



## REVIEW

# The Reform Process of Higher Education in Vietnam: Performance Efficiency and Transparent Accountability

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### ABSTRACT

After more than three decades of implementing the Doi Moi policy, Vietnam's higher education has achieved significant progress, in terms of policies of national reform and strategies of international cooperation. However, the role and place of tertiary education institutions in the world's education market are still unclear. Although a number of researchers have highlighted a range of impediments to its development, realistic solutions have not been devised to help Vietnam accelerate its progress in education. The main objectives of this paper are to review reform in government policies pertaining to renovation of the tertiary education sector, discuss the performance efficiency of higher education institutions using statistical analyses based on the findings from recent studies, and propose possible solutions for enhancing performance efficiency and transparent accountability of institutions in the process of the renovation of the sector.

## 1. Introduction

Although Vietnam is an Asian nation with a population of approximately 92.6 million people,<sup>[37]</sup> it has become one of the miracle emerging nations in the world after more than 30 years of implementing the 'Doi Moi' (renovation) policy in 1986. Accordingly Vietnam transformed to the socialist market-orientated economy by removing the subsidised regime on production of goods and undertaking national policies to develop

a multi-sectoral commodity economy.<sup>[3,37,33,50]</sup> Vietnam made concerted efforts to join international and regional organisations such as the Association of Southeast Asian Nations (ASEAN) in 1995, the ASEAN Free Trade Area in 1996 and to be the 150th member of the World Trade Organisation in 2007.<sup>[19]</sup> The gross domestic product of Vietnam attained a growth rate of 6.8 per cent per annum, on average over the past decade.<sup>[51,61]</sup> Income per capita per annum increased from US\$170 to US\$620 in 2005 and roughly US\$1,835 in 2017.<sup>[13,24,33,62]</sup> Vietnam has achieved

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great achievements in implementing its reform policy in terms of remarkable economic growth and a significant improvement in social welfare. This impressive performance has been highly recognized by the international community.<sup>[12,25]</sup>

Higher education in Vietnam is closely connected to nation's economic reforms. Under the Doi Moi (renovation) policy, private education was permitted and encouraged. This allowed private organizations and individuals to invest in the national education system. Subsidies on education were gradually removed. The government and the community together shared fees to access educational services and thus develop the national education system in a market orientation.<sup>[18,33]</sup> According to the Ministry of Education and Training (MOET),<sup>[23]</sup> Vietnam currently has a total of 454 institutions of higher education (HEIs), of which 95 are private. Along with this, the number of students rose gradually over the years and reached 2,217, 437 in 2016/17. The number of teachers increased nearly double to 97,052 in 2016/17. An increase in the numbers of HEIs and students may be a good starting point for improving the higher education sector. However, for a long-term strategy, HEIs themselves need to maintain sustainable performance in terms of enhancing their productive efficiency in their academic operations.

After more than three decades of implementing the educational reform policy in Vietnam, higher education still faces inherent problems such as the complicated governance system,<sup>[8,40]</sup> the lack of any internationally recognized university<sup>[39,32]</sup> and financial challenges.<sup>[16,29]</sup> In such a situation, how to find a possible way to move Vietnamese HEIs forward is still an open question that is attracting much interest among both educational leaders and policy makers.

The aim of this paper is to discuss a possible way forward for Vietnamese higher education to realise the desired policy objectives via proposing possible solutions in terms of performance efficiency of HEIs using quantitative analyses. In Section 2 we present a review of Vietnamese higher education and relevant reforms in government policies. The existing challenges facing the sector are presented in Section 3. Section 4 recommends the analyses of performance efficiency of HEIs in Vietnam to realise the desired policy objectives. Section 5 ends with some conclusions for the paper.

## **2. The Vietnamese Higher Education Sector and Reforms in Government Policies**

HEIs in Vietnam have experienced many challenges in

their renovation. After the end of the Vietnam War, higher education in Vietnam was heavily influenced by the Soviet education system including single-disciplinary institutions and lecturers trained in Eastern group countries.<sup>[5]</sup> On top of this, the curricula and programs of universities were based on the Soviet Union or the Eastern European model, making teaching activities separated from its research activities. Moreover, the management structure of HEIs was in particular line ministries. The government seemingly subsidized all operations of HEIs including tuition fees, scholarships to students and provided a job after graduation. Vu<sup>[49]</sup> asserted that higher education of Vietnam until the middle of the 1980s was basically 'selecting' education and training. The quality of education appeared not to be emphasized. Instead, the educational system focused on selecting elites for admission and strictly controlled the outputs because they would get many benefits from the government. It can be seen that, in this period, higher education in Vietnam was a highly internal-orientated system. Learners had no options to choose where they would like to study. If they could not pass the national university examination which was annually organized, they had to wait until next year to take it again. The national examination results of one university could not be used for the other university. Clearly, opportunities for learners were limited by the tight control system.

