Jessica Geraldo Schwengber, Tobias Grünfelder,
Josef Wieland (eds.)

Sustainable Development Goals
– Perspectives from Vietnam

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Sustainable Development Goals – Perspectives from Vietnam

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Sustainable Development Goals – Perspectives from Vietnam

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Preface

This book is the result of the Transcultural Student Research Group 2022, a project conducted by the Transcultural Caravan at the Leadership Excellence Institute Zeppelin at Zeppelin University (Germany) in collaboration with the University of Lodz (Poland), the Vietnamese German University (Vietnam), the Fulbright University (Vietnam) and the HTWG Konstanz (Germany).

In 2021 the hybrid Transcultural Leadership Summit under the title "Perspectives from Southeast Asia" brought together over 30 high-ranking experts from Vietnam, Singapore, Malaysia, Brunei, the Philippines, Thailand, Indonesia, Cambodia, and Europe. Experts discussed and highlighted in different keynote addresses, panel discussions and workshops the opportunities and challenges of Southeast Asia (SEA) as one of the most dynamically developing and culturally diverse regions in the world.

After this hybrid-event, which boasted over 200 participants, the Transcultural Caravan formed Transcultural Student Research Groups (TSRGs) to continue the discussion and, in research projects, explore in greater depth some of the topics discussed at the summit. In particular, TSRG 2022 focused primarily on the Sustainable development Goals (SDGs) in Southeast Asia, with a particular focus on Vietnam. For the first time since 2016 the TSRGs was organized as a multi-partnership endeavor. Indeed, in 2022 the project was organized in cooperation between European and Vietnamese universities and more than 20 students from Germany, Poland and Vietnam joined the project. The students formed research groups based on their common research interests. Each group worked together on specific research questions that correlated with their disciplinary background and the overarching research topic in an academic co-authoring process over a year. This process included a preparatory phase from May to June 2022 with various workshops (e.g., on research design, transcultural cooperation, and the history of the SDGs), a research trip to Vietnam in August 2022 and a transcultural research school in November 2022 with additional workshops and discussions. The research trip to Vietnam was a highlight for the whole

group and gave the students the opportunity to meet one another in person and to conduct field research in Ho Chi Minh City, the Mekong Delta, and Bình Dương. A team of experts from the participating universities supervised the students throughout the process.

Against this background, this book is an exploration of the United Nations Sustainable Development Goals (SDGs) with a focus on the application and implications of such goals in Vietnam. It provides an in-depth look at the challenges and opportunities facing this country and region, as well as the potential for collaboration and progress. The aims of the project were to foster research on the topic of the SDGs in SEA (especially in Vietnam) while also providing a transcultural learning experience for the young researchers involved. This book contributes to the academic debate on the SDGs and how different sectors can work together to achieve them. It highlights the need for transcultural research and partnerships across different sectors in order to create sustainable solutions that benefit everyone.

Vietnam represents a case study from the unique region of SEA. SEA is larger than the European Union by area and population, is home to eleven countries and more than 650 million people. The distinct cultural, economic, and political flavor of the different countries makes SEA extremely diverse and complex but also makes it one of the fastest-growing regional economies in the world. The adaptability and flexibility of SEA seem to be commensurate with the increasing complexity and rapidly changing environment that globalization has shaped. This vibrant, dynamically developing region is connected by leaders who strive to solve cross-border issues as well as contribute to their local communities. Hence, the region represents both opportunities and challenges, and it is gaining in importance. These opportunities and challenges include the United Nations SDGs and, in particular, Southeast Asia's role in implementing and revitalizing global partnerships for the Sustainable Development Goals (Goal 17).

The book is divided into four parts. The first part provides an overview of the SDGs, SEA, and Vietnam. The first chapter by Natalia Ratajczyk describes the history of the SDGs, the main historical paths that have led to the current SDGs and highlights the importance of sustainable development now and in the future. The chapter by Jessica G. Schwengber and Lukas Belser examines the topic from the perspective of academic debate. In particular, the chapter presents a systematic literature

review of the trends, disciplines, and geographies of academic publications on the SDGs. The first part concludes with the chapter by Christian von Lübke, which provides an overview of the SEA region by highlighting its deep-rooted diversity, decolonial nation-building, digital leapfrogging, and under-rated prospects.

