

ICT Application in Organizing Faculty Exchange Programs: A Case Study

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ABSTRACT: The global advancement of information and communication technology has had a significant impact on faculty exchange programs, among other areas of higher education institutions. Using the virtual method in faculty exchange programs between a higher education institution and its foreign partnerships is one way to adapt to the current state of development in the teaching and learning environment. Through an analysis of the program's implementation in a Vietnamese institution, this paper aims to illustrate how virtual faculty exchange programs' organization has evolved. The case study and action research approach are used to analyze a Vietnamese higher education institution (HEI)'s faculty exchange programs with its international partners from 2019 to 2023, seeking to ascertain the most suitable institutional adjustment for overseeing and growing such endeavors. Although this study is restricted to the viewpoint of a Vietnamese university, it offers an illustration of how faculty exchange programs are implemented and promoted in numerous higher education establishments worldwide.

KEYWORDS: Information and communication technology; virtual method; online method; internationalization; faculty exchange

1. Introduction

Internationalization has had a significant impact on many elements of today's society, particularly higher education. Internationalization of higher education is seen as one of the ways a country responds to the impact of globalization, yet at the same time respects the individuality of the nation [1]. It has become a broad umbrella term covering many dimensions, components, approaches, and activities [2], encouraging people to broaden their experience and knowledge in teaching and learning environments and to develop education and training methods [3]. This enables higher education institutions (HEIs) to implement collaborative exchange activities with international partners, of which faculty exchange programs are considered essential in increasing internationalization efforts [4], aiding the development of global education.

Faculty exchange programs provide several opportunities to work in professional multicultural environments [4, 5]. They not only provide global-quality human resources for teaching and training, but also help university students access knowledge and experiences of

international scholars and researchers. Additionally, maintaining and promoting long-term relationships between universities and their international partners contributes to the development of a stronger national education system and enhances Vietnam's educational brand globally.

Since the early 1990s, there has been a "big leap forward" in the use of information and communication technology (ICT) in higher education worldwide [6]. Recent technological advancements have further accelerated educational development, putting the world's best knowledge bases in nearly every field at our fingertips in digital form [7]. The application of ICT has created online education opportunities deployed across teaching and learning, including innovative ways to support faculty exchange programs.

The following sections of this paper study the application of ICT in organizing faculty exchange programs at a Vietnamese university and provide recommendations for enhancing this virtual program for the university and other HEIs. This paper addresses the following questions: (1) How was the virtual method used in organizing faculty exchange programs at a Vietnamese university? (2) How do higher education institutions strengthen the quality and quantity of the virtual method in conducting faculty exchange programs?

2. Literature Review

2.1. *Virtual faculty exchange.*

Virtual faculty exchange refers to the use of ICT to facilitate the exchange of faculty members between educational institutions without physical relocation [8]. This approach leverages digital platforms, video conferencing, online collaboration tools, and other ICT resources to enable faculty from different locations to share knowledge, conduct joint research, and engage in teaching activities. Virtual exchanges overcome limitations of traditional exchanges, such as travel costs and time constraints, by providing a flexible and accessible alternative [9].

One of the primary benefits of virtual exchanges is cost-effectiveness. Traditional faculty exchanges require substantial investments for travel, accommodation, and daily allowances, while virtual exchanges eliminate these expenses and allow institutions to reallocate funds toward other academic and administrative needs [10]. Virtual exchanges also provide flexibility, enabling faculty to participate without disrupting personal and professional responsibilities [11]. Scheduling can accommodate diverse time zones and individual availability, enhancing accessibility [12]. Furthermore, ICT tools facilitate enhanced collaboration, enabling real-time communication and joint research projects through platforms such as Zoom, Microsoft Teams, Google Meet, Google Docs, and Slack [13, 14]. This can lead to dynamic academic partnerships, a sense of community, and broader access for institutions that may lack resources for traditional exchange programs [15].

Despite advantages, virtual faculty exchanges present challenges. Success depends on the availability and reliability of ICT infrastructure; poor internet connectivity, outdated hardware, and lack of technical support can hinder participation [16]. The digital divide remains a barrier, potentially excluding faculty from disadvantaged regions [17]. Limited face-to-face interaction can affect personal relationship development and cultural understanding [18, 19]. Coordinating across time zones can lead to scheduling conflicts [20, 21]. Additionally, faculty may face difficulties adapting to new digital tools, necessitating training to overcome technological anxiety and resistance to change [22, 23].

