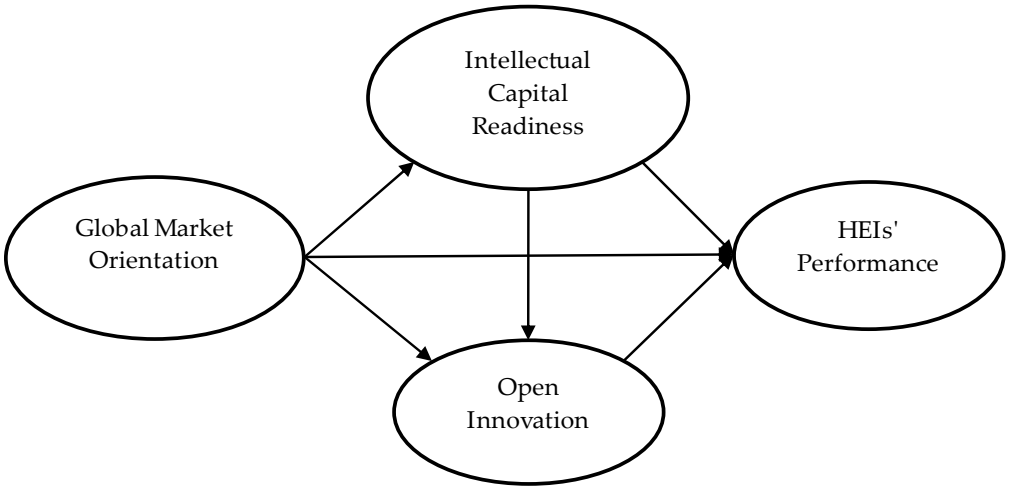

Figure 1. Conceptual framework.

3. Methodology

3.1. Sample

The research data were collected from the 50 best public and private universities in Indonesia, according to the Webometrics 2021, with a total of 529 schools/faculties. The Webometrics uses indicators of visibility (impact), transparency (openness), and excellence. Purposive sampling was used to determine the sample with the following criteria: (1) HEI must be included in the 50 universities in the Webometrics 2021; (2) HEI must have an official website that contains information about the number of schools/faculties; (3) school/faculty must have an updated website; (4) school/faculty website must have the name of the dean and vice dean, as well as their respective e-mail addresses. Based on these criteria, 327 schools/faculties met the requirements.

3.2. Data Collection

Online questionnaires were used to collect data from respondents. Before being widely distributed, a pilot test was conducted on 35 lecturers in Surabaya city. The result of the pilot test showed that the questionnaire was valid and reliable. Furthermore, as many as 327 questionnaires were sent to each school/faculty accompanied by a letter explaining the purpose of research, the confidentiality of respondents' answers, the description of no right or wrong answers, and the anonymous questionnaires. Respondents who did not answer were reminded every two weeks. After three months of the data collection period, 119 questionnaires were obtained for further processing. Thus, the response rate of the questionnaire was about 36%.

A non-response bias test was conducted by analyzing the early response and the late response of the questionnaires. As many as 32 questionnaires received in the first month were compared with 37 questionnaires received in the third month to determine the issue of bias. Table 2 shows the results of the Levene test and independent *t*-test showing that there was no significant difference in the average value of the early response and late response [74]. This meant that there was no non-response bias issue in this study.

Table 2. Levene test and Independent *t*-test.

				Levene's Test			*t*-Test		
Variable	**Cutoff**	**N**	**Mean**	**F**	**Sig**	**Assumption**	**t**	**Sig (Two-Tailed)**	**Conclusion**
GMOS	Early	32	4.83	0.000	0.999	Equal Variances assumed	−0.900	0.928	Not statistically different
	Late	37	4.85						
ICR	Early	32	4.93	0.340	0.562	Equal Variances assumed	0.631	0.530	Not statistically different
	Late	37	4.83						
OI	Early	32	4.76	4.652	0.035	Equal Variances not assumed	0.687	0.495	Not statistically different
	Late	37	4.65						
HEI PERF	Early	32	4.30	0.017	0.898	Equal Variances assumed	0.396	0.693	Not statistically different
	Late	37	4.24						

