






The adoption of international publishing within Vietnamese academia from 1986 to 2020: A review

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Abstract

This study examines the use of international publishing (i.e. publishing in journals/books indexed by international bibliometrics databases) within academia in Vietnam since *Doi Moi* (the Renovation) in 1986. Document analysis and in-depth interviews with 20 Vietnamese scholars were undertaken to address the research objective. The findings revealed three important milestones in academic development in Vietnam: 1986–2008, 2008–2017, and 2017 to the present. Between 1986 and 2008, international publishing was almost non-existent in actual practice in academia, except among the mathematics community. Since 2008, with the launch of the Foundation for Science and Technology Development, international publishing in Vietnam has become more visible on a broader scope (i.e. at ministerial level). Increasing awareness in the academic community of the role of international publishing contributed to a major increase in research output with an international outlook between 2008 and 2017. The third milestone was the promulgation of two new regulations, one relating to doctoral education in 2017 and another to professorship appointments in 2018, in which international publishing databases have been placed at the centre of these policy agendas. Looking ahead, policymakers and academic leaders in Vietnam are recommended to further use international publishing metrics to enhance international research outputs and quality.

Keywords: bibliometrics, Vietnam, academia, research

INTRODUCTION

International publishing (i.e. publishing in journals/books indexed by international bibliometric databases) has been prevalent in academia worldwide for many decades (Aguillo, Ortega, & Fernández, 2008; Zitt & Bassecoulard, 1998). Of the international publishing databases, Clarivate Web of Science (WOS) and

Scopus are the most prominent and widely used by notable ranked universities. Shanghai Ranking is using Clarivate WOS as a source to evaluate research indicators (ShanghaiRanking Consultancy, 2019), while Times Higher Education and QS use Scopus as their reference (QS World University Rankings, 2020; Times Higher Education, 2019). At the national and institutional levels, Clarivate WOS and Scopus also play important roles. For

instance, the application of a funding formula based on the Science Citation Index of Clarivate WOS accounted for strong increases in publication counts in Australia in the early 2000s (Butler, 2003). In other countries (e.g. the Czech Republic), the use of WOS and Scopus databases to create a performance-based research funding system has been implemented to replace existing academic systems (Good, Vermeulen, Tiefenthaler, & Arnold, 2015).

International publishing has now taken centre stage in academic policies and practice in Vietnam. Specifically, having documents published in international indexed databases such as Clarivate WOS or Scopus has become a prerequisite condition for PhD graduation (Vuong, 2019), faculty appointments (Vietnam Prime Minister, 2018), and grant proposal evaluations (National Foundation for Science and Technology Development [NAFOSTED], 2018) in Vietnam. Furthermore, terms such as 'international publishing' (in Vietnamese: 'công bố quốc tế') or ISI (former name of Clarivate WOS)/Scopus publishing (in Vietnamese: 'công bố ISI/Scopus') have appeared frequently in mass communications in Vietnam as part of an ongoing public dialogue (Giang, 2019; Huynh, 2017). However, there has been no research conducted to review the origins and evolution of international publishing within academic policies and practices in Vietnam. Therefore, the primary objective of this study is to provide a systematic overview of the development of 'international publishing' in Vietnam to the present. With a systematic overview of the progress and effectiveness of integrating international publishing, the paper is not only valuable for Vietnamese policymakers and scholars but also for other countries as a learning reference. This study also outlines potential directions for the further adoption of international publishing in Vietnam. More specifically, this study seeks answers to the following research questions:

- What are the key milestones for international publishing in Vietnam?
- How has the role of international publishing evolved as Vietnam has reached the historical milestones?
- Who are the main stakeholders, and what are their roles in reaching each milestone?
- What are the future directions for international publishing in Vietnam?

METHODOLOGY

To address the research objective, we used document analysis (Bowen, 2009) to review the extant documents related to international publication in Vietnam, including press releases, institutional reports, public records, and legal documents. To further the information obtained from document analysis, in-depth interviews were conducted with Vietnamese scholars who were familiar with international publishing over the time span of the study (1986–2020). Examining the use of international publications at

Key points

- The adoption of international publishing within academia in Vietnam may be divided into three overlapping periods: 1986–2008, 2008–2017, and 2017 to the present.
- Bottom-up efforts from the mathematics community played an important role in introducing international publishing into academia in Vietnam.
- The establishment of the National Foundation for Science and Technology Development marked a crucial milestone in academic development in Vietnam.
- The formal integration of international publishing into PhD education has had a positive impact on Vietnam's overall research productivity.
- The initiatives of private stakeholders in Vietnam further contribute to the use of international publishing.
- Application of bibliometrics indicators (e.g. H-index, IF) and open access journals may open the way for further development of strong research groups and highly qualified researchers in Vietnam.

different levels (i.e. national, and institutional) and in various disciplines over a lengthy period of time requires a holistic and multi-perspective overview, as well as a high degree of precision in describing the events. Therefore, the objectiveness provided by document analysis and the insight from different aspects gathered from in-depth interviews allowed us to review the story comprehensively.

