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Hoanh-Su Le
Tuan Q. Phan *Editors*

Information Systems Research in Vietnam

A Shared Vision and New Frontiers

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Preface

The rise of Vietnam's economy and the digital world in recent years has increased interest in information systems within the country. Yet, there was little literature and information on the Vietnamese context. Practitioners and researchers needed to refer to outside sources and adapt and apply them to the country's social-economic environment, ecosystem, and culture. There was a lack of systematic, centralized, and definitive source of peer-reviewed, quality, and curated research on information systems to provide guidance on the application of technology and digitization in Vietnam.

As a result, the aim of this book was to create a Vietnam-oriented body of research on information systems to meet the needs of managers, researchers, and policy-makers to make a positive impact on Vietnam. The book aims to highlight not only successful cases, but also factors which are relevant to Vietnam, advance theoretical contributions, and provide insights.

To encourage diversity and collaboration, the editorial team consists of academics and researchers from RMIT Vietnam, University of Economics and Law (UEL), and The University of Hong Kong. The book received 22 submissions with authors from Vietnam, Japan, Ireland, Finland, Australia, and Canada across a variety of topics including COVID-19 readiness and adoption, blockchains, education, consumer behavior, digitization, and start-up ecosystems. While the methodologies heavily leaned toward quantitative research using surveys, there are plenty of opportunities to conduct empirical and applied research using machine learning approach and design science research.

The editorial team recruited expert reviewers within Vietnam as well as expert academics and researchers from Hong Kong, Singapore, China, Japan, the Republic of Korea, Italy, and Sri Lanka. The international panel of reviewers was satisfied with the quality of the submissions and recommended some for publication. The authors also worked hard to revise the papers and took constructive feedback to improve the manuscripts. Overall, the review process produced positive outcomes to improve the quality of research which merits publication.

In addition to the book, the Vietnamese academic community has recently formed the Vietnam Association of Information Systems (VAIS) to support academic

research, organize conferences and events, and create a collaborative research community. Through conferences, invited overseas researchers, and editors, VAIS and this book can act in conjunction to encourage quality research on information systems with a Vietnamese orientation. VAIS has generously supported this book through their time, commitment, and network. In going forward, VAIS hopes to continue support of the book and other forms of publications to support quality research and publish impactful projects. Based on the success of this first book, there are plans for a second book and possibly an annual publication.

While this book has turned out exceeding our expectations, there are also opportunities to increase the quality of research. While the current methodology has been dominated by survey and qualitative research methods, researchers can adapt more modern methodologies including empirical and economic approaches including the use of econometrics and causal inference on high-quality primary historical datasets through collaborations with companies. Econometrics can also be used on publicly available datasets to analyze the causal impact of policies. Secondly, there are also opportunities to collaborate with industry partners to conduct field experiments and randomized controlled trials (RCT) to better isolate causal factors. For example, an RCT conducted on an educational digital platform can test psychological and causal mechanisms on students' learning to guide policies. Third, Vietnam information systems communities can benefit from design science research to create machine learning and artificial intelligence methods which have a Vietnamese orientation. For example, how can deep learning be adapted for natural language processing (NLP) on Vietnamese text? How can this be used for different business outcomes? Can image analysis on Vietnamese social media be used for better marketing and targeting, identify Vietnamese food dishes, and find local fashion trends? Can optical character recognition (OCR) be used to recognize Vietnamese handwritten medical notes from doctors which can save lives, increase efficiency, and build resilience in the healthcare system? While the information systems literature discusses use of big data and artificial intelligence, Vietnam researchers can take the lead by innovating on methodologies, demonstrating its applications, and quantifying its impact.

Overall, this book has shown a tremendous potential in the Vietnam information systems research community. Readers can sample a wide variety of topics related to the Vietnam context. This book can have a wide appeal for other researchers to find inspiration for new research, policy-makers can use it to guide decisions, managers and practitioners can find the chapters to guide strategy, and students can learn how to do research in the Vietnam context. I hope you will find the book useful and interesting.