Together with the nationwide economic reform in 1986, the Vietnamese higher education witnessed the initial start of renovations in later years. For example, a common entrance examination for all admissions to higher education was introduced in the late 1990s.<sup>[58]</sup> The government issued Resolution 90/1997/CP that allowed private education to be established in 1997 that provided more opportunities and options for students to get into universities.<sup>[59]</sup> It can be said that the education system has not much changed during the period 1997-2005; innovation in governance and teaching seemed to slow and sluggish until the Higher Education Reform Agenda (HERA) <sup>①</sup> was officially launched in 2005. Accordingly, important policies have been formulated by the government in the process of reform including management structure, financial resources, educational quality and international integration.

### **2.1 Autonomy in Management Structure**

The most striking feature worth highlighting is that the Vietnamese government proposed to give more autonomy to HEIs, as stated in HERA for the period 2006–2020, in making their decisions and expressing their legal duties in managing quality training, academic staff and financial matters. Following requirements of the government about

the comprehensive renovation of the Vietnamese national education system, a decree<sup>②</sup> was promulgated to lay the groundwork for the beginning of the process of providing HEIs some autonomy and concurrently increasing their accountability. This was followed by a 2009 joint circular<sup>③</sup> providing clarification about the way to conduct autonomy and accountability. This joint circular refers to the role of leaders of HEIs in setting up, re-organizing, integrating, separating, dismissing or suspending the activities of departments (if any) in accordance with authorities as stipulated by law. In addition, educational leaders were also given more authority over staffing decisions including recruitment, appointment and management of staff.

These ideas seem good but their implementation has been restricted by the complicated management structure. Accordingly, autonomy of HEIs has been in confines of government's regulations. Currently, public HEIs are under the control of several different ministries that causes overlapping and an inefficient reporting system. Approximately 15 per cent of HEIs are under the direct control of MOET<sup>④</sup> whereas the rest of HEIs are under the management of other ministries. This management hierarchy has existed for a long time and therefore it is not easily changed. In principle, MOET provides HEIs the regulatory framework with many instructions regarding higher education, but the responsibility of implementation is influenced by various ministries and state instrumentalities. The complexity and lack of clarity in the management structure of the system did make HEIs less active and inefficient in their performance. As a result, academic managers have found it restrictive to make decisions independently, especially under the strict management of the state and the Communist Party.<sup>[8,40]</sup> As noted by Pham,<sup>[33]</sup> changes in the governance of higher education in Vietnam have been obtained at only a modest level in terms of a slight change from command and control to supervision and observation while there has existed a kink to clarify formal and real autonomy for operations of HEIs. Hayden and Lam<sup>[16]</sup> asserted that the government wants to retain control but encourage institutional autonomy.

## 2.2 Autonomy in Financial Resources

The government substantially increased the national budget for education at all levels, accounting for 20 per cent of total national expenditure. According to the Ministry of Finance (MOF)<sup>[21]</sup>, the expenditure for education increased 27 per cent from 2008/09 to 2009/10. This reached 41 per cent in 2010/11 as compared with that of 2008/09. MOF<sup>[21]</sup> revealed that there was an increase in the total national budget for education, by 11 per cent within two years

2010-2011. Investment in higher education has been estimated to be 11.7 per cent of the total budget, on average, over recent years.<sup>[52]</sup> In addition, the government allowed public HEIs to charge tuition fees from students. This has contributed to an increase in financial resources for public HEIs to assist in improving educational quality. It is noted that public education still received subsidies from the government, on average 40 per cent of the budget,<sup>[8]</sup> following the number of learners officially registered per annum, while private education mainly depended on tuition fees and income from other activities to maintain their operations.

Although public HEIs are given an institutional autonomy in deciding tuition fees, they must observe the basic guidelines of the government,<sup>⑤</sup> for public education tuition fees. This policy has not provided sufficient financial resources for the operation of HEIs, and that the growth rate in such tuition fees was not calculated based on real demands for the development of HEIs.<sup>[15]</sup> Clearly, HEIs have not been able to get more financial autonomy. Such a situation does not create strong incentive to renovate the higher education system while the higher education market is supply-led and competition among public providers is weak.<sup>[33]</sup> Although private HEIs are regulated by the ceiling price for imposing tuition fees, they are allowed to set tuition fees higher than those for public HEIs. Nonetheless, several institutions have experienced financial troubles because they significantly depend on tuition fees and strong market demand for higher education.<sup>[16]</sup>

On the larger scale, the government budget mainly invested in core public HEIs, e.g. the two national universities and the 12 local universities,<sup>⑥</sup> as identified by the government. However, performance of these universities has yet been formally assessed. As noted by Duong,<sup>[10]</sup> public funding seems not to be effective and has made public HEIs less active and creative in the production process. This clearly has accelerated social concern about the performance efficiency of public HEIs and whether public funding has been put into the right objectives or not.

