Academic Research in Universities in Vietnam

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Abstract:
The paper assesses the status of academic research activities in universities in Vietnam. Assessing the impact of the 4.0 industrial revolution on teaching and research activities in universities in Vietnam. Thereby, offering opportunities and challenges for Vietnamese universities.

Keywords: Academic research, university, Vietnam

1. Vietnam’s Higher Education Background
Education is an area that has been focused and developed for over 40 years in Vietnam, especially higher education. Since Vietnam was liberated in 1975, the government has preferred to focus on education as it provides human resources collar workers in the period approaching the values of modern technology to rebuild the country, and its bring economic value and property to a country. In the context of the development of education in the context of the Industrial Revolution 4.0, Vietnam will certainly face many difficulties to keep up with advanced technology, while higher education in Vietnam is still backward.

- Background of the Industrial Revolution 4.0
The Industrial Revolution 4.0 spread throughout the world as it is today due to the fact that the speed of development and the impact of breakthroughs in technology have had unprecedented strong influences. Innovations and scientific advances are available in all fields, such as artificial intelligence, Robotics, Internet of Things (IoT), self-driving cars, biotechnology, Nano technology, 3D printing technology, material science, quantum computers, all of that impact almost every industry at such a rapid rate that people say the Industrial Revolution 4.0 is growing at the speed of exponential functions. The Industrial Revolution 4.0 plays an important role in creating products and services that allow us to have a better life. Conversely, this revolution may also lead to even higher inequality as new technologies will replace labor-intensive jobs. This is considered the biggest challenge brought about by this revolution. In addition, there is another challenge to how to create jobs that require higher skills for people when automated technologies have replaced labor in many daily tasks. Thus, the phrase "industrial revolution" contains a great change, not only transforming the economy but also transforming the whole culture and society. Vietnam is moving very fast from the "golden population" structure to the age of population aging. The Industrial Revolution 4.0 should be seen as an opportunity to increase labor productivity based on scientific and technical applications, effectively utilizing the current "golden population" structure. Certainly, education and training will play a key role to solve this great problem.

- The impact of the Industrial Revolution 4.0 on education
One of the requirements to prepare for the Industrial Revolution 4.0 is to improve human capital to meet the changing knowledge and skills requirements in the new work environment. This poses a great mission for education and training to prepare human resources to meet the country's development requirements. The problem that many countries have found and posed is to move from a heavy education to equipping learners with knowledge and skills to an education that helps develop capacity, promote innovation and creativity for learners to meeting the requirements set for citizens during the Industrial Revolution 4.0. With the flow of new learning models and the development of science and technology, the traditional education methods will certainly be subject to many challenges. One of the highlights is the differentiation to each of the learners. Each student has different needs and learning abilities. Technological advances allow educators to design separate learning pathways that are

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specific to each case. The educational software has been put into use with the ability to adapt to the capacity of each student and allow them to study at a pace that suits their own needs. In many countries, this adaptive learning software have quickly replaced each or every part of the classroom textbook role. In addition, access to information has become easier than ever, leading to a question that educators need to answer is identifying the core knowledge that learners need to be equipped in the future. While past education models focus on providing learners with the knowledge and skills needed to help them become highly skilled people, educators today care a lot more about teaching students how to learn by themselves. Education teaches students how to think, how to assess situations, complex problems in life, thereby forming the ability to solve problems.

Development technology has a great influence on the role of teachers in the classroom. Technology management system with technology support can provide data system to help teachers monitor the progress of each class, thereby giving immediate feedback to the difficulties students face. are encountering. But technology, however modern and important, cannot replace the teacher's role or turn the instructor into a robot. Therefore, how to leverage and master the technology, let this tool support and create freedom and creativity in education is a challenge for each instructor and educational institution.

The above changes are a reminder of how education models can be operated in the near future: computers act as personal support tools in the classroom with a variety of learning routes. Teachers and parents are better equipped to understand students' learning process; The class is divided into small groups of students with appropriate skills and qualifications to work together. Advances in advanced technology today will also help faculty in scientific and academic research. However, technologies can only help but not completely replace creativity in research. Therefore, supporting policies to promote academic and scientific research become necessary and extremely important in the university.