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Introduction to Information Systems Research in Vietnam: A Shared Vision



Nguyen Hoang Thuan, Duy Dang-Pham, Hoanh-Su Le,
Prasanta Bhattacharya, and Tuan Q. Phan

Abstract Information Systems (IS) have been widely applied in Vietnam, and the IS advent has received much attention from Vietnamese practitioners and researchers. However, a shared account of IS knowledge in Vietnam is still lacking. Addressing this gap, we need a shared understanding of what we know and what we are doing, which can help coordinate our future actions. This introductory chapter sets a background for this shared understanding by reviewing the main themes of IS research in Vietnam. The chapter then updates the progress of the field by introducing nine current IS studies that are based in Vietnam. As a result, it contributes a contemporary reference and outlines future research directions for IS research in Vietnam.

Keywords Introduction · Information systems · Literature review · Vietnam

1 Introduction

Information Systems (IS) has received much attention over the years from Vietnamese practitioners and researchers. Since the early times, Vietnamese researchers

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have studied diverse IS topics, including user acceptance model, ontology, information processes, informatics, and system analysis [1, 2]. Recently, the IS field in Vietnam has continued to progress in diverse and emerging research topics, including artificial intelligence, learning analytics, collective intelligence [3, 4]. Aligning to this progress, the Vietnam Association for Information Systems (VAIS) has recently been launched,¹ offering more opportunities for Vietnamese researchers to collaborate, research and promote their work. All of these indicate the key role of IS research in Vietnam.

The IS development in Vietnam can also be seen from a practical perspective where multiple Vietnamese companies have made significant advances in the development and adoption of information systems to support their business success. For instance, most banks in Vietnam have achieved digital transformation [5]. The uptake of IS innovations by Vietnamese companies is also fast catching up with others in the region. For instance, AhaMove has successfully leveraged its mobile application to become the largest last-mile delivery provider in Vietnam [6]. Further, Vietnam has steadily emerged as a massive market for developing, applying, testing, and expanding different information system applications, including mobile payment, blockchain, and digital transformation [6, 7]. It is now more than ever that companies in Vietnam feel the need for further IS innovations, digitalization strategies, and guidance on value creation using IS applications.

While IS research and practice is an increasingly vibrant community in Vietnam, a shared account of IS knowledge in Vietnam is still lacking. As of this writing, we are not aware of any study or book that describes the structure of the IS field in Vietnam. We can only find a few studies that have analyzed Vietnamese research in general [8, 9], without an in-depth investigation of the IS field. Consequently, a comprehensive picture of the state of art in IS research is still missing.

Addressing this gap, the current chapter aims to develop a shared understanding of what we know and what we are doing, as part of the IS community in Vietnam. This shared understanding will provide us with a solid background for coordinating our future actions. As so, the chapter objectives are twofold. First, it sets a background for developing a shared understanding by reviewing the main themes of IS research in Vietnam. Second, it presents the current progress by introducing nine contributed chapters on current IS studies in Vietnam. The contributed chapters can be grouped into two categories: IS value creation, and IS in the time of Covid-19. As a result, it contributes a contemporary reference and outlines future outlook for the IS field in Vietnam.

The remainder of this chapter is structured as follows: Sect. 2 sets up the background of the IS research. Section 3 briefly reviews some key studies to illustrate the development of IS Research in Vietnam from 2011 to 2021. Section 4 introduces the nine chapters on new IS studies based in Vietnam. Finally, Sect. 5 provides some concluding remarks on future outlook and opportunities.

¹ <https://vn-ais.org/>.

2 Background

IS research studies the use of information technology (IT) within a socio-technical system that comprises individuals and organisations. The primary questions addressed by IS research include those that inquire how IS can affect and generate value in our personal lives, businesses, and societies. Given its broad focus and the fast-changing nature of technologies and social phenomena, IS research has been attracting important contributions from both scholars and practitioners in multiple disciplines, including computer science and engineering, behavioural and psychological sciences, management science, to name only a few.