## 2.3 Autonomy in Quality Assurance of Education

How to improve the training quality of higher education is a great concern of the government and educational leaders. The year 2004 was a momentous capstone in the reform policy of Vietnamese tertiary education, as a series of nationally legal papers affirmed the management innovation policy in the educational sector by applying a quality assurance system.<sup>[9,49]</sup> A resolution of the parliament<sup>⑦</sup> indicated that quality control was to become a focal point in higher education management and had to be conducted

annually. Also, in that year, MOET issued a directive<sup>⑧</sup> where HEIs and authorities at all levels were required to construct a complete framework and deploy operations of examination and educational auditing systems. In 2009, MOET promulgated the statute of public disclosure,<sup>⑨</sup> including quality assurance, human resources and facilities, and financial statement. These contents are required to be posted publicly on the websites of HEIs, but if an HEI fails to do so, it may lose the right to recruit new students. In addition, the government issued some regulations regarding facilities to serve students<sup>⑩</sup> and the ratio of students to lecturers.<sup>⑪</sup> In addition, HEIs are also required to complete reports of self-assessment and submit these reports to MOET. All these aim at enhancing educational quality of the higher education sector.

Albeit these objectives sound good, their deployment has not been comprehensively accomplished. According to statistics from the report of MOET,<sup>[23]</sup> 217 universities and 33 colleges and professional high schools completed their accredited self-assessment reports, accounting for 55% of total number of HEIs in Vietnam. For the annual report of public disclosure, only 25 per cent of HEIs submitted their reports to MOET in 2010/11 which was the second year after the government regulations were in effect. The percentage reporting increased to 53 per cent of HEIs for 2011/12, but it slightly declined to 47 per cent for 2012/13 before reaching 75 per cent in 2013/14. The failure of many HEIs to report may be because they have not seen benefits from this policy. Therefore, information from HEIs' annual reports needs to be statistically processed, empirically analysed and assessed to provide useful feedback to HEIs for improving their performance.

Currently, MOET still is a key player in the development of the curricula of HEIs because they can only adjust the curricula up to a maximum of 40 per cent of the standardized ones issued by MOET. Clearly, leaders of HEIs are not able to approve their own curricula, thus their ability of self-accrediting cannot be implemented. Hence, they have restricted opportunities to improve in quality assurance. In addition, quality management of teaching via professional academic staff is a matter to be seriously faced by Vietnamese HEIs and policy makers. Because of low salaries, academic staff has excessive teaching hours to earn a living, frequently undertaking more than one position, while HEIs are not able to introduce higher salaries for their staff due to limited financial budgets.<sup>[33]</sup> As a result, their teaching quality is frequently not of a high standard. For learning facilities, not all HEIs meet the standards required by the government due to the shortage of financial resources. Moreover, land for academic

spaces is not able to be increased in the short term. It is increasingly evident that this challenge is out of the control of managers of HEIs because they do not have sufficient power to make the necessary changes.

It can be seen that reform in the governance system via increasing the autonomy for HEIs to some extent has been implemented to a limited extent. Pham<sup>[33]</sup> asserted that there may be tension between an economic desire and a political intent in the governance system. This can lead the Vietnamese higher education sector to be problematic, as identified in recent cross-national studies.<sup>[17,35,36]</sup> Thus, educational leaders face inevitable difficulties in maintaining sustainable performance for their organisations.

#### 2.4 International Cooperation for Strengthening Higher Education Sector

Vietnam has taken advantages of international cooperation to foster the higher education system. The most striking project is to construct four internationally recognized universities, the so-called New Model Universities Projects. The World Bank and the Asian Development Bank helped to get these projects established under loans of US\$400 million.<sup>[4]</sup> In 2008, the Vietnamese-German University was established with the goal of a fully-fledged research institution.<sup>[19]</sup> The government has recently approved, in principle, to establish an international university in partnership with Japan, under management of Hanoi National University.<sup>[2]</sup> Other projects including partnerships with France and the United States are under consideration. The main objectives of these projects are to seek to establish international standards of research universities and real autonomy in the management. In 2013, the World Bank approved a project with US\$50 million to strengthen management system, financing higher education quality.<sup>[52]</sup> The specific objectives of the project are to improve the quality of HEIs, enhance the financial transparency, sustainability and effectiveness as well as increase the quantitative capacity of the sector. It can be seen that cooperative projects with other countries sound quite promising for a significant breakthrough in Vietnamese higher education. However, it may take some years to see their real outcomes and level of influence.