Initially, a total of 30 Vietnamese scholars were invited to participate in this study as interviewees, using the convenience sampling technique (Robinson, 2014). All these 30 scholars have had personal contact with the co-authors of this study. Eventually, 20 scholars accepted the invitations. The scholars' years of work in the academic sector varied from 5 to 40 years, and their majors included hard sciences, social sciences, and humanities. In total, 18 were working for universities, and 2 were working for research institutes. In Vietnam, the academic sector is divided into two distinct components: universities and research institute, a model inherited from the former Soviet system (Froumin & Kouzminov, 2018). All the interviewees had experience with international publishing through activities including conducting research, reviewing, editing, or consulting/developing academic policies. All participants gave their informed consent to participate in the research. Their personal information was kept confidential. Table 1 provides a descriptive profile of the scholars participating in this study.

In-depth interviews focused on the scholars' understanding, awareness, perception, and evaluation with regard to the use of international publishing in Vietnam in their discipline. Specifically,

TABLE 1 Personal profiles of interviewees.

Characteristics	Frequency/mean
Type of affiliation ^a	
University	18
Research Institute	2
Gender	
Female	3
Male	17
Major	
Hard Sciences	12
Social Sciences, Humanities, and others	8
Number of years working in the academic sector	20.4 (SD = 11.4)
Experience in international publishing through	
Conducting research	20
Being a member of the Editorial Board for Vietnamese Journals	9
Reviewing for Vietnamese Journals	16
Being a member of the Editorial Board for international Journals	9
Reviewing for international Journals	18
Consulting/creating research and higher education policies	11
Total	20

^aAccording to the current legislation in Vietnam, higher education institutions are divided into universities and research institutes.

the interviews included some open-ended questions covering, but not limited to, the following themes:

- What are the key milestones of the use of international publishing in Vietnam?
- What are the essential international publishing databases in Vietnam?
- How and to what extent do different disciplines in Vietnam use international publishing?
- Does Vietnam need a national publishing database?
- Which factors motivate the academic sector in Vietnam to use an international publishing database?
- What is the most efficient way to use international publishing databases in Vietnam?

In-depth interviews were conducted between January and February 2020 using two options (face-to-face or e-mail) as convenient for the scholar interviewees. Given the tight schedules of the interviewees in January and February 2020 (before and after the Lunar New Year Festival in Vietnam) and the outbreak of the COVID-19 pandemic in January 2020, some interviewees

suggested switching from traditional interviews to e-mail interviews. E-mail in-depth interviews have been also used in some recent studies with distinct advantages such as time flexibility, providing time for self-reflection and group interactions (James, 2016). Most interviews were conducted only once, but depending on the arrangement with the interviewees, some were interviewed twice for further exploration. Four scholars, two majoring in hard sciences and two majoring in social sciences and humanities, participated in the second round.

FINDINGS AND DISCUSSION

Based on our analysis, we divided the scope of the study of over 30 years, starting from *Doi Moi* (Renovation) in 1986 and continuing to the present time, into three main periods. The first period, from 1986 to 2008, featured various obstacles for universities and research institutes that restrained Vietnam's research outputs. However, this period also witnessed bottom-up endeavours in a small number of fields, such as mathematics, to keep pace with their international counterparts by publishing internationally.

The next 10-year period (2008–2017) was marked by the operational initiation of the NAFOSTED under the Vietnam Ministry of Science and Technology. This milestone resulted in a major leap in terms of scientific output in international publishing databases (e.g. Clarivate WOS or Scopus).

Finally, we discuss the most recent breakthrough in academic policy with the inauguration of the reformed doctoral education policy in 2017 and the new regulation of university professorships in 2018. These two new policies emphasize the role of international publishing databases such as Clarivate WOS or Scopus as credential references. This final period is also featured by the bottom-up efforts of universities, private sectors, and civil society to widen the use of international publishing.

The first period (1986–2008): The absence of policies to initiate international publishing

Hard times for the academic sector

After several years of insisting on a closed policy on economics, the government started to renovate (*Doi Moi*) the whole system in 1986. This transitional economic period was characterized by the conversion from a strictly controlled economy to a market-based one. Nevertheless, for the academic sector, the 1980s were a difficult period for both universities and research institutes in Vietnam.