3.3. Definitions and Measurements

3.3.1. Global Market Orientation Strategy

Global market orientation strategy is defined as a strategy that focuses on activities that increase HEIs' performance in the global market. The implementation of market orientation strategy includes three activities: (1) competitor orientation; (2) customer orientation; and (3) inter-functional coordination [48,75,76]. Referring to Poole [77], the measurement of global market orientation strategy consists of ten statements after being adjusted to the conditions of HEIs in Indonesia during the COVID-19 pandemic. A Likert scale rating from 1 (strongly disagree) to 6 (strongly agree), referring to [78], was used in this study because there was no middle value on the scale. The ten statements used included: (1) actively conducting international student admission programs; (2) developing an online teaching and learning system to attract international students; (3) establishing an international office for international cooperation and international student services; (4) dissemination of information through social media networks to prospective international students; (5) developing facilities to provide the best service to international students and enhance competitive ability; (6) adapting the curriculum according to the needs of global entrepreneurs; (7) following the ranking of world-class universities conducted by QS World University Ranking and THE to gain a global reputation; (8) monitoring competitor activity in global markets, particularly in terms of academic and employer reputation; (9) continuing to strive for various international accreditations; and (10) adjusting the standards of education, research, and community service according to world-class standards.

3.3.2. Intellectual Capital Readiness

Intellectual capital readiness is defined as the readiness of skills and experience of human and organizational resources that can increase HEIs' performance during the pandemic. Intellectual capital has three dimensions: human capital, relational capital, and structural capital. In this study, intellectual capital readiness was measured by 17 statements developed from [71,79] after being adjusted to the conditions of universities in Indonesia during the COVID-19 pandemic. The statements included: (1) teaching and administrative staff who have good knowledge to carry out the mission and vision; (2) teaching and administrative staff who have good knowledge of the needs of service users; (3) teaching and administrative staff who have good skills to carry out the mission and vision; (4) teaching and administrative staff who have good consulting skills; (5) teaching and administrative staff who understand the values of the organization; (6) teaching and administrative staff who have a good teamwork attitude to achieve common goals; (7) clarity of the HEI's organizational structure; (8) build reputation, patents, and other intellectual capital; (9) a good university management system; (10) culture and values that are in line with the goals of university; (11) adequate data and documentation; (12) procedures and work methods

that support operational activities; (13) build a network with the academic community; (14) maintain strategic relationships with other universities, companies, and governments; (15) high concern for the health of community; (16) periodically conduct surveys and evaluations to stakeholders regarding the level of satisfaction; and (17) capability to implement research results for the community.

3.3.3. Open Innovation

Open innovation is defined as knowledge flow management activities by utilizing external knowledge to develop institutional innovations, known as inbound open innovation, and marketing internal knowledge through external channels or outbound open innovation [31,80,81]. In this study, the implementation of open innovation by HEI is measured by 10 statements referring to [82,83], with adjustments to the conditions of HEIs in Indonesia during the COVID-19 pandemic. The statements include: (1) downstreaming or bringing research and innovation results closer to users/community: (2) commercializing intellectual property for external parties; (3) providing a business incubator (business development facility), which is actively used to develop new and innovative ideas; (4) building the ability to continuously innovate adapting environmental dynamics; (5) actively collaborating with external parties (universities, industry, government) to accelerate innovation; (6) utilizing knowledge and technology developed by external parties to enhance internal innovation; (7) conducting business with external parties for their innovations, including investing in companies; (8) planning strategies to innovate on an ongoing basis by involving internal and external parties; (9) purchasing intellectual property rights to be used for developing internal innovations as a learning process; (10) open to the idea of developing innovations that involve external parties.

3.3.4. HEIs' Performance

HEIs' performance in this study is defined as the achievement of higher education goals by utilizing its resources and capabilities [84,85]. The measurement of HEIs' performance consists of 16 statements as follows: (1) improvement of teaching outcomes; (2) improvement of teaching quality; (3) creation of innovative teaching methods; (4) increased ratio of students/lecturers; (5) improvement of research results; (6) improvement of research quality; (7) research innovation enhancement; (8) increase in research citations; (9) increased output of community service; (10) quality improvement in public services; (11) increased creation in community service innovations; (12) increased funds from the Government, students, companies and other donors; (13) improvement of human resources; (14) improvement of the information system; (15) increased cooperation with other institutions; (16) improvement in facilities and infrastructure.