Along with this, the government has encouraged joint ventures for in-country international degree programs with universities in the USA, the Netherlands and Australia.<sup>[4,19]</sup> These programs offer bachelor, master and even doctoral degrees depending on specific conditions of the Vietnamese university partners. It may reflect the fact that Vietnamese lecturers and students have good opportunities to join in teaching and learning following



**Table 1.** Autonomy in higher education in Asian countries

Characteristic	Cluster 1		Cluster 2			Cluster 3			
	Indonesia	Malaysia	Indonesia (SOLE HEIs)	Philippines	Thailand	Cambodia	Lao PDR	Mongolia	Viet Nam
Set Academic Structure and Course Content	**	**	***	***	***	***	**	**	**
Decision on Student Numbers	***	*	***	***	***	***	**	n/a	*
Set Salaries	*	*	**	**	***	**	n/a	n/a	*
Set Tuition Fees	*	*	***	***	***	**	**	***	*
Reliance on Government Funding	*	*	***	**	***	**	**	*	*
Staff Employment and Dismissal	*	**	*	*	**	**	**	n/a	**
Principal-Agent Problem	*	***	***	***	***	***	***	n/a	***
Career Paths of University Administrators	**	**	**	***	***	***	***	n/a	***

\* = limited autonomy, \*\* = semiautonomy, \*\*\* = full autonomy, HEI = higher education institution, Lao PDR = Lao People's Democratic Republic, n/a = not applicable, SOLE = state-owned legal entity.

Sources: Adapted from Asian Development Bank (p.33) <sup>[54]</sup>

international standards. Another international cooperation worth mentioning is to develop university curricula with overseas partners approved by the government. <sup>⑬</sup> Seventeen Vietnamese universities have been chosen by MOET to work with the foreign university partners to produce 23 subjects in science and technology. <sup>[49]</sup> These universities were chosen because they have been identified by the government as core universities and were intuitively assessed to be strong in specific disciplines. Generally, these ideas have illustrated great efforts of the government to enhance the educational quality in Vietnam. However, the success of these programs relies on various elements including financial investment, educational leadership, the conscientiousness of lecturers, the ability of the students and the demands of the employers. Therefore, the efficiency of such programs needs to be empirically assessed to improve the performance of HEIs in the future.

Comparison with other countries as shown in Table 1, the data <sup>[54]</sup> showed that the autonomy of Vietnam has been still limited to decision on student numbers, tuition fees, government funding and even academic structure and course content. Currently, the system has more autonomy in these matters, but has not yet got full autonomy as expected. For example, universities and colleges need to follow regulations of the government about enrolments (Circular 06/2018/TT-BGDĐT <sup>⑭</sup>) and tuition fees (Decree 86/2015/ND-CP <sup>⑮</sup>). Autonomy is still a problem that needs to be considered in the long run.

### 3. Current Challenges Ahead for Vietnamese Higher Education

Referring to challenges facing Vietnamese higher education, the first concern of several scholars and researchers has focused on an inherent problem: the complicated governance system. A lot of studies have discussed, analysed and indicated dimensions of the crisis facing the Vietnamese higher education sector <sup>[2,7,15,16,31,47,40]</sup>. However, the problem is still there because it is an issue involving other nations, including Vietnam, where political institutions play a dominant role in national socio-economic development. Reform in the governance system has been deployed but it is slow-moving because of its inherent complexity. While waiting for a radical change in the state-controlled system, looking for a possible way to move Vietnamese higher education forward may be necessary for keeping pace with the educational development in today's globalization.

As mentioned above, Vietnam has witnessed positive changes in the higher education system after more than ten years. The regulatory process has been simplified to provide more autonomy for HEIs albeit being not full autonomy. <sup>[7,15,40,43,54]</sup> Curricular development has been conducted within HEIs and then appraised by MOET <sup>[23]</sup> and external associations with a percentage of 55% of total HEI numbers. Student recruitment and selection to universities and colleges are based on the results of the

final exam of high school. The number of publications of Vietnamese HEIs has increased sharply, approximately 181% over the period of 2008 to 2012.<sup>[43]</sup> This helps increase impacts of universities in the region throughout the university ranking. In 2018, Vietnam has five universities among top 400 universities of Asian area.<sup>[60]</sup>

Although the process of renovation has created many chances for Vietnam to participate in international operations to enhance the development of the national education system,<sup>[28]</sup> it may lead policy makers and educational leaders to new challenges that ask the government and HEIs for concerted efforts to improve the rankings of universities, together with the productive efficiencies and financial accountability of HEIs in the nation. This section discusses the issues ahead that face Vietnamese higher education and the responses of the government and researchers.