As the state allocations were reduced, and the tuition fees could not cover the financial deficits, all universities faced an unprecedented challenge in maintaining teaching activities. Consequently, research activity, which traditionally was not considered the primary mission of universities in Vietnam (Vietnam Chairman of the Minister Board, 1992), tended to be neglected during this period.

Meanwhile, research institutes in Vietnam in this period were also faced with stagnant growth due to their reliance on the diminishing state allocation. From 1992 to 2000, the government

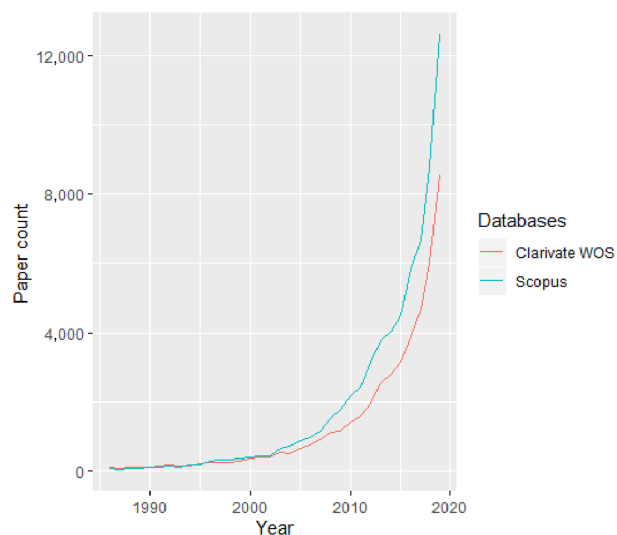


FIGURE 1 Number of Clarivate WOS- and Scopus-indexed publications from 1986 to 2019. Source: authors extracted from Scopus (n.d.) and Clarivate WOS (n.d.) Note: With Clarivate WOS database, we only counted SSCI-, SCIE-, and AHCI-indexed papers.

only allocated research budgets to key research institutes that were in charge of national projects (Vietnam Chairman of the Minister Board, 1992). Without a proper research policy to attract professionals and a lack of research funding, this resulted in a 'brain drain' flow of talent from the academic sector in Vietnam to other sectors or to other countries (Van Huynh, 2004). This situation accounted for significant declines in scientific output and an enormous financial burden for the nation.

The following narrative from a university faculty member who lived through this period illustrates the difficulties the Vietnamese academic sector had to face:

The salary paid by the government was too low. The universities could not bring any other opportunities for additional income. Some colleagues decided to quit the job (in the academic sector). The rest tried to maintain daily life through extra jobs such as selling or tutoring for high school students. Only very few people had the chance to conduct research but practice-oriented but not fundamental. (Interviewee 18)

Given these circumstances, international publishing seemed to be alien to most academic scholars in this period. As presented in Fig. 1, the number of publications authored by Vietnamese scholars between 1986 and 2008, especially between 1986 and 2000, in either Clarivate WOS or Scopus is very modest.

First initiatives in upgrading the academic system

By the beginning of the new century, the situation for the academic sector in Vietnam started to improve as both universities and research institutes began to receive more support from the

government. For instance, in 2000, the government launched Project 322, which aimed to send talented young graduates abroad to study at postgraduate level (Vietnam Prime Minister of Government, 2000). Project 322 was followed by another, 'Project 20,000 overseas PhDs by 2020', launched in 2008 (Dung, 2010). These projects were crucial for universities and research institutes since their objective was to create qualified human resources for further development of the academic sector.

In 2005, the government released the first-ever plan to renovate the whole higher education system, The Higher Education Reform Agenda (HERA) or Resolution 14/2005/NQ-CP (Vietnam Government, 2005). Specifically, HERA identified eight critical measures, including the renovation of science and technology activity. This section focused on several objectives, including the establishment of research institutes within the higher education system, more research on educational topics, the integration of research as an additional duty for lecturers, and a commitment to spend at least 1% of state expenditure on the goals stated in the Law of Science and Technology (Vietnam National Assembly, 2013). However, international publishing was still unmentioned in this policy document. As one scholar interviewee said:

The situation [in the 2000s] seemed to be better compared to the previous decade. We started to have opportunities to access research funding. However, the major publications only appeared in domestic journals. We were still unaware of what international journals are. (Interviewee 9)

In a nutshell, the period from 1986 to 2008 involved minimal involvement in international publishing within academia in Vietnam. Moreover, research institutes also struggled with research funding and failed to retain talented scientists. Overall, the obsolete education system, the absence of quality assessment for research and budget allocations, and little progress in terms of research policies were the main reasons for Vietnam's low research output in international publishing databases (such as Clarivate WOS or Scopus) in this period.