3.4. Analysis

To analyze data and test the hypotheses studied, partial least squares structural equation modeling (PLS-SEM) was employed for the following reasons: (1) it can handle a relatively small sample size; (2) it is able to deal with several latent variables with various indicators [86]. To process research data, the WarpPLS version 7.0 (ScriptWarp Systems: Laredo, TX, USA) was used. The analysis was carried out in two steps: (1) measurement model analysis, and (2) structural model analysis. The results of the analysis are reported in the next section.

4. Results

4.1. Characteristics of Respondents

Table 3 presents the characteristics of respondents. It is dominated by the following characteristics: male (71%), non-professors (77%), over 50 years old (64%), more than 5 years' experience (63%), BLU university status (47%), and superior (excellence) accreditation status.

Table 3. Characteristics of respondents.

Classification Data	Sub-Classification	Frequency	
		Absolute	Percentage
Gender	Male	85	71%
	Female	34	29%
Position	Professor	27	23%
	Non-Professor	92	77%
Age	<40 years	10	8%
	40–50 years	45	38%
	>50 years	64	54%
Experience	<5 years	56	47%
	>5 years	63	53%
University Status	State University-BH [(a)]	41	34%
	State University-BLU [(b)]	56	47%
	State University-Satker [(c)]	2	2%
	Private University	20	17%
Accreditation	Excellent	90	76%
	Very Good	23	19%
	Good	2	2%
	Not filled	4	3%

Notes: BH [(a)] stands for Badan Hukum, which means that the university is established by the Government with the status of an autonomous public legal entity. BLU [(b)] stands for Badan Layanan Umum, which means that the university is established by the Government and all non-tax revenues are managed autonomously and reported to the state. Satker [(c)] stands for Satuan Kerja, which means that the university is established by the government and all revenues must be deposited into the state account (Ministry of Finance) before being used.

4.2. Measurement Model Analysis

The measurement model analysis aims to evaluate the relationship between measures and constructs by assessing the validity and reliability of each indicator relating to the specific construct. A loading factor of more than 0.6 and average variance extracted (AVE) of more than 0.5 were used as the requirements of convergent validity [86–88]. Internal consistency reliability is assessed using composite reliability (CR) with a minimum value of more than 0.7 [88]. Discriminant validity is assessed by comparing the square root of AVE with the correlation between latent variables, where the criterion of the square root of AVE must be greater than the correlation between latent variables [89].

In the first iteration, the factor loading of HEI 3 (creation of innovative teaching methods) was 0.512, HEI 7 (research innovation enhancement) was 0.576, HEI 14 (improvement of the information system) was 0.546, HEI 16 (improvement in facilities and infrastructure) was 0.569, ICR 15 (high concern for the health of the community) was 0.535, ICR 16 (periodically conduct surveys and evaluations to stakeholders regarding the level of satisfaction) was 0.570, ICR 17 (capability to implement research results to community) was 0.570, GMO 1 (competitor orientation) was 0.593, and OI 9 (purchasing intellectual property rights to be used to develop internal innovations as a learning process) was 0.583. Those indicators were eliminated in the next process. In the second iteration, the factor loading of HEI 11 (increased creation in community service innovations) was 0.554; therefore, it was eliminated for the third iteration. The results of the third iteration revealed that all indicators met the factor loadings of more than 0.6. The results of the measurement model analysis are presented in Table 4 and show that (1) each factor loading was greater than 0.6, (2) AVE for each variable was greater than 0.5, and (3) the composite reliability (CR) of each variable was also more than 0.7.

Table 4. Results of measurement model analysis.