- **Challenges and opportunities for Vietnamese education**
  In the context of the development of education in the context of the Industrial Revolution 4.0, Vietnamese education has fundamental advantages to embrace the development opportunities that this industrial revolution brings.
  The Party and the State always anticipate challenges in educational activities for future generations. On November 4, 2013, the 8th Conference of the 11th Party Central Committee approved Resolution No. 29-NQ / TW on basic and comprehensive innovation of education and training, meeting public requirements. industrialization and modernization in the context of socialist-oriented market economy and international integration. The Resolution of education reform direction of the Resolution is: "Strongly transforming the educational process from mainly equipped with knowledge to comprehensive development of learners' capabilities and qualities. Learning with practice; reasoning with practice; school education combined with family education and social education ". On May 4, 2017, the Prime Minister issued Directive No. 16 / CT-TTg on strengthening the capacity to access the Fourth Industrial Revolution with many important solutions. In particular, the Prime Minister requested a drastic change in educational policies, contents and methods to create human resources capable of receiving new production technology trends. On May 5, 2017, the Ministry of Education and Training sent Official Letter No. 1891 / BGDĐT-GDDH to all higher education institutions to guide the direction of training human resources capable of adapting to the Fourth Industrial Revolution. From 2018, this will be one of the basic contents for evaluation and development orientation for the entire education sector.
  Besides, one of the very basic advantages for education to take advantage of development opportunities is that Vietnamese society always attaches great importance to learning. We are always appreciated in creating a positive learning environment, ensuring discipline, good school and helping students have a good learning attitude. Participation, encouraging young people from parents and students is also a positive factor in forming a learning society.
  The third advantage is that the education management staff, the teachers - the force plays a key role in the educational innovation process - are always concerned, invested and supported in capacity building.

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Career standards and regulations of managers at all levels and teachers are being prepared for issuance. Those standards and regulations will be tools to support managers and teachers in capacity building training to meet the requirements in the new period.

Although there are still many concerns about Vietnam's study program, it is not associated with reality, high results in the PISA examination, Intel ISEF international science and technology exam, international and regional Olympic competitions. The area that contributes to affirming Vietnam's education has started to move, focusing on students using knowledge to solve practical problems, instead of just memorizing content from textbooks. This result also demonstrates the potential of Vietnam's human resources in the areas of mathematics and science if appropriately invested.

In addition, Vietnam's education program always emphasizes helping students gain a deep understanding of core concepts and mastery of knowledge. The new general education program will be put into operation from 2019, changing from a content approach to capacity development and quality will be a prerequisite for fundamental and comprehensive innovation of general education.

Recently, the Ministry of Education and Training has pushed up the policy to make schools more autonomous in the implementation of curriculum and assessment. These innovations bring positive effects in the quality of our education. In the recent report of the World Bank Smarter Growth: Learning and Developing Equality in East Asia - Pacific (4), Vietnam, along with China, is considered as the two pioneering countries in educational innovation, a truly impressive development education system, can become important lessons for other countries.

Some orientations for Vietnamese education in the context of the Industrial Revolution 4.0

In the new wave of industrialization, the education system must focus on developing the quality and capacity of learners through the orientation of the most suitable paths for different groups of students to help them, promote the potential of each individual. This should be applied at all levels of education and training levels. In particular, for universities, the success of a university is not merely the rate of graduates, the ability of students to find jobs or the position on the international rankings, but also is the sustainable and long-term development of students, the ability to be willing to take risks, to innovate and innovate students. In addition, creative research on science and scholarship of students also contributes to the development of the country and the education system in Vietnam.

To do these things, Vietnam needs to confirm the importance of a lifelong learning support system. The entire education system must recognize the diversity of strengths and talents of the younger generation. Only the process of learning with passion can help build a new generation of bravery, with the ability to orient yourself and persistently pursue goals.

2. Vietnam’s higher education context

According to statistics of the Ministry of Education and Training Vietnam (2018), by the end of the school year 2017-2018, the current system has 235 universities and academies (including 170 public establishments, 60 private institutions, and 5 establishments with 100% foreign capital), 37 scientific research institutes are assigned to provide doctoral education, 33 colleges of pedagogy and two pedagogical secondary colleges.
At the workshop organized by the Commission for Culture, Education and Youth (2018), Nguyen Huu Duc, deputy director of Hanoi National University, said that by approaching the system rating (U21 rankings university Association and QS Universities 21), higher education in Vietnam has not reached the world top 50. According to the ranking of the QS (World University Rankings) 2018 higher education system, ASEAN has five countries: Malaysia (28th), Singapore (29th), Thailand (38th), Indonesia (39th) and the Philippines (45th). Again, Vietnam can not contribute. In 2018, Vietnam has two national universities in the top 1,000. In the Asia region, Vietnam has five universities, including Hanoi National University (139th), Ho Chi Minh City National University (142th), Hanoi University of Technology (291-300th), Hanoi University Can Tho (301-350th) and Hue University (351-400th). Although Vietnam has not reached the top 500 but with the appearance of two national universities in the top 1,000, Mr. Duc said that Vietnam's higher education system could be ranked in the 80/196 group of the world.