The pioneering outlook of the mathematics community with regard to international publishing

Despite having a modest number of international publications, Vietnamese academics were aware of international publishing and its attributions. This early recognition originated from the tradition of some sub-communities in hard sciences, especially mathematics, in keeping pace with international standards. Most of our interviewees agreed with this assertion. As one interviewee said:

Mathematicians were the first pioneers who could publish internationally. This was followed by their colleagues in computer science, information technology, and physics. (Interviewee 9)

In retrospect, even in wartime (i.e. 1950s to 1970s), despite many difficulties, mathematicians still managed to publish papers in foreign journals (V. T. Le, 1947; D. C. Pham *et al.*, 1966). After the American war in 1975, the Vietnamese mathematics community continued to demonstrate a growing understanding of the international academic scene. In 2001, Prof. Ngo Viet Trung, the current chairman of the Vietnam Mathematical Society, wrote an article on ranking mathematical journals based on citation indicators. This article gave a thorough picture of different sources of international citation-based mathematics databases, such as *Mathematical Review* (American Mathematical Society, n.d.) and *Zentralblatt fuer Mathematik* (zbMATH, 2020), and endorsed these sources as a useful tool for managing journal references and citations (Ngo, 2019, January 29). This was possibly the first time that the notion of international publishing was officially introduced in the research and higher education sector in Vietnam.

The second period (2008–2017): The beginning of international publishing in academia

The second period featured the beginning of a broader scope of international publishing in Vietnam as a result of two main advancements. First, the establishment of the NAFOSTED marked the incorporation of international publishing in research funding allocation. The second main step was the bottom-up effort in raising awareness of international publishing among the academic community and the public.

The establishment of NAFOSTED

Launched in 2008, NAFOSTED had the aim of creating a favourable research environment that met international standards in order to improve the research quality in Vietnam. NAFOSTED, indeed, acted as the first-ever national agenda that used international publishing as part of its requirements and outcome assessment systems. With strict standards on research quality based on international publishing databases, NAFOSTED created an eligible list of prominent journals indexed by Clarivate WOS or Scopus databases in order to raise the bar for Vietnam's scientific research outcomes. Furthermore, in order to apply for a NAFOSTED grant, a researcher was required to have at least one published Clarivate WOS/Scopus-indexed article, and the funded research outputs should be published in at least two Clarivate WOS/Scopus-indexed articles (Vietnam Ministry of Science and Technology, 2014).

All the interviewees in this study agreed that the impact of NAFOSTED is notable. After 10 years of operation (2008–2018), NAFOSTED's grant receivers had contributed 20% of the total Clarivate WOS indexed papers in Vietnam and accounted for more than 60% of the total Clarivate WOS publications funded by the government (NAFOSTED, 2018). As a consequence, NAFOSTED was praised as an effective research funding model by both policymakers and academic scholars:

With the use of Clarivate WOS and Scopus databases as a reference, NAFOSTED promoted the performance-based mechanism in science in Vietnam. (Interviewee 8)

NAFOSTED set a new standard. It brings opportunities for young talents and diminishes the in-grained culture of seniority in Vietnamese academe. (Interviewee 11)

In brief, the establishment and operation of NAFOSTED was a remarkable milestone in research policies that were able to raise the standard of Vietnamese scientific output and provide a breath of fresh air in the academic community.

The increasing awareness of the academic community with regard to international publishing

In addition to top-down efforts from the government, bottom-up endeavours by the academic community in Vietnam in this period contributed significantly to increased awareness of international publishing among the public. Specifically, discussions initiated by scientists on mass media about topics relevant to international publishing have increased considerably (Ngo, 2017; D. C. Pham, 2008; L. Thu, 2016).

Thus, one of the key features of the second period is increasing societal awareness of the importance and role of international publishing. In the mid-2010s, the notion of international publishing in general and some notable publishing indexes, such as Clarivate WOS and Scopus, were increasingly being introduced in Vietnam's mass media. Familiarization with such citation indexes and the concepts of Impact Factor (IF) and H-index in the academic community in Vietnam was well documented (M. T. Ho, Do, Pham, & Vuong, 2017; Lam, 2015; Tiasang, 2010):

In the mid-2000s and especially after the launch of NAFOSTED in 2008, we have increasingly discussed bibliometrics such as Clarivate WOS. Before, we already knew the concept of Clarivate WOS and related issues such as Impact Factor. However, I am not sure all of us, at that time, fully understood what they are. (Interviewee 6)

In addition to the increasing visibility of international publishing in mass media, this period witnessed another application of international publishing: as a research topic. Using the Clarivate WOS or Scopus databases, some pioneer researchers started to use international publishing databases to answer their research questions despite the fact that their majors were not publishing or science policy. As a result, scientific conversations around the applications of international publishing were strongly stimulated. Table 2 summarizes some of the most important articles using international publishing databases produced by Vietnamese authors between 2008 and 2017.