Construct	Factor Loading	*p*-Value	Construct	Factor Loading	*p*-Value
HEI's Performance			ICR 2	0.804	<0.001
HEI 1	0.714	<0.001	ICR 3	0.808	<0.001
HEI 2	0.721	<0.001	ICR 4	0.769	<0.001
HEI 4	0.608	<0.001	ICR 5	0.805	<0.001
HEI 5	0.796	<0.001	ICR 6	0.800	<0.001
HEI 6	0.815	<0.001	ICR 7	0.737	<0.001
HEI 8	0.729	<0.001	ICR 8	0.671	<0.001
HEI 9	0.751	<0.001	ICR 9	0.818	<0.001
HEI 10	0.767	<0.001	ICR 10	0.842	<0.001
HEI 12	0.684	<0.001	ICR 11	0.784	<0.001
HEI 13	0.753	<0.001	ICR 12	0.833	<0.001
HEI 15	0.622	<0.001	ICR 13	0.736	<0.001
Composite Reliability (CR): 0.924 AVE: 0.527			ICR 14	0.655	<0.01
Global Market Orientation Strategy			Composite Reliability (CR): 0.955 AVE: 0.605		
GMO 2	0.652	<0.001	Open Innovation		
GMO 3	0.673	<0.001	OI 1	0.762	<0.001
GMO 4	0.695	<0.001	OI 2	0.783	<0.001
GMO 5	0.835	<0.001	OI 3	0.782	<0.001
GMO 6	0.812	<0.001	OI 4	0.738	<0.001
GMO 7	0.779	<0.001	OI 5	0.689	<0.001
GMO 8	0.834	<0.001	OI 6	0.814	<0.001
GMO 9	0.785	<0.001	OI 7	0.834	<0.001
GMO 10	0.728	<0.001	OI 8	0.824	<0.001
Composite Reliability (CR): 0.923 AVE: 0.574			OI 10	0.760	<0.001
Intellectual Capital Readiness			Composite Reliability (CR): 0.927 AVE: 0.589		
ICR 1	0.801	<0.001			

Note(s): This research model met the model fit and quality indices. Average path coefficient (APC) = 0.347, $p < 0.001$. Average R-squared (ARS) = 0.408, $p < 0.001$. Average adjusted R-squared (AARS) = 0.398, $p < 0.001$. Average block VIF (AVIF) = 1.672, acceptable if ≤ 5, ideally ≤ 3.3. Average full collinearity VIF (AFVIF) = 2.038, acceptable if ≤ 5, ideally ≤ 3.3. Tenenhaus GoF (GoF) = 0.484, small ≥ 0.1, medium ≥ 0.25, large ≥ 0.36. Sympson's paradox ratio (SPR) = 1.000, acceptable if ≥ 0.7, ideally = 1. R-squared contribution ratio (RSCR) = 1.000, acceptable if ≥ 0.9, ideally = 1. Statistical suppression ratio (SSR) = 1.000, acceptable if ≥ 0.7. Nonlinear bivariate causality direction ratio (NLBCDR) = 1.000, acceptable if ≥ 0.7.

Table 5 presents the results of the discriminant validity test, proving that this study meets the requirements of this test. Therefore, it can be concluded that this study is valid and reliable.

Table 5. Results of discriminant validity test.

	HEI	ICR	GMO	OI
Global market orientation strategy	0.726	0.498	0.201	0.246
Open innovation	0.498	0.778	0.554	0.546
Intellectual capital readiness	0.201	0.554	0.758	0.748
HEIs' performance	0.246	0.546	0.748	0.767

4.3. Structural Model Analysis

A structural model analysis was used to test the research hypotheses. The estimate of predictive relevance [90] was assessed using the Q2 value. A Q2 value of more than 0 indicates that the research model has a good predictive relevance [87,91]. The results

show that the Q2 value of intellectual capital readiness was 0.342, open innovation was 0.596, and HEIs' performance was 0.264. It can be concluded that this study has a good predictive relevance.

The next step is to test the hypothesis of direct effect. If this result is significant, it will continue with the second test, namely indirect testing. Table 6 (Panel A) shows that global market orientation strategy has a significant and positive direct effect on HEIs' performance (β coefficient = 0.23; *p*-value < 0.01; R^2 = 0.05). The result shows that H1, which states that global market orientation strategy has a positive effect on HEIs' performance, is supported.

Table 6. Results of structural model analysis.

Panel A: Direct Influence (Before Mediation)			
Variable	Path to		
	HEIs' Performance		
Global Market Orientation Strategy	β = 0.23 ***; R^2 = 0.05		
Panel B: Indirect Influence (After Mediation)			
Variable	Path to		
	Intellectual Capital Readiness	Open Innovation	HEIs' Performance
Global Market Orientation Strategy	0.57 ***	0.64 ***	0.10
Intellectual Capital Readiness		0.20 **	0.54 ***
Open Innovation			0.04
R^2	0.32	0.59	0.31

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

To test the role of mediation, this study refers to [92], stating that: (1) a mediation is not supported if the β coefficient of the direct effect is the same as that when the mediation variables are included in the full model; (2) a partial mediation exists when, after including the mediation variables, the β coefficient of the direct effect decreases and remains significant; (3) a full mediation exists if, after including the mediation variables, the β coefficient of the direct effect decreases and becomes insignificant.