2.2. Vietnam government policies on ICT in higher education.

The growing adoption of virtual faculty exchange programs reflects broader global trends. The Vietnamese government has issued policies to support ICT use in higher education. Between 2006 and 2020, ICT deployment in teaching and learning was identified as one of seven key development strategies [24]. Decision 749/QĐ-TTg (June 3, 2020) prioritized education within the national digital transformation program, mandating online educational resource platforms, digital technology adoption in instruction and management, and curriculum digitization [25]. Circular No. 30/2023/TT-BGDĐT further outlines ICT application in online training, ensuring quality alignment with technological advancements [26]. This legal framework underpins the integration and enhancement of ICT in higher education, including faculty exchange programs.

3. Methodology

In scientific studies, numerous research methods have been developed and utilized in education; however, the author selected two methods, namely the case study and action research, for this paper. According to [27], “a case study is a research approach that is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context. It is an established research design that is used extensively in a wide variety of disciplines, particularly in the social sciences.” Moreover, the author employed action research to advance educational practice by analyzing and addressing its difficulties or challenges. The goal of action research, as explained by Creswell, J.W., was to improve educational practice by enabling researchers to analyze their own challenges within a school or educational setting [28]. Drawing on these methods, the author investigated various aspects of the implementation and promotion of virtual approaches in faculty exchange programs at a Vietnamese university and provided several recommendations to enhance the effectiveness of these approaches in the aforementioned programs..

4. Case Study: Applying ICT in Faculty Exchange Programs at X University

4.1. Background of X University.

X University is a private Vietnamese higher education institution that has been operating for 25 years. Its mission focuses on providing learners with global competitiveness while contributing to intellectual development. The university’s vision, iGSM—Industry relevant, Global, Smart, and Mega—aims to establish an international Mega education system that meets societal needs and incorporates advanced training technologies across multiple disciplines, including Information Technology, Business Administration, Digital Arts and Design, Multimedia Communications, and Foreign Languages.

4.2. Virtual organization of faculty exchange programs

To achieve its vision, X University emphasizes five strategic factors: good research, high employability, excellent teaching, social engagement, and strong internationalization. Over its 25 years, the institution has implemented programs to enhance teaching and training quality for faculty within an international context. In June 2018, the establishment of the Office of Science Management (OSM) provided an effective mechanism to promote these initiatives. The responsibilities of OSM include advising on, developing, and revising research policies;

enhancing the reward system; and supporting faculty, staff, and students in their research activities [29]. Beyond managing research, OSM facilitates collaborative programs with international partners, expands training programs, develops faculty resources, and innovates teaching and training methods, with faculty exchange programs being a key component. Based on memoranda of understanding with partner institutions, OSM coordinates the selection of suitable faculty and staff for exchange programs, ranging from one day to two weeks. Faculty exchange activities include delivering talks, seminars, and workshops, teaching short courses, and participating in research projects. X University provides financial support covering airfare, accommodation, meals, and domestic transportation for participating faculty, while OSM closely coordinates with relevant offices and partner institutions to ensure smooth program implementation. OSM has conducted faculty exchange programs with international partners since 2019. However, due to the COVID-19 pandemic, the office implemented and developed virtual methods for organizing these exchanges starting in 2021. Adjustments included reducing program duration from one day–two weeks to two-hour sessions to compensate for the lack of in-person interaction, and adopting virtual platforms such as Google Hangouts, Zoom, and Microsoft Teams. Analysis in the following sections illustrates how X University has effectively organized its virtual faculty exchange programs in recent years.

4.3. Data collection.

This study examines the number of faculty exchange programs conducted virtually and the international partners involved over the five-year period from 2019 to 2023. The evaluation focuses on the development of online faculty exchange programs implemented by OSM since its establishment. Data reported annually to the university’s Board of Directors reflect significant trends and developments. The onset of the COVID-19 pandemic in 2020 posed major challenges to the global educational environment, including at X University. From 2021 to 2023, however, there was a noticeable return to pre-pandemic activities, making the 2019–2023 period suitable for analyzing the adaptation and evolution of virtual faculty exchange programs.

5. Data Analysis

5.1. Internationalization strategies.

5.1.1. The number of organized virtual faculty exchange programs.

As previously described, X University and its international partners have implemented faculty exchange programs through both offline and virtual methods. Figure 1 illustrates the number of faculty exchange programs conducted via virtual methods from 2019 to 2023. The number of faculty exchange programs using the virtual approach changed dramatically over this period. No programs were conducted in 2019 and 2020, corresponding to the early stage of the COVID-19 pandemic. In 2021, X University implemented its first virtual faculty exchange programs, which quickly increased to a peak of 10 programs, representing all faculty exchange programs conducted that year. In 2022, virtual programs maintained this level, accounting for 76.9% of total faculty exchange programs, more than three times the number of offline programs. In 2023, the number of virtual programs slightly decreased but still comprised more than 50% of the total exchanges.