### **3.1 Lack of Internationally Recognized Vietnamese Universities**

As noted by Gamage,<sup>[11]</sup> Asian countries face the dilemma of the internationalization of public HEIs while trying to meet regional needs and being a main enhancer in national development. The Vietnamese higher education sector is not an exceptional case when it does not have a single HEI of internationally recognized quality in both research and teaching.<sup>[47]</sup> In the period of 1970–2011, researchers in Vietnam published about 10,475 articles in international journals but this figure is only equal to 22 per cent and 27 per cent of those published by researchers in Singapore and Malaysia, respectively.<sup>[38]</sup> Among the top 400 universities of the world, there are only 11 universities in the Asian region, but none in Vietnam. For the top 250 universities under 50 years old in 2018, Asia has nine universities ranked but none in Vietnam. Additionally, in the Global Competitiveness Report 2017–2018,<sup>[37]</sup> the higher education index of Vietnam was ranked 84th, which is low among the 137 nations involved in the World Economic Forum, although it is higher than the rankings of Cambodia and Laos, 124th and 105th, respectively. Economists and educational leaders are seeking to improve the rankings of Vietnamese universities and their performance efficiency in general.

As a result, the Vietnamese government is seeking to shape world-class universities in cooperation with foreign partners and the aid of the World Bank to get at least one university into the world's top 200 by 2020, but this may be not easy for newly established universities to reach that level in a short time.<sup>[30,34]</sup> Two national universities of Vietnam are considered as main enhancers expectedly to

become leading HEIs in implementing the reform policy and building research skills in the system.<sup>[16]</sup> However, in the holistic challenges of Vietnamese higher education, such as the limited public funding and the lack of real autonomy in the governance system, it may be very difficult for them to make significant breakthroughs.

It can be seen that before getting a place in the world education system, national rankings are a good start for Vietnamese HEIs. However, how to rank and what indicators can be used are still questionable. Banh<sup>[1]</sup> argued that Vietnam is currently in the reform process of higher education, and, thus, policies and the management system are quite inadequate. It seems that there have not been any indicators to measure and rank the performance of HEIs, except for the regulations of land and square metres per student.<sup>[1]</sup> Nguyen<sup>[26]</sup> recently proposed two sets of indicators: teaching (seven indicators) and research (seven indicators) to rank 61 Vietnamese universities using data collected in 2008. The weights of the indicators were suggested subjectively by the authors based on the current context of Vietnam. Her findings revealed that some universities were ranked at the highest positions as a whole while they were at the lower positions in teaching or/and research. Nguyen<sup>[26]</sup> suggested that rankings of HEIs should be more clarified. In the same vein, based on ranking indicators of universities from different countries including Australia, Singapore the UK, and the USA, Dao<sup>[6]</sup> suggested seven sets of indicators and their weights, including academic staff (0.1), research output (2.1), training process (0.2), financial matters (0.15), the attractiveness of HEIs (0.2), the postgraduate program (0.1), the academic prestige (0.05) referred to the popularity level as recognized by the community, for ranking and evaluating the performance of Vietnamese HEIs. However, the author only introduced these indicators as a typical model and has not provided empirical evidence for this.

In 2017, a group of independent experts conducted government's ranking project and first time have released the list of 49 ranked Vietnamese universities. According to Vietnam Ranking Group,<sup>[47]</sup> these universities are ranked based on the number of publications (weight 10%), citations (10%), the ratio of publications to lecturer (10%), student numbers (10%), lecturer numbers (10%), the ratio of lecturer to students (10%), university entry marks (10%), the ratio of academic space (m<sup>2</sup>) to student (5%), the ratio of textbooks to student (5%), and transparent accountability index (5%). Although this is a good signal for the performance improvement of Vietnamese HEIs, the reliability of data for analyses and evaluation could potentially cause biases in the ranked results.<sup>[48]</sup>

### 3.2 Lack of Transparent Accountability

Performance of Vietnamese HEIs has basically been assessed based on ten standards for evaluating educational quality as regulated by the government.<sup>16</sup> The objective of these decisions was to provide a measurement tool for the self-evaluation of the performance of HEIs. By doing well according to this set of standards, HEIs are able to obtain their main goals: continuously improving their training quality, promoting their accountability to society, being acknowledged to meet the quality standards of the government, providing sufficient information for the choice of students and employers. These standard sets are regulated separately for universities and colleges. Each standard is decomposed into several different criteria. Standards for colleges are generally similar to those for universities. However, there are fewer criteria or requirements for colleges.