In a nutshell, the growing familiarity with international publishing in the academic community between 2008 and 2017 was

TABLE 2 Some international publications using international publishing databases as the object of analysis, conducted by Vietnamese authors between 2008 and 2017.

Author(s) and year of publication	Title	Journal	Source of database	Highlights of the publication
D. H. Pham (2010)	A comparative study of research capabilities in East Asian countries and the implications for Vietnam.	Higher Education	Clarivate WOS	Compared the research capabilities of Vietnam with 10 other East and Southeast Asian countries and pointed out several weaknesses. Also provided recommendations for the Vietnamese academic system.
Nguyen and Pham (2011)	Scientific output and its relationship to the knowledge economy: An analysis of ASEAN countries	Scientometrics	Clarivate WOS	Revealed a strong relationship between scientific performance and the knowledge economy index of 10 Southeast Asian countries between 1991 and 2010
Ho, D.M. (2015)	Scientific publications in Vietnam as seen in Scopus from 1996 to 2013	Scientometrics	Scopus	Examined Vietnam's scientific outputs in different disciplines during the period from 1996 to 2003 in terms of growth rate and collaboration.
M. T. Ho, Nguyen, <i>et al.</i> (2017)	Exploring Vietnamese co-authorship patterns in social sciences with basic network measures using 2008–2017 Scopus data.	F1000 Research	Scopus	Revealed overall sparse and fragile network connections among Vietnamese social scientists, except for a few productive groups with well-connected members.

characterized by the initiation of NAFOSTED, acknowledgment from the scientific community, and the efforts of some researchers in providing insights about the international publishing scene in Vietnam.

The third period (2017–current): Formation and expansion

The third period is characterized by the combination of deeper governmental involvement in encouraging international publishing by developing policies and encouraging the active participation of universities and private sectors, as well as civil society. The first part of this section describes the implementation of the reform of doctoral education and professorial appointments in Vietnam since 2017. The second part involves the high-profile initiatives of universities in Vietnam in order to meet the requirements for internationalization in research. Finally, we discuss the involvement of some private sectors and members of society in popularizing the use of international publishing databases further (Table 3).

The new regulations on doctoral education and professorial appointments

On 4 April 2017, Education Minister Phung Xuan Nha signed a new regulation on doctoral education in Vietnam (Vietnam Ministry of Training and Education, 2017), which has had a deep and significant impact on the whole education and research system in Vietnam, especially with regard to the use of international publishing. First, the regulation raises the qualification standard for supervisors of doctoral students. In order to be a legitimate supervisor, one is now required to have at least one international article published in Clarivate WOS/Scopus-indexed journals or an

ISBN-coded reference book published internationally. Second, a doctoral student will only be able to register for his/her dissertation defence when he/she has published at least one paper in a Clarivate WOS/Scopus-indexed journal (Vietnam Ministry of Training and Education, 2017). Because of the new regulation, the number of newly enrolled PhD students in Vietnamese universities dropped significantly in the following year. For instance, Vietnam National Economics University reported that their new enrolment of PhD students decreased dramatically from 130 in 2016 to only 20 in 2017 (V. Le, 2018). A similar phenomenon has also been observed in other higher education institutions. The new regulation was welcomed by many in the academic community because of its attempt to raise the standard of doctoral education based on international publishing (Vuong, 2019).

According to the interviewees, the new regulation for doctoral degrees in 2017 had an even bigger impact than the launch of NAFOSTED in 2008, resulting in a new milestone in the use of international publishing in Vietnam. As an interviewee said:

NAFOSTED only influenced those who want to apply for a research grant at NAFOSTED. Others who do not care about Clarivate WOS, Scopus, and international publications might seek opportunities in other sources of funding, and they can publish in regular (i.e., domestic) journals. The impact of the new doctoral regulation is much more pervasive since it encompasses the whole academic sector, ranging from young researchers (i.e., doctoral candidates) to senior fellows (i.e., supervisors) (Interviewee 17)

Like the new regulation on doctoral education, the new regulation on professorial appointments, which placed international

TABLE 3 Some high-profile research and education policies using international publishing.