Table 6 (Panel B) shows the results of the full model after including the mediating variables of intellectual capital readiness and open innovation. The direct effect of global market orientation strategy on HEI's performance shows a significant decrease in the β coefficient of 0.23 with $p < 0.01$ to 0.10 and a *p*-value = 0.14. The result indicates a full mediating role [91]. The effect of global market orientation strategy on intellectual capital readiness produces the β coefficient of 0.57 ($p < 0.01$), and the effect of intellectual capital readiness on HEIs' performance has a β coefficient of 0.54 ($p < 0.01$). These results prove that intellectual capital readiness fully mediates the effect of global market orientation strategy on HEIs' performance; thus, H2 is supported. The β coefficient of the effect of global market orientation strategy on open innovation is 0.64 ($p < 0.01$). The β coefficient of the effect of open innovation on HEIs' performance is 0.04 ($p = 0.33$). Because one of the paths is not significant, open innovation does not mediate the effect of the global market orientation strategy on HEIs' performance. Thus, H3, stating that open innovation mediates the effect of global market orientation strategy on HEIs' performance, is not supported. Global market orientation strategy positively affects intellectual capital readiness with the β coefficient of 0.57 ($p < 0.01$). The β coefficient of the effect of intellectual capital readiness on open innovation is 0.2 ($p < 0.01$). However, the β coefficient of the effect of open innovation on HEIs' performance is 0.04 ($p = 0.33$). Therefore, H4, stating that intellectual capital readiness and open innovation sequentially mediate the effect of global

market orientation on HEIs' performance, is not supported. The result of structural model analysis is presented in Figure 2.

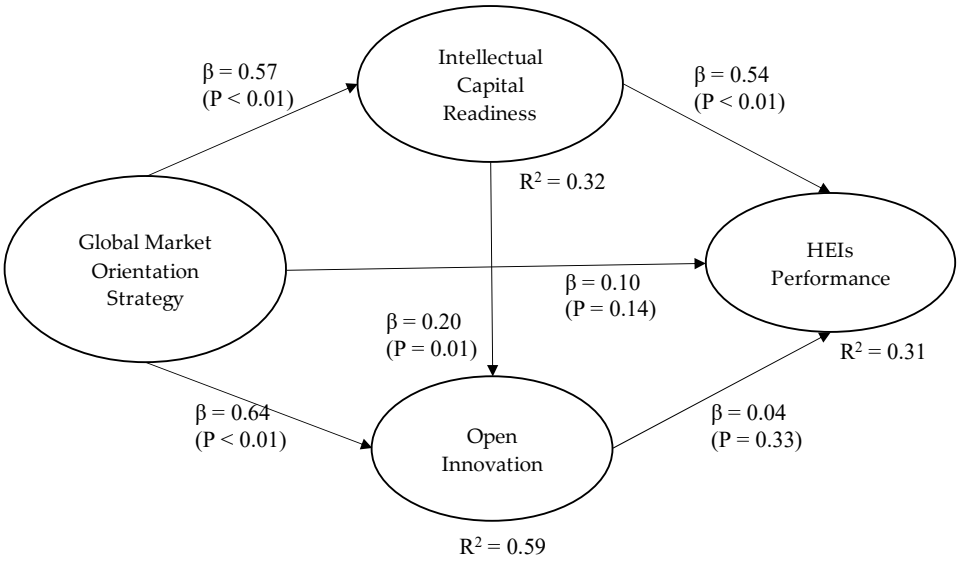

Figure 2. Results of full model.

4.4. Common Method Variance

This study collects data using online and self-assessment questionnaires. This raises the issue of the common method variance (CMV). To address this issue, this study employs two control procedures to overcome the possibility of bias. Referring to [93,94], this study uses ex ante and an ex post procedures. The ex ante procedure includes: (1) conducting a pilot test on 35 faculty staff to confirm their understanding of the statements in the questionnaires; (2) an explanation to respondents that the questionnaire is anonymous so that they can honestly answer and respond; and (3) an explanation that there are no right or wrong answers. The ex post procedure in this study uses a full collinearity test. The results of the variance inflation factors (VIFs) of all latent variables at the factor level must be less than or equal to 3.3 so that the research can be said to be free from bias [95]. The results showed that total collinearity value of VIFs of global market orientation strategy was 2.46, intellectual capital readiness was 1.93, open innovation was 2.41, and HEI's performance was 1.35. Thus, based on the results of the ex ante and ex post procedures, it can be concluded that the common method variance is not a problem in this study.