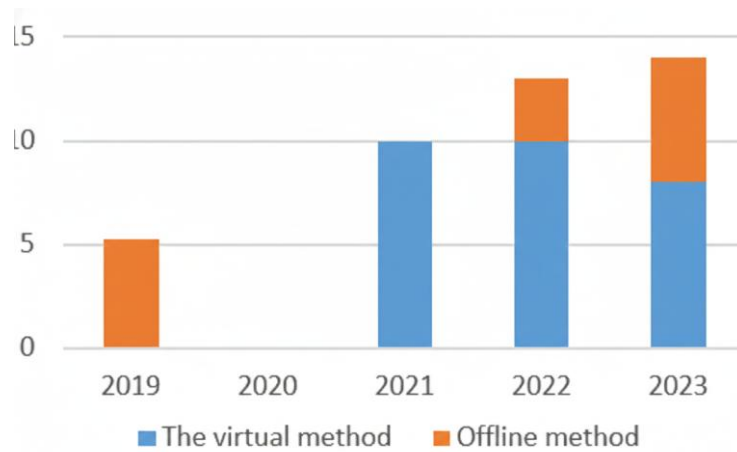


Figure 1. Number of X University’s organized virtual faculty exchange programs (2019–2023).

Faculty exchange programs covered a wide range of disciplines, including the core training majors of X University—Information Technology, Business Administration, Digital Arts and Design, Multimedia Communications, and Foreign Languages—as well as Mathematics and staff-related activities. Figure 2 illustrates the distribution of these majors in X University’s virtual faculty exchange programs.

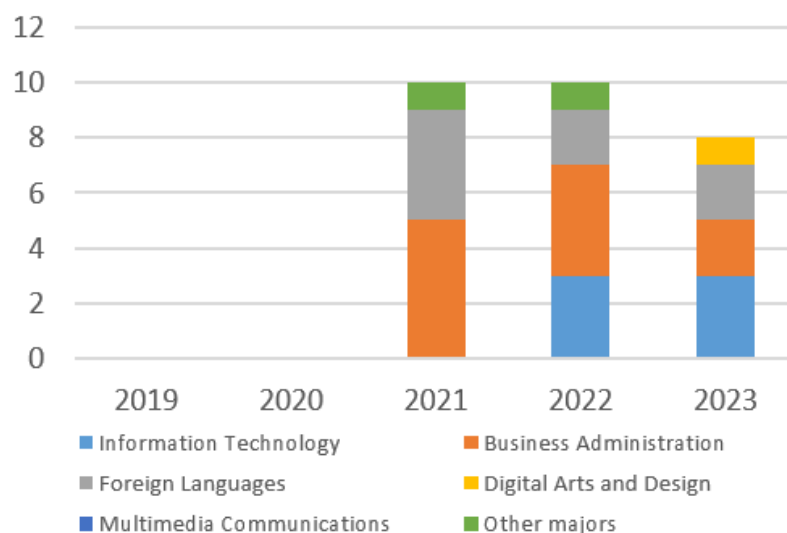


Figure 2. Number of disciplines represented in virtual faculty exchange programs (2019–2023).

As shown in Figure 2, the number of disciplines mirrored the trend in virtual faculty exchange programs. In 2019 and 2020, no programs were organized online. Beginning in 2021, the number of fields increased from 0 to 3, including Business Administration, Foreign Languages, and other majors. In 2022, programs expanded to four fields—Information Technology, Business Administration, Foreign Languages, and other majors—and this peak continued into 2023, when Digital Arts and Design was introduced for the first time through the virtual approach.

5.1.2. International partners participating in virtual faculty exchange programs.

Through memoranda of understanding (MOUs), X University has collaborated with international partners on numerous projects to foster a global teaching and learning

environment. Faculty exchange programs have been a key component of these collaborations, employing virtual methods to overcome travel and logistical limitations. Figure 3 shows the distribution of international partners participating in X University’s virtual faculty exchange programs from 2019 to 2023. The participation of international partners exhibited substantial variation. Institutions from Asia—including Malaysia, Indonesia, Japan, India, and others—constituted 75% of total participants, forming the largest share of partners. Australian universities accounted for 18%, while Russian and European institutions made up 7%. No virtual exchanges occurred with partners from the Americas or Africa during the period, indicating an uneven distribution of international collaboration.