Detailed analysis of the ranking results of each criterion, the academic team of the National University of Hanoi found that Vietnam universities in general can not appear in the world rankings or still ranked low because it does not meet the research productivity and internationalization standards. Analysis and comparison of the ranking results of two leading universities in Vietnam: Hanoi National University and Ho Chi Minh City with the top two universities Phillipines, Indonesia, Thailand, Malaysia, Mr.Duc (2018) confirmed the quality of the research (cited by the citation) of the above mentioned countries is equivalent, but the productivity of the two universities in Vietnam is lower. In particular, the rate of academic prestige and prestige of Vietnamese employers is much lower. Limited research and publication of research results is a major constraint for Vietnamese universities. Most of the advanced education of countries in Asia and around the world today is capable of creating a large team of highly qualified researchers. And they can publicize their research results to the national and international large quantities (Duc, 2018).

In line with the trend of international integration, the number and quality of scientific research published in international scientific publications has become an important measure, the objective indicators reflect not only the development of science - technology as well as scientific performance but also reflect the level and quality of the educational background of each country (MET, 2018). In Vietnam in recent years, despite the interest of many educational institutions in creating a mechanism that encourages researchers to focus on...
research and publication of national and international research findings, but the results are still limited, even tend to lag far more than many countries in the region and the world (MET, 2018). Vietnam now has about 9,000 professors and associate professors, 24,000 PhDs and more than 100,000 masters. According to the statistics of the Institute of Information Science (ISI, 2018), Vietnam has only 13,172 published scientific papers published in international peer-reviewed journals, ie about 1/5 of Thailand (69,637), 1/6 of Malaysia (75,530), and 1/10 of Singapore (126,881). Meanwhile, the population of Vietnam is 17 times that of Singapore and 3 times that of Malaysia. Not only in terms of quantity, the impact index of scientific research in Vietnam is also the lowest in comparison with other countries in the region. This modest rating is also consistent with the number of patents registered in the United States and the innovation index by the World Intellectual Property Organization (WIPO).

![Number of Master, PhD, Professor & Associate Professor in Vietnam 2018](image)

**Figure 2. Number of Master, PhD, Professor & Associate Professor in Vietnam 2018** (Source: Vietnam Ministry of Education & Training (2018).

While international academic achievement is the top criterion for evaluating universities, universities in Vietnam are hardly interested in academic research. In recent years, due to the need for integration, the perception of academic research has changed a little. After the statistics show clearly the lag of the universities in Vietnam compared with the universities of Thailand, Malaysia, Singapore, Vietnam began to set the task of scientific and academic research for universities. Based on a survey of 142/271 universities, 945 research groups are now in the university system, so on average one university has 7 research groups. According to the Ministry of Education and Training, the number of scientific and technological tasks at all levels tested in 2016 is 274. These tasks have attracted nearly 3,000 staff, faculty members, researchers, trained 312 masters, supported the training of 77 PhDs, has published 36 books of reference and monograph, published 594 scientific articles published in national and international journals, 115 applied products are technical process, products for production and life, sectoral and local development. However, compared with the current development needs, the above figures can not meet enough (MET, 2018).
According to Ngo Bao Chau (2017), the biggest barrier to engaging in academic research is the source of the investment budget. Most institutions of higher education in Vietnam is not a self-management mechanism, instead they have to depend heavily on the budget of the Ministry of Education and Training. The Ministry of Education and Training only provides annual budgets for each tertiary education institution, so universities must manage and use them within the budget allowed. As a result, academic research is limited due to insufficient funds being provided.

In addition, Pham Duy Hien (2016) argues that the compensation policy for researchers is unreasonable. Most faculty researchers and their main tasks are still teaching, plus limited time issues, so they do not spend a lot of time on academic research. The second problem is the quality of the research's team in an institution of higher education is not synchronized. Most older faculty members are not very fluent in foreign languages, especially in English, in order to be able to read and understand the standards of an international study. Finally, the research environment is not widespread in higher education institutions. The number of people involved in the research environment has led to working in the administrative system rather than an environment in which all people participate in academic research (Ngo Bao Chau, 2017).

### 3. The role of Academic Research in Vietnam’s Higher Education

**Table 1. International Publication of the Scopus System of Southeast Asia (2009 – 2018).**

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Research in universities mainly focus on creating new knowledge. This knowledge is often based on theory, and therefore not practical. Longer time is required for acquired knowledge and theories are defined to have a far reaching and widespread influence on society (Ary, 2018). In addition, research conducted at the university may not respond to current problems or social problems. Researchers are simply striving for truth. Research conducted in the traditional university setting is considered to be limited. However, in recent years, public opinion has been more appropriate for the practicality of research (Fred & Maria, 2018).