The second part is dedicated to the relationship between the SDGs and gender, culture, and society in Vietnam. The part begins with an auto-ethnography by Ngoc Lan Thi Dang on the challenges of women's careers in Vietnam. The chapter presents a first-person perspective on gender (in)equality and its sociocultural roots. The theme is followed up in the chapter by Annika Phuong Dinh and Nguyen Thanh Thuy, which examines the extent to which the education system in Vietnam promotes gender (in)equality. The driving factors for gender (in)equality are also explored in the chapter by Dinh et al. and in the chapter by Lisa Tran, both focusing on the work environment and leadership.

The third part is devoted to environmental issues. Two chapters focus on air pollution (chapters by Huynh Truong et al. and Diana Zervas and Raven Rudnik) and one on plastic pollution (chapter by Dinh et al.). While the first chapter on air pollution refers to the SEA region in general, the second chapter focuses on Vietnam and Ho Chi Minh City in particular. The chapter on plastic pollution deals with the specific region of the Mekong Delta.

The book concludes with two chapters in the fourth part dealing with management and governance. This part covers the topics of public-private partnerships (chapter by Roos et al.) and HR for Generation Z (chapter by Schöler et al.).

cultural journey and for their insightful contribution to our research agenda.

Friedrichshafen, October 2023

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Jessica Geraldo Schwengber
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Contributors

Lukas Belser is a research fellow and a PhD post-graduate student at the Chair of Institutional Economics at Zeppelin University. He has a Bachelor's degree in political science and sociology and a Master's in Management. His research focuses on strategy and governance of organisational networks with an emphasis on global markets, based on relational economics. He also focuses on innovation and inter-organizational cooperation in stakeholder networks.

Andrea Brütting is a joint-degree GMBA Student at the Southern Taiwan University of Science and Technology and the University of Applied Science HTWG Konstanz and has a BA in International Cultural and Business Studies from the University of Passau. Her early work experience in China encouraged her to focus on Intercultural Communication, Complexity, and Risk Management in an international business environment with specific focus on East Asia.

Ngoc Lan Thi Dang is Director of the Language Center and Foundation Year of the Vietnamese-German University (VGU) and Country Director of the Women's Empowerment and Voice (WEAV), an American non-governmental organization whose aim is to promote gender equality in education for girls and women in economically challenged communities in the Mekong Delta in Viet Nam. Her research interests are gender equality, women and leadership in academia, transcultural women's leadership, global citizenship, female students in STEM (science, technology, engineering and maths), transnational higher education, and EMI (English as a medium of instruction).

Annika Dinh has a Master's in Politics, Administration and International Relations from Zeppelin University, Germany and completed one semester at Sciences Po Paris, France. Prior to this, she studied Southeast Asian Studies with study visits to Bandung and Bali, Indonesia, as well as a minor in German Law at the University of Hamburg, Germany.

Vivien Dinh is an undergraduate student of Sociology, Politics and Economics at Zeppelin University Friedrichshafen. In her research, she is focusing on interdisciplinary approaches. She has a particular interest in international sustainable development and cooperation as well as ecological communication and theoretical approaches in the sense of Luhmann's system theory.

Lilian Evertz is currently studying for a Master's degree in Transformation Management in Digital Societies at Zeppelin University in Germany. At Zeppelin University she completed her Bachelor's degree in Sociology, Politics and Economics. In her studies, she focuses on the influences of digitalisation on societies as well as on companies. This interdisciplinary view enables a holistic understanding of current social developments. This focus is also deepened by her work in a human resources development department.

Jessica Geraldo Schwengber is project manager of the Transcultural Caravan at leadership Excellence Institute Zeppelin, a post-doc researcher and lecturer at the chair of Institutional Economics and Transcultural Leadership at Zeppelin University. She graduated in Economics and Management from the University of Rome Tor Vergata. Her research focuses on organisational and transcultural learning.