	Description of requirements	Source
Eligible journals for NAFOSTED grant recipients in natural sciences and technology	Journals indexed in Science Citation Index Expanded (SCIE) databases and ranked in Q1, Q2 or Q3	NAFOSTED (2019)
Eligible journals for NAFOSTED grant recipients in social sciences and humanities	<ul style="list-style-type: none"> Journals indexed in Social Sciences Citation Index (SSCI) or Arts and Humanities Citation Index (AHC) databases or Scopus database Journals indexed in SENSE database (www.sense.nl) and ranked in groups A or B Other international peer review journal lists approved by the Scientific Committees 	NAFOSTED (2019)
Criteria for supervisors of PhD students	First or corresponding author of at least one article published in Clarivate WOS or Scopus-indexed journals or one book chapter published by an international publisher	Vietnam Ministry of Training and Education (2017)
Prerequisites for graduation with a PhD degree	(Co)author of at least one article published in a Clarivate WOS- or Scopus-indexed journal or at least two articles published in an international peer reviewed conference proceedings/journal	Vietnam Ministry of Training and Education (2017)
Minimum requirement for appointment as an Associate Professor	(Co)author of at least three articles published in Clarivate WOS- or Scopus-indexed journals or other international journals	Vietnam Prime Minister (2018)
Minimum requirement for Professorial appointment	(Co)author of at least five articles published in Clarivate WOS- or Scopus-indexed journals or other international journals	Vietnam Prime Minister (2018)

publishing at the centre of the policy agenda, also highlights the importance of international publishing in the academic sector in Vietnam. Explicitly, the new regulation (Vietnam Prime Minister, 2018) stipulated that the minimum requirement for new professors in Vietnam by 2020 is five articles published in Clarivate WOS- or Scopus-indexed journals or other recognized international journals. The respective figure for new associate professors is three articles. The new regulation replaced the former one, which did not contain any requirements in terms of international indexed journal articles and has brought new expect-

tations of a boost in Vietnamese research outputs in international databases (Huyen, 2018).

Policies of Vietnam's universities in use of international publishing

Along with the official regulations on doctoral education and professorial appointments, the integration of international publishing has also appeared in some universities in Vietnam with pronounced international aspirations (Table 4).

TABLE 4 Financial reward policies in some universities in Vietnam for international publishing. Source: authors extracted and developed from Vuong (2019) (p. 6).

University	Period	The highest reward for an Clarivate WOS/Scopus publication	Source
Vietnam National University Hanoi – University of Social Sciences and Humanities	From 2018	VND 250 million	M. Q. Pham and Van Nguyen (2019)
University of Economics, Ho Chi Minh City	From 2018	VND 200 million for publication in a journal with Impact Factor (IF) higher than 2	Hung (2019)
Industrial University, Ho Chi Minh City	From 2017	VND 40–50 million	Hung (2019)
University of Food Industry, Ho Chi Minh City	From 2017	VND 50 million	Huynh (2017)
Vietnam National University HCMC – International University	From 2017	VND 35 million	Huynh (2017)
Open University HCMC	From 2017	VND 40–100 million	Giang (2019)

1 USD = 23,000 as in 2019.

TABLE 5 Requirements for research outputs in internationally indexed journals for academic staff in some Vietnamese universities.

University	Required research outputs	Source
Vietnam – Japan University	1–2 articles in Clarivate WOS/Scopus per year for lecturers	Vietnam Japan University (2018)
Ton Duc Thang University	One main-author paper/year in journals indexed by Scopus for assistant professor; One main-author paper/year in high-impact journals indexed by Clarivate WOS for associate/full professors	DTU Research Informeta Group (2020)
Phenikaa University	Five articles in a journal indexed in Scopus (Q1)/ per research group	Bich (2019)

The most visible efforts from these universities are their attempts to raise the research outputs of faculty members. Thanks to their bold strategies emphasizing international publishing, such as the establishment of research groups attracting highly productive researchers and cash rewards for each Clarivate WOS/Scopus-indexed paper published, several universities in Vietnam have successfully raised their positions in the world university rankings. Ton Duc Thang University, a young and ambitious higher education institution established in 1997, is regarded as the highest-profile case using such approaches. By 2019, Ton Duc Thang was the only Vietnamese representative in the top 1,000 global universities based on the ShanghaiRanking Consultancy (2019). According to the most recent statistics (DTU Research Informeta Group, 2020), Ton Duc Thang published 2,545 articles in Clarivate WOS-indexed journals in 2019; the figure is the highest for higher education and research institutes in Vietnam.

Another outstanding example is Duy Tan University, which is ranked at 451–500 in the QS Asia University Ranking (QS Top Universities, 2020). In 2019, Duy Tan University published 1,038 articles in Clarivate WOS-indexed journals and ranked number 2 among Vietnamese universities behind only Ton Duc Thang University (DTU Research Informeta Group, 2020).