Knowledge transfer is emerging in the 4.0 technology revolution. Universities are increasingly trying to meet the expectations of society, and university researchers are trying to seize the opportunity to conduct academic research. Academic research plays an important and vital role in creating new information or updating new knowledge. New knowledge can be defined as truth, in which searching for truth is the main reason for scholarly study. The word "academics" is defined as "judged by no other standard than the truth" (MET, 2018). University researchers have a strong interest in pursuing new ideas and wisdom, and they also want them to be the first to discover new information in the field they have chosen. This is more attractive than conducting research to get a new product, or conducting research on pre-established standards. Therefore, scholars have more research motivation to advance knowledge for humanity and pursue the truth (MET, 2018).

In fact, new knowledge after discovery will be published, it also has a great impact in academic research and educational impact. Researchers are also responsible for disseminating new knowledge to the community, including scholars, students and the public. Researchers in universities tend to publish the results of their research in academic journals top, because their data can be shown to be related to academics in the fields of venture concerned. They can also share their research findings at conferences and in seminars to inspire other scholars (Nguyen Van Trao, 2018).

The publication and presentation of scholarly research will facilitate more research, which results in the progress of the field (Stephen, 2018). This motivates researchers at universities. On the other hand, many researchers are also lecturers so they can disseminate the knowledge they have learned to students throughout the lecture. This helps maintain and develop human knowledge further. While researchers working for the industry are expected to keep their discoveries secret, scholars in academic institutions are encouraged to publicize their research results. Their research results are made available for free to everyone. Indeed, it is important that researchers are willing to share their data with the community (Barbara, 2016).

Scholars are required to be proactive in having close relationships with researchers and colleagues both in their field and in related fields. Christopher (2015) argues that "they need to respond to what intellectual scholars are interested in" although they conduct research in their own field of interest. The reason is that because these scholars are pioneers in their field of study, they can also influence discussions about other unrelated issues. Therefore, it is important for the researchers to know about the various theoretical issues mentioned at that time.

The scholars regularly participate in the discussion was held in the international academic community is essential and can also ensure that their research in the right direction. Conducting comparative studies with other researchers in the same field can help them to develop common theories, which help to promote their field of study further (Christopher, 2015).

### 4. Implementing policies of Government to promote Academic Research

In Vietnamese universities today, some leaders bravely pass the framework to make their own policies consistent with the organization. To improve the effectiveness of staff research, principals and deans of some higher education institutions have developed policies (MET, 2018), such as:

- Number of hours of academic activities are converted into working time and included in annual salary.
- When all studies are published in magazines domestic and foreign, the award will be announced to the researcher immediately.
- Increase budget support for each research paper published up to four times the current level. The amount of budget support from the corporate sponsors, and the paper can be ordered from enterprises in practical applications.

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- In addition to cash rewards are also rewarded with annual training sessions. The training is open to all employees in the organization. Average annual higher education institutions has about over ten training sessions.

- Scholars are encouraged to choose their own way of improving their knowledge in the area of interest, without having to consider the requirements or priorities of their supervisor or manager. They are free to study a wide range of topics. As a result, the scope of academic research has expanded, both in terms of scope and type of research.

- Researchers are encouraged to participate in the various learning activities being organized. They are encouraged to participate in workshops held in their own and related fields. Sharing the ideas and imparting knowledge among researchers is clearly beneficial to everyone. Such exchange of ideas will help scholars become aware of both the advantages and disadvantages of conducting research in a particular topic.

- For the purpose of academic research is to create new knowledge, researchers in the university must make creative efforts. Leaders encourage researchers to base themselves, to discover new information for themselves. Beyond creativity, attitudes are the center of academic learning. People who can think seriously and have a positive attitude will be more likely to notice things that have never been discovered before, or think of ideas or theories that have never been considered before. Scholars have active research programs that are always thinking seriously about the issues around them.

- Research habits should not be confined to university life. Scholars are encouraged to be ready to cross the boundaries to carry out research even beyond their normal expertise. As scholars pass on concepts in one field and expand to another, this can facilitate creative development of ideas and knowledge transfer. There is no distinction between staying on campus or outside the university.

Through the basic characteristics required in a leader like this, pretty obvious to see the inspirational motivation characteristics include quite sufficient and necessary for Transformational Leadership. Consequently, the next part of the study will focus on analyze the relationship between motivation inspiring characteristics affect the quality of research of faculty in higher education.

5. Conferences