Florian Horky is enrolled as a PhD student in Behavioral Economics and Finance. His research mainly focuses on behavioral aspects in the adoption of new technologies and related financial topics. Furthermore he gained practical experience as project and business development manager in the field of digital transformation. His research is widely published in well-known journals, such as Energy Economics, Finance Research Letters, Journal of Chinese Economic and Business Studies.

Patryk Kurc is an undergraduate student of Asian Studies at University of Łódź. His research is currently focused on ethnic minorities rights violations, most notably the Uyghurs. He is a board member of the Student Science Club of Middle East "Al-Mashriq". Having organized climate youth strikes, he is interested in global environmental movements. He studied at the University of Duisburg-Essen on an Erasmus+ scholarship.

In the Transcultural Student Research Group he is a member of the team working on the Mekong Delta.

Chi Le Quoc is a senior undergraduate student at Fulbright University studying Renewable Energy and Sustainable Development Goals. He strongly believes in promoting the use of renewable energy as a means of mitigating climate change and ensuring energy security. Chi has a Bachelor's degree in Economics and a minor in Applied Mathematics from the Fulbright University in Vietnam. He is also an active member of the Transcultural Student Research Group.

Nhien Thuy-Phuong Le is a Vietnamese-German University student majoring in Business Administration. She is passionate about marketing and consulting. Her high academic achievement and yearning for knowledge were of great help in undertaking the challenge to complete the paper on "Motivations and Leadership Styles" along with her colleagues.

Christian von Lübke is a political economist with particular interest in aspects of political transition, socio-economic development, conflict transformation, public policy, and digital change in Southeast Asia. Before taking up the professorship of Southeast Asian Studies at HTWG Konstanz in 2018, he was a Shorenstein Fellow at Stanford University and a post-doctoral fellow at Freiburg and Waseda University. Prof. von Lübke has acted as a consultant on issues of development and governance for several donor organizations and foundations including the World Bank, DFID/IDS, GIZ, Misereor, and the Friedrich Ebert Foundation. His latest research focuses on "The politics of East Asian developmentalism" (Practical Action Publishing) and "All the gold for nothing? Impacts of mining on rural livelihoods in Burkina Faso" (World Development).

Anh Nguyen Tran Phuong is a third-year student majoring in Business Administration at the Vietnamese-German University. She is a participant in the Transcultural Student Research Group 2022 dealing with Southeast Asia. Furthermore, she is a tutor of the Student Tutoring Program of the Faculty of Economics and Management, Vietnamese German University.

Linh Ngoc-Phuong Nguyen is a graduate of Economics and Business Administration from the Vietnamese-German University. She spent an exchange semester at the Goethe University Frankfurt, which led to her writing her thesis on Human Resource Management. She was part of the Management, Leadership and Stakeholder Dialogue research group. With a deep passion for leadership, she has been applying her knowledge and skills from her studies to her work as a Business Developer in the IT industry.

Nguyễn Thanh Thuỷ is a Master's student on the Global Finance and Economics program at the Vietnamese-German University. Motivated by her time working as a student research assistant during her Bachelor's program, she is particularly interested in the economics of education and wellbeing.

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Nguyen Hoang Yen is an undergraduate at the Vietnamese-German University, currently enrolled on the Business Administration program. She has been actively involved in various extracurricular activities on campus. She is a member of several student organizations and has taken part in numerous community service projects and volunteer initiatives. She has a strong interest in environmental movements and is dedicated to promoting sustainable practices in her community.

Dinh Ngoc Thao Pham has a Bachelor's degree in Business Administration, with a focus on Finance and Accounting, from the Goethe University in Frankfurt am Main. Her thesis provides an empirical estimation of the gender wage gap in Vietnam in 2016. She is currently studying for her Master's in European Studies at the University of Regensburg.

Natalia Ratajczyk is a senior lecturer at the Faculty of Biology and Environmental Protection, University of Lodz, Poland. Her research and teaching interests focus on sustainable development, environmental awareness and nature conservation. She actively participates in international teaching research projects that aim to improve the quality of

education. Currently she is involved in activities for the implementation of the SDGs at the university.

Zino Manuel Roos studied Economics at Zeppelin University. He works for the Chair of Public Management & Public Policy where his research focuses on public corporate governance, regulation, corporatization of public service provision and top management team dynamics. He currently pursues his research interests