Together with this, HEIs must conform to the statutes of public disclosure issued by MOET.<sup>17</sup> This statute asks each HEI to make an annual report with three contents: commitment to training quality in practice, quality assurance, and transparency in financial management. HEIs need to upload these reports on their website and send a hard copy to MOET. The statute of public disclosure has clearly been useful for the community, parents and students to have sufficient information for their decision making. However, not all HEIs follow these regulations of MOET. MOET<sup>22</sup> argued that, due to the complicated system of governance in the higher education sector, performance via productive efficiency of HEIs has not been measured. Currently, although two Vietnamese national universities and 12 regional key universities of Vietnam<sup>18</sup> are intuitively considered to be more efficient than others,<sup>11</sup> their performance has not really been estimated on economic grounds and this is an open question. Further, the self-evaluation system of HEIs seemingly carries a formality rather than real outcomes, and, hence, it is a dilemma for managers of HEIs to have objective evaluations. They may find it daunting to enhance their operations when their performance has not yet been empirically measured and objectively recognized. This may lead to a lack of transparent accountability in the operations of HEIs, a lack of internally fair competition among HEIs and a lack of strong motivation to improve their rankings.

### 4. Productive Efficiency of Vietnamese HEIs: A Possible Solution

Estimating efficiency of Vietnamese HEIs has received the attention of scholars and researchers in recent years.

Studies have used a variety of advanced methods such as Data Envelopment Analysis (DEA) to assess the performance efficiency of HEIs in the confines of available data. DEA is a data-orientated approach for evaluating the performance of a set of peer entities, decision making units (DMUs), which convert multiple inputs into multiple outputs. This method involves the use of linear programming methods to construct a non-parametric piece-wise surface (or frontier) over the data. Efficiency measures are computed relative to this surface.<sup>15</sup> In other words, DEA approach is to measure the efficiency of a DMU relative to DMUs to estimate a best practice frontier. This method attracts many researchers and managers because it can use only information about inputs and outputs without requiring information on prices.<sup>17</sup> However, the shortcoming of this method is that all deviations from the frontier efficiency are assumed to be due to managerial inefficiency without distinguishing between managerial inefficiency and statistical noise.<sup>16,17</sup>

The findings of studies on Vietnamese HEIs using DEA are presented in Table A1. On average, private HEIs have higher efficiency scores than their public counterparts. The standard deviation varies from 0.068 to 0.094 that can be acceptable. The sample size of the surveyed studies is sufficient for their objective research, except for the work of Nguyen et al<sup>29</sup> with slightly small sample size. These publications made great efforts to provide a general picture for the operational efficiency of HEIs in Vietnam based on their available and reliable data, not all HEIs in Vietnam. In these studies, the authors, e.g. Tran and Villano<sup>41-45</sup> suggested that the data of HEIs should be collected comprehensively and publicly for data analyses. That is, transparent accountability of HEIs should be clarified so that HEIs have more incentives to improve their performance.

It can be seen that in the process of renovation in higher education, like other countries in Asian region, Vietnam still faces challenges in governance, accountability, internationalisation and education quality. Because of their complexity and difficulties, these problems may take time to be resolved. Many studies<sup>7,15,40</sup> discussed these problems and suggested solutions for the government such as increasing autonomy for HEIs, accountability and transparency in accreditation of education quality and enhancing international cooperation with foreign universities. All solutions have been gradually doing in Vietnam and the results are initially recognised. However, the process of renovation is still discrete due to the lack of transparency and accountability in the system to recognise the performance of HEIs. Once this can be solved, HEIs have a

stronger incentive to improve their performance in a fairly competitive education field.

Rather than indicating general solutions of macro policies already mentioned in the literature, this paper aims to discuss a doable and specific solution that could potentially assist to improving accountability and transparency in the system by estimating the performance of HEIs national wide. This will generate empirical evidence for educational managers and policy makers to have better policies to move the system forward.

Figure 1 shows the advantages of analysing the performance of HEIs that would contribute significantly to formulating relevant policies for improvement of higher education.