Involvement of the private sector and civil society

After nearly three decades of involvement in the academic community, a new tendency has appeared, in which some individuals in civil society and the private sector in Vietnam have begun to produce ideas to support international publishing in Vietnam. While having different approaches and results, each of these projects is pursuing the same aim, which is to further the adoption of international publishing in Vietnam (Table 5).

Scientometrics for Vietnam or S4VN is a non-profit project that aims to provide information about Vietnamese research results based on the Clarivate WOS database. The project, which was founded by three Vietnamese graduate students in Taiwan ROC in 2015, received significant attention from the public and several media outlets (Nghiem, 2019; Q. Thu, 2016). By using data on scientometrics in Vietnam, S4VN has become the first-ever platform in Vietnam that compares the research outputs of the top 15 higher education institutions in Vietnam in every single subject, including mathematics, clinical medicine, and computer science.

As opposed to the voluntary attempt of three graduate students in the case of S4VN, the next project was a high-profile undertaking by a research group from Vietnam National University, Hanoi, which aimed to create a publishing database and a citation index for the Vietnamese research system, known as the Vietnam Citation Gateway or VCGate (VNU, n.d.). Established in 2016, the VCGate is the first-ever database source that connects and indexes 66 domestic Vietnamese journals from 2006 to the present. Currently, the project has moved into its second phase, with plans to integrate the publishing records of Vietnamese authors from Clarivate WOS and Scopus into its domestic records (VNU, n.d.).

The participation of the private sector is also worthy of mention. The most notable example is the SSHPA database (Vuong et al., 2018), a project initiated in 2017 by a private company, Vuong and Associates (2018), which provides information on indexed social sciences and humanities publications by Vietnamese authors and their international co-authors (for transparency, we should note that this project was initiated by one of the authors of this article). By 5 February 2018, SSHPA had collected data from more than 657 Vietnamese researchers and their foreign co-authors and over 1,289 Scopus-indexed papers (Vuong et al., 2018). The description of the database was published in *Scientific Data* in 2018 (Vuong et al., 2018), which attracted considerable attention in the Vietnamese academic community (Huyen, 2018).

Thus, the introduction of some new 'made-in-Vietnam' international publishing initiatives in this period marked a new phase in the advancement of the use of international publishing in Vietnam, as discussed by one interviewee:

At a certain level of development, one academic system must have its own bibliometrics database. This has happened with Taiwan, Korea, or China before... now, it seems to occur in Vietnam. I am not surprised by this new movement. (Interviewee 11)

Overall, it is undeniable that the increasing adoption of international publishing over the previous decade has contributed considerably to the advancement of scientific research in Vietnam. By calculating the compound growth rate of the number of citable documents from Vietnam (Scimagojr, 2019), we found that the compound annual growth rate of publications in Vietnam

between 1996 and 2008 was 7% *per annum*, and the respective figure for 2008–2017 had doubled to 14%. These numbers are relatively high in comparison with other regional countries such as Thailand (8% and 6%, respectively) and the Philippines (3% and 11%, respectively). A recent report by Adams, Pendlebury, Rogers, and Szomszor (2019) also indicated that Vietnam's achievement in terms of Clarivate WOS publications increased fivefold between 2009 and 2018. This figure is the highest among 14 countries in the South and Southeast Asian regions.

Despite the above-mentioned positive outcomes, the adoption of international publishing into academic policies still attracts mixed opinions among the Vietnamese scholar community. On one hand, many people urge the more profound and widespread use of international publishing as criteria for academic funding and hiring (Vuong (2019). On the other hand, some think that international publishing databases still have their flaws and should be supplemented with the help of scientific review committees (e.g. see interview with Prof. Ngo Viet Trung in H. H. Pham, 2019) or are only suitable for hard sciences but not social sciences and humanities (see interview with Assoc. Prof. Pham Van Khoai in Ngoc, 2017). The above debate is not uncommon as we have observed similar discussions in other countries (for instance, see Abramo & D'Angelo, 2011; Bornmann, Thor, Marx, & Schier, 2016; Moed & van Leeuwen, 1996; Panaretos & Malesios, 2009).

At present, it is hard to imagine a scene in which international publishing is wholly absent from the governmental policy landscape in Vietnam, as observed between 1986 and 2008. Thus, the central question that the Vietnamese government needs to address is how to use international publishing in the most sustainable ways possible in order to enhance international research outputs, thus helping to develop strong research groups, nurture highly qualified researchers, and improve the quality of higher education.