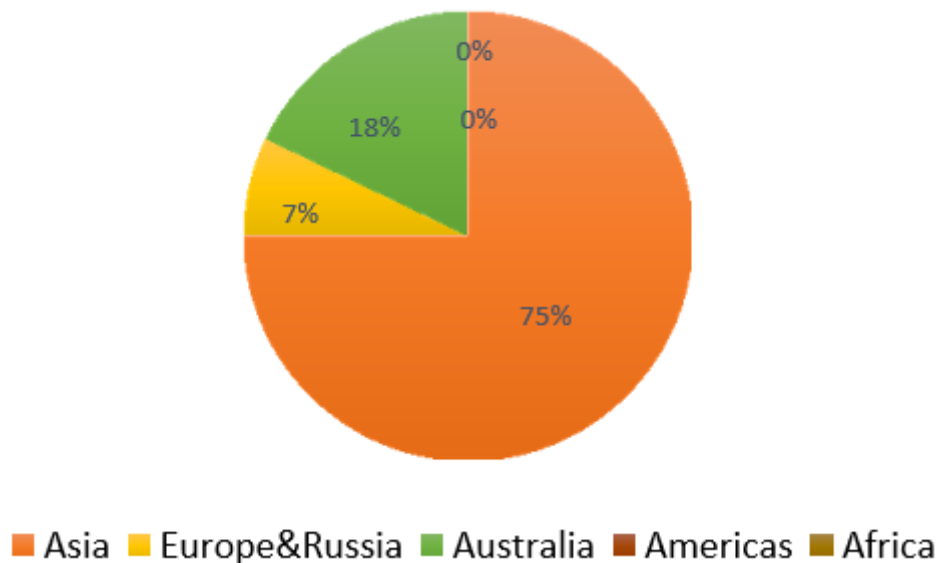


Figure 3. Distribution of international partners participating in virtual faculty exchange programs (2019–2023).

5.2. Discussion.

The Office of Science Management (OSM), established in June 2018, was relatively new when it first implemented faculty exchange programs. In 2019, considered a pilot year, OSM focused on offline exchanges to gain experience in managing such programs. Direct exchanges provided valuable insights and laid the foundation for later virtual program development. Consequently, no virtual programs occurred in 2019. In 2020, the COVID-19 pandemic disrupted global education systems, affecting approximately 1.6 billion learners across more than 190 countries and halting activities at X University [30]. This interruption prompted the OSM to innovate by preparing virtual infrastructure for faculty exchange programs. By 2021, all faculty exchanges were conducted online using platforms such as Google Hangouts, Zoom, and Microsoft Teams, with program durations limited to 1.5–2 hours to address interaction and technical challenges. This resulted in a rapid increase to 10 virtual programs.

From 2022 to 2023, the advantages of virtual exchanges became evident. Programs bridged geographical and time-zone gaps, while costs were reduced to one-third of offline exchanges. The disciplines covered were diverse, including Information Technology, Business Administration, Foreign Languages, Mathematics, and staff-related work. However, Multimedia Communications remained unrepresented, highlighting an imbalance in exchange fields. Similarly, the majority of international partners were Asian universities, with limited

participation from Europe and Russia and none from the Americas or Africa. These disparities suggest that program content, scheduling, and subject alignment may influence partner engagement. Overall, the five-year period (2019–2023) highlighted the successful implementation and rapid development of virtual faculty exchange programs at X University. Nevertheless, challenges remain, including imbalances in disciplines and international partner participation. Addressing these issues is essential to foster a multicultural educational environment, modernize teaching and learning methods, and enhance the international quality of faculty resources at both X University and within Vietnam [31].

5. Conclusion

The implementation of virtual methods in faculty exchange programs has significantly strengthened collaborations between X University and its international partners. These programs have enhanced faculty and staff specialization, fostered high-quality human resources, and promoted an international teaching and learning environment. Additionally, they help maintain long-term partnerships between higher education institutions in Vietnam and abroad. Although this study focuses on a Vietnamese institution, the findings provide a valuable case study for other universities seeking to develop similar online exchange programs. Long-term development of virtual faculty exchange programs presents challenges, including sustaining international partnerships and ensuring balanced disciplinary coverage. To enhance program effectiveness, X University should continue combining online and offline formats while exploring blended, mixed-mode, and hybrid learning approaches. Furthermore, updating ICT infrastructure and increasing funding can expand the virtual exchange approach to additional fields, such as Digital Arts and Design, while supporting activities to attract a larger number of faculty participants.

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Author Contributions

All authors contributed equally to the conceptualization, methodology, data collection, analysis, visualization, and writing of the manuscript. All authors read and approved the final version of the manuscript.

Competing Interests

The authors declare that they have no competing interests.

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