First appeared in the 1960s, the field of IS research has made significant progress and achieved maturity as an applied discipline. According to the most recent statistics from the Association for Information Systems (AIS), more than 54,000 research papers have been published and archived in the eLibrary of AIS, which received close to a total of 10 million downloads. Within the IS community, there exists multiple leading conferences including the International Conference on Information Systems (ICIS), Americas Conference on Information Systems (AMCIS), Pacific Asia Conference on Information Systems (PACIS), and European Conference on Information Systems (ECIS). In terms of journals, notable venues include the Senior Scholars' Basket of Eight which comprises eight top tier journals in the IS field, namely: MIS Quarterly (MISQ), Information Systems Research (ISR), European Journal of Information Systems (EJIS), Information Systems Journal (ISJ), Information Systems Research, Journal of AIS (JAIS), Journal of Information Technology (JIT), Journal of MIS (JMIS), and Journal of Strategic Information Systems.

To understand the diversity of research topics within the IS field, studies have performed text mining on bibliographic data about IS publications. For instance, Jeyaraj and Zadeh [10] identified the following 13 prevalent topics from 2962 articles retrieved from the Basket of Eight journals: IS implementation, IT adoption, IS development, business value of IT, research methodology, e-commerce, social media, IS usage, online trust, IT capability, knowledge management, IT outsourcing, and IS security. Similarly, Dang-Pham and Kautz [11] analyzed 2528 publications that appeared in the Australasian Conferences on Information Systems (ACIS) between 1990 and 2016, from which they identified 84 topics that were categorized into the following 16 themes: IS management, mixed topics, IT, public IS, IS development, method and theory, IS security, other topics, education, IS process, e-commerce, healthcare, people and IS, data management, knowledge management, informatics, and sustainability.

By examining publication trends, Jeyaraj and Zadeh [10] found that topics such as business value of IT, IS security, IS usage, online trust, and social media had gained attention over the years, whereas the number of publications in the areas of e-commerce, IT adoption, knowledge management, IS implementation, and IS development had observed a downward trend. Indeed, as new data-driven technologies such as artificial intelligence and fintech become more popular and accessible to users, it is expected that IS research on the characteristics and usage of these

technologies will likely attract greater interests. Likewise, research on other trending topics such as sustainable IS e.g., implementation of green IT, digital transformation, and social media will generate important implications as well.

As seen from the above studies, the IS discipline is dynamic and diverse by nature. At the local level, we expect to find a similar dynamic and diverse set of IS-related phenomena in Vietnam. To further understand this dynamic, the next section will review recent IS research in Vietnam.

3 An Overview of IS Research in Vietnam

This section aims to explore what we know about IS research in Vietnam. To do so, we conduct a brief review of recent IS studies that are based in Vietnam, and published between 2011 and 2021. Adopting a scoping literature review [12], the review process is elaborated below.

Literature search. In order to facilitate this review, we extracted research papers published in proceedings of leading IS conferences (e.g., ICIS, PACIS, AMCIS, ACIS etc.), leading AIS journals (e.g., MIS Quarterly, Journal of AIS) as well as related journals from INFORMS (e.g., Management Science, Organization Science etc.). We used a keyword search to identify papers with the terms “Vietnam” and “Information Systems” in either their title, subject, author affiliations, abstract or keywords. Our initial search gave us multiple papers across 33 journals and conferences.

Literature refinement. We filtered the papers to focus specifically on those that met the following inclusion criteria: (i) papers that specifically focus on the development or application of an IS in Vietnam, (ii) papers that specifically discuss an IS-relevant theme with an explicit reference to its application in Vietnam, and (iii) IS research on a broader topic but using Vietnamese companies or users as an empirical context. We did not include papers by Vietnamese authors on research topics that do not explicitly concern Vietnam-based companies or research themes critical to Vietnam. Similarly, we did not include papers that do not specifically focus on Vietnam, but include it as part of a large cross-country analysis. As a result, our final review dataset consisted of 39 papers (see [Appendix](#)).

Analyze of selected papers. We analyzed the selected papers based on their key themes, which provided us with an overview of the IS field in Vietnam. The analysis consisted of three steps. First, we extracted main themes and sub-themes relevant to IS research in Vietnam. Second, we synthesized duplicated themes, such as information security and security awareness. Third, we mapped the sub-themes into their main themes. In addition to analyzing themes, we also analyzed and synthesized the related theories and methods. The results of this analysis are presented next.