5. Discussion

5.1. Effect of Global Market Orientation Strategy on HEIs' Performance

As predicted by RBV, internal resources and organizational capabilities increase competitive advantage and sustainability performance [96]. This result supports the first hypothesis stating that global market orientation strategy positively affects HEI's performance. This supports the previous studies of [46,61], which proved that orientation toward global markets improves a company's performance. In the context of HEIs in Indonesia, the government encourages the HEIs to become globally oriented universities with international standards so that they can compete with other universities at the global level. Amid the COVID-19 pandemic, the Indonesian HEIs are also encouraged to launch online learning programs, which can attract international students. Universities are also encouraged to obtain international accreditations, such as Abest21, ASIC, APHEA, AACSB, and others to enhance their global quality and recognition. The increasing quality of Indonesian HEIs is reflected in the number of universities included in the QS World Ranking University, from 11 universities in 2021 to 16 universities in 2022. Thus, HEIs that actively adopt global market orientation strategy enhance their global competitiveness and performance.

5.2. Mediating Role of Intellectual Capital Readiness on the Global Market Orientation Strategy—HEIs' Performance Relationship

In line with RBV, the results prove that intellectual capital readiness partially mediates the effect of global market orientation strategy on HEIs' performance. This supports [68], proving the role of intellectual capital in enhancing HEIs' performance. This study focuses more on intellectual capital readiness, which must be developed according to the requirement of the global market orientation strategy. The Indonesian HEIs that adopt the global market orientation strategy carry out several programs to improve the readiness of intellectual capital so that the execution of university strategies becomes more effective, including: (1) running a teaching staff certification program to ensure the quality and readiness of their human capital; (2) establishing a dual degree/joint program by cooperating with other international universities; and (3) strengthening higher education management systems (ISO, Malcolm Baldrige) as an effort to achieve international recognition; and (4) increasing the number of patents and intellectual property owned. With the high level of intellectual capital readiness, HEIs' performance will be better, as reflected in the academic reputation and employer reputation in the QS WUR assessment.

5.3. Mediating Role of Open Innovation on Global Market Orientation Strategy—HEIs' Performance Relationship

The result of this study reveals that open innovation does not mediate the effect of global market orientation strategy on HEIs' performance. Global market orientation strategy affects open innovation, meaning that the more intensive the adoption of global market orientation strategy, the more important the role of open innovation. Unfortunately, the result reveals that open innovation does not affect HEIs' performance. These results support the study by [97–99] but do not align with the study by [16,17]. The following are some reasons why open innovations in Indonesia do not affect HEIs' performance. First, actively collaborating with various parties requires high costs [97–99] which explains that open innovation has a U-shape effect and can have a negative effect from a cost perspective. This can be one of the causes of low innovation in Indonesian universities. Therefore, it does not significantly affect HEIs' performance, especially in teaching, research, and community service. Second, the collaboration between universities and industries that uses innovation results is also low. This means that intellectual property rights as the product of university research cannot be optimally implemented. Third, the downstreaming of research results for the community is relatively low because many studies are less applicable due to limited funds. Fourth, the reduction in research funds due to the COVID-19 pandemic has a negative effect on HEIs' performance.

5.4. Mediating Role of Intellectual Capital Readiness and Open Innovation on Global Market Orientation—HEIs' Performance Relationship

The results demonstrate that global market orientation strategy affects intellectual capital readiness, and then intellectual capital readiness encourages open innovation; unfortunately, open innovation does not affect HEIs' performance. The results support [14,15], proving that intellectual capital affects open innovation. HEIs with a global market orientation strategy need to develop and prepare their intellectual capital to increase open innovations. Intellectual capital that has met global standards will have better knowledge and capabilities for creating innovations to enhance performance. Unfortunately, most innovations produced by universities do not affect HEIs' performance because of limited research funds, the reduction in research funds to finance the COVID-19 pandemic, the low downstream of research, and the lack of link and match between universities and industries.

6. Conclusions, Contributions, Limitations, and Future Research

This study investigates the effect of global market orientation strategy on the Indonesian HEIs' performance during the COVID-19 pandemic. More importantly, it investigates whether the relationship is mediated by intellectual capital readiness and open innovation.