Previous studies have indicated two prominent approaches in applying bibliometrics: (1) exclusive use of bibliometrics and (2) bibliometrics combined with peer review (Abramo & D'Angelo, 2011; Zacharewicz, Lepori, Reale, & Jonkers, 2018). In this context, the use of the term 'peer review' refers to the assessment of quality based on the expert opinions of an appointed scientific committee rather than the reviewing process of academic journals. Among our scholar interviewees, there were advocates of both approaches. The following quote illustrates the opinion of a proponent for the former approach:

Given the widely-used international metrics, what would be the role of (a peer review) committee? (Interviewee 7)

while the latter is exemplified via the following opinion:

There is not any metric that might measure precisely the capacity of one scientist. Given the differences in terms of regulation, history, and social attributes, we should combine bibliometrics with other peer review mechanisms. (Interviewee 5)

Another critical issue, which should be taken into consideration, is which international publishing databases should be selected for research policies in Vietnam. The present research and education policies in Vietnam mostly use Clarivate WOS and Scopus as the main inputs for decision making. However, some exceptional cases involve other databases. For instance, the latest regulation of NAFOSTED (2019) expanded the list of eligible journals for grant recipients in social sciences and humanities to not only Clarivate WOS and Scopus but also non-Clarivate WOS/Scopus databases, such as some French- and Russian-language journals (for history and archaeology) or journals published by 14 major publishers, including Springer, Elsevier, Wiley-Blackwell, Taylor & Francis, Sage, Oxford University Press, Cambridge University Press, Emerald, Macmillan Publishers, Inderscience Publishers, Edward Elgar Publishing, Degruyter, and World Scientific (for economics).

The opinions of our interviewees on this issue were mixed. Proponents of the inclusion of databases other than Clarivate WOS and Scopus argued that Clarivate WOS and Scopus do not cover all qualified journals, especially in social sciences and humanities. Those opposed to including other than Clarivate WOS and Scopus emphasized the advantage of these two databases in terms of validity and popularity. Additionally, they warned about the problems of high administration costs and potentially faulty publications when new databases are included.

CONCLUSION

Three decades of development since 1986 have witnessed numerous changes in the academic sector in Vietnam. Notably, globalized integration in research, and more specifically, widespread awareness of the formal/informal adoption of international publishing, has received considerable attention over this time.

In this article, we have traced the advancements in international publishing in academia in Vietnam using three main phases (1986–2008; 2008–2017, and 2017 to the present). The first period was marked by poor performance in terms of international publication as recognized in Clarivate WOS or Scopus due to the difficulties affecting the whole academic sector. This first period also featured an absence of international publishing as part of academic policies at national level. Nevertheless, during this time, international publishing was still being acknowledged and used by some sub-communities of academics, especially mathematicians.

The second period was characterized by the introduction of NAFOSTED, which was the first governmental attempt to incorporate international publishing into an output-based competitive research funding system. Along with this significant milestone, the second period also featured an increased tendency for individual scientists to popularize international publishing on the frontlines of mass media and science communication.

The most recent landmarks in 2017 and 2018 were the two reformed regulations on doctoral education and professorial appointments, which quickly adopted international publication as

a required standard for (1) doctoral students and their supervisors and (2) professorial and associate professorial appointments, respectively. This period has also featured the use of international publishing in recruitment and output-based rewards in some universities and several initiatives by private sectors and civil society in promoting and using international publishing databases.

In order for Vietnam to move forward in the future, Vuong (2018) suggested the nation would have to prioritize three aspects: (1) education, (2) the efforts of scientists in serving the public, and (3) science communication. In this study, we regard international publishing as an efficient tool in science communication that might improve mutual understandings within the academic sector and between the academic sector and other stakeholders, including government, industry, and the public. However, the internationalization process for academic publishing in Vietnam so far still depends mostly on counting the number of Clarivate WOS/Scopus-indexed publications. In the near future, the involvement of publishing indicators (e.g. H-index, IF) and open access journals to increase cost-effectiveness and objectivity in assessing the quality of publications, academic candidates, as well as research groups will open new ground for the development of academia in Vietnam. This paper, to best of our knowledge, is the first-ever attempt to provide a comprehensive picture of the use of international publishing in Vietnam since *Doi Moi* in 1986. In turn, we encourage further studies to continue to use international publishing as a subject or data from international publishing databases as inputs for further investigation. For instance, future studies might analyse to what extent international publishing has been used in Vietnam using context analysis techniques. Another avenue is to investigate the impact of some high-profile policies using international publishing, such as NAFOSTED or the new regulations on PhD education, on research performance and outcomes in Vietnam.

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