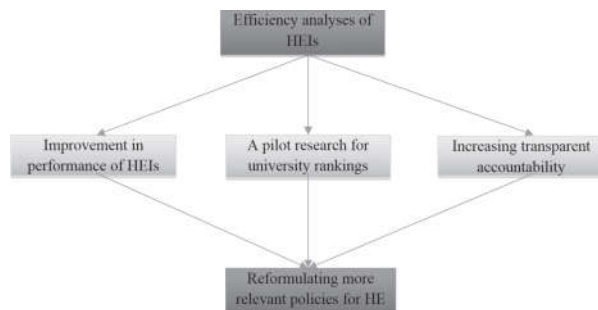


Figure 1. Performance Efficiency Analysis Framework

#### 4.1 Productive Efficiency Analyses and Improvement in the Performance of HEIs

Measuring productive efficiency of HEIs by using economic methods such as the data envelopment analysis or stochastic frontier analysis provides insights for educational leaders about how efficiently HEIs can utilize input resources to produce outputs. If HEIs are not efficient, they will have information to set their performance targets for future improvement, e.g., a decrease in inputs or an increase in outputs. In return, if they are now efficient, they should keep maintaining their position and further improving their performance. Moreover, efficiency estimates also provide useful information about peers from which HEIs can gain experience for obtaining improvements in their production.

#### 4.2 Productive Efficiency Analyses and a Pilot Research on University Rankings

The world's university ranking is one of academic standards to demonstrate the educational quality and reputation of a university. This topic has attracted much concern of governments and universities over the world.<sup>[14,20]</sup> As stated above, Vietnam expects to have at least one universities

ranked in the world's top 200 universities. Regardless whether this objective is feasible or not, this illustrates the government's high determination to enhance the renovation of higher education in Vietnam. However, what specific strategies are to be used to achieve this objective and how to implement these strategies at the heart of deliberations among policy makers, scholars and academic researchers. In recent analyses regarding university rankings, Marginson<sup>[20]</sup> indicated that among the ranking systems, Shanghai Jiao Tong, Webometrics and Times Higher, the first is considered as "the most reputable ranking system because the data are objective and freely available". However, for the Vietnamese case, if taking Shanghai Jiao Tong ranking of research for setting a ranking objective, it seems to go beyond the research capacity of any Vietnamese HEIs and to be too difficult to obtain in a short term. Instead, in the Vietnamese context, ranking the national universities may be an appropriate way to proceed at this time, and the analysis be considered as a pilot and/or an immediate stage before achieving a higher position in the world's university rankings, as planned by the government. 19 This will provide meaningful information for HEIs and policy makers to orient an effective strategy for the ranking of Vietnamese universities ranking at an international level. In this scope, local national rankings can be implemented by using productive efficiency scores of individual HEIs, measured by data obtained from each institution.

#### 4.3 Performance Efficiency Analyses and Increasing the Transparent Accountability

The transparent accountability can be enhanced from assessing the efficiencies of HEIs. To obtain data for analyses, HEIs and policy makers are required to provide transparent and systematic indicators to society. Specifically, educational managers have to adopt a mandatory and transparent reporting system of their performance indicators, including financial transparency that may be considered a sensitive matter by management. In addition, data on input usages and output production must be stored statistically and published publicly at the institutional and national levels. Moreover, empirical analyses of performance of HEIs should be implemented periodically to provide prompt assessments for further improvement. As a result, accountability of HEIs and policy makers can become more transparent and organisational operations can be guaranteed.<sup>[53]</sup>

#### 4.4 Contributions of Performance Efficiency Analyses to Higher Education Policy

From these analyses discusses above, implementing the



Appendix

**Table A1.** Summary statistics on efficiency scores of Vietnamese HEIs across studies

Authors	Methods	Universities			Colleges			Sample size	
		Public	Private	Overall	Public	Private	Overall	University	College
Nguyen et al (2015)	Conventional DEA	0.865						30	
Tran & Villano (2017a)	Standard DEA	0.979	0.994	0.982	0.961	1	0.962	50	50
	Bootstrapped DEA	0.957	0.971	0.96	0.937	0.975	0.939		
Tran & Villano (2017b)	Input-orientated technical efficiency	0.786	0.779	0.784	0.69	0.802	0.703	112	
	Input-orientated scale efficiency	0.897	0.779	0.866	0.787	0.864	0.796		
	Input-orientated mix efficiency	0.856	0.757	0.829	0.847	0.803	0.842		
Tran & Villano (2017c)	Standard DEA	0.812						82	
	Bootstrapped DEA	0.729						(public)	
Tran & Villano (2018a)	Dynamic DEA (Financial efficiency)				0.722				116
	Dynamic DEA (Academic efficiency)				0.76		0.741		(public)
Tran & Villano (2018b)	Finance	0.826						82	
	Academic	0.782		0.804				(public)	
Tran & Villano (2018c)	Directional distance function		0.941						
Tran & Villano (in print)	Standard DEA	0.78	0.768	0.777	0.685	0.793	0.689	112	141
	Adjusted DEA	0.842	0.875	0.871	0.883	0.914	0.886		
	Bootstrapped adjusted DEA	0.822	0.842	0.827	0.852	0.884	0.855		
	Average efficiency scores	0.841	0.856	0.856	0.812	0.879	0.824		
	Standard deviation	0.068	0.088	0.069	0.094	0.075	0.093		
	Minimum	0.729	0.757	0.777	0.685	0.793	0.689		
	Maximum	0.979	0.994	0.982	0.961	1.000	0.962		

measurement of productive efficiencies of HEIs will bring about many benefits for Vietnamese higher education and contribute to the higher education reform policy in terms of the following aspects:

- (1) Creating a level playing field and a fair competition for HEIs in the context of today's globalization, providing further indicators of the road forward;
- (2) Providing sufficient information for HEIs to improve their performance and for policy makers to reformulate and redesign more appropriate regulations;
- (3) Well-planned change to traditional management frameworks, to ensure that change is successfully implemented and enhance accountability transparency and thus catching up with the pace of global educational development; and
- (4) Constructing a solid foundation for university ranking towards an international level.

**5. Conclusion**

It is undeniable that the reform policies of the government have resulted in positive effects for the Vietnamese higher education system. However, the innovations of HEIs have not yet kept pace with the development of the Western higher education in terms of three key factors: the unstable governance system, the lack of highly-qualified HEIs and the absence of studies on evaluating the performance of HEIs. To be involved in today's international integration process, the Vietnamese higher education sector needs to make significant progress to tackle challenges from external and internal forces. While a comprehensive transformation in the system of government policies requires a long-run plan, much effort from both government and HEIs, a feasible solution at an institutional level in terms of assessing the performance of institutions as suggested in this paper can be practically implemented. This asks for fast adoption and open-mindedness of education-

al managers and policy makers for the restructuring of the sector. Databases for the performance of HEIs collected sufficiently and released publicly are necessary to enhance accountability and transparency as well, thus increase fair competitiveness among individual institutions.

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#### Annotation

- ① Resolution 14/2005/NQ-CP was issued by the government in 2005 on fundamental and comprehensive renovation of the higher education sector in Vietnam for the period of 2006–2020.
- ② Decree 43/2006/ND-CP was issued by the government in 2006 on autonomy and accountability in the higher education sector.
- ③ Joint Circular 07/2009/TTLT-BGDĐT-BNV was issued by MOET and the Minister of the Interior in 2009 about guidelines on autonomy and accountability for the public educational organizations.
- ④ Document 4285/BGDĐT-KHTC was issued by MOET on the list of universities and colleges.
- ⑤ Decree 49/2010/ND-CP, relating to tuition fees was issued by the government in 2010.
- ⑥ Decision 1296/2004/CP-KG was issued by the government on continuing to complete the national higher education network.
- ⑦ Resolution 37/2004/QH11 on education was issued in 2004 by the Vietnamese National Assembly (Batch XI).
- ⑧ Directive 25/2004/BGDĐT was issued by MOET in 2004 on missions of the educational system in the academic year 2004/05
- ⑨ Circular 09/2009/TT-GDDĐT was issued by MOET on statutes of disclosure for educational organizations in Vietnam.



- ⑩ Circular 14/2009/BGD-DT was issued by MOET in 2009 on the charter of colleges and Circular 57/2011/BGD-DT was issued by MOET in 2011 about regulations on identifying the quota of enrolments for PhD, master, bachelor and lower-level qualifications.
- ⑪ Circular 57/2011/BGD-DT was issued by MOET in 2011 about regulations on identifying the quota of enrolments for PhD, master, bachelor and lower-level qualifications.
- ⑫ Document 325/TTg-KGVX was issued by the government on 17 March 2014 on approving, in principle, to establish the Vietnam-Japan University under Hanoi National University.
- ⑬ Decision 1505/QD-TTg was issued by the government in 2008 on the project of implementing the advanced curricula in some Vietnamese universities for the period of 2008–2015.
- ⑭ Circular 06/2018/TT-BGDDT was issued by the government in 2018 on determining enrolment numbers at the levels of undergraduates and postgraduates.
- ⑮ Decree 86/ND-CP was issued by the government in 2015 on tuition fees of universities, colleges, and professional high schools.
- ⑯ Decision 65/2007/QD-BGDDT and Decision 66/2007/QD-BGDDT were issued by MOET in 2007 on regulations of educational quality evaluation of universities and colleges, respectively.
- ⑰ Circular 09/2009/TT-BGDDT was issued by MOET in 2009 about statutes of disclosure for educational organizations in Vietnam.
- ⑱ Decision 1296/2004/CP-KG was issued by the government on continuing to complete the national higher education network.
- ⑲ Decision 37/2013/QD-TTg was issued by the government on adjusting the higher education network in the period of 2006–2020.