Using a sample of 119 schools/faculties derived from the best 50 state and private HEIs in Indonesia, based on the Webometrics 2021, the RBV and the partial least squares-structural equation modeling (PLS-SEM) were employed to explain the relationships among constructs and to test the hypotheses studied. The study revealed the following empirical results: (1) global market orientation strategy has a positive effect on HEIs performance; (2) intellectual capital readiness fully mediates the influence of global market orientation strategy on HEIs' performance; (3) open innovation does not mediate the influence of global market orientation strategy on HEIs' performance; and (4) global market orientation strategy affects intellectual capital readiness, intellectual capital readiness affects open innovation, but open innovation does not affect HEIs' performance.

As the HEIs play a crucial role in the advancement of a country, the global education competition and the COVID-19 pandemic forced the Indonesian HEIs to focus on enhancing their customers' satisfaction by adopting the global standards. The global market orientation strategy is one of the main focuses of universities to attract international attention and improve global performance. The strategy demands the readiness of internal resources, especially the intellectual capital readiness of HEIs. Intellectual capital readiness drives open innovation and improves performance. However, the finding reveals that open innovation by the Indonesian HEIs is not optimal, and it does not affect their performance due to limited funds, the reduction in research funds to finance the COVID-19 pandemic, low downstream of research, and lack of link and match between universities and industries.

6.1. Theoretical Contribution

This study provides the following support for RBV development: (1) providing empirical evidence of the research setting of HEIs' amidst the COVID-19 pandemic; (2) providing empirical evidence of the importance of intellectual capital readiness for a more effective strategy execution; (3) providing a comprehensive understanding regarding the mechanism of how global market orientation strategy affects HEIs' performance via intellectual capital readiness; (4) providing empirical evidence showing that intellectual capital readiness, including human capital, relational capital, and structural capital, is a factor that encourages open innovation in HEIs; and (5) revealing empirical evidence that open innovation does not affect HEIs' performance and recommending that the HEIs' stakeholders make improvements in the future.

6.2. Practical Contribution

This study provides several practical contributions, as follows: (1) providing a comprehensive understanding to the HEIs' managers that they need to adopt global market orientation strategy; (2) providing a deeper understanding of management for all stakeholders of the HEIs, in order to properly manage their intangible assets, especially intellectual capital readiness and open innovation to improve HEIs' performance; (3) providing strategic information for management and stakeholders for creating better policies related to intellectual capital readiness and open innovation; (4) becoming a reference for future researchers who conduct research on the HEIs' performance.

6.3. Contribution to Society

This study provides information on the most important university stakeholders for active participation in improving HEIs' performance, especially in the era of the COVID-19 pandemic. The better the performance of the HEIs, the higher the quality of life of people because the HEIs play a strategic role in the development of a country.

6.4. Limitations and Future Research

This study has the following limitations: (1) data collection process is not optimal due to the COVID-19 pandemic; (2) it is difficult to contact respondents because some universities/ schools/faculties' websites cannot be accessed; (3) the results of the study cannot be generalized to all universities in Indonesia because it is limited to only the 50 best

universities in Indonesia. Future research is recommended in order to (1) use the secondary and time series data; (2) test the same model using a sample of HEIs other than those of Webometrics; and (3) examine the role of the other variables, such as environmental uncertainties, management control system or performance management system, which play a vital role in improving HEIs' performance.

6.5. Implication

The results of this study imply that the HEIs' open innovations must be linked to the relevant industries or directly executed in the community. The program of link and match between the HEIs and the related industries must be improved. The innovations must be widely shared and implemented in the community. At present, HEIs' innovations are not properly used by the industries or widely implemented in the community; therefore, they do not have a significant impact on HEIs' performance.

Author Contributions: Conceptualization, B.T. and N.S.; Data curation, H.H.; Formal analysis, H.H.; Funding acquisition, B.T.; Investigation, A.F. and D.N.A.; Methodology, J.J.; Project administration, D.N.A.; Resources, B.T.; Software, A.F.; Supervision, N.S.; Validation, D.N.A.; Writing—original draft, B.T. and N.S.; Writing—review and editing, J.J. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by Universitas Airlangga, grant number 774/UN3.15/PT/2021.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: No new data were created or analyzed in this study. Data sharing is not applicable to this article.

Acknowledgments: Authors would like to thank Universitas Airlangga for funding this research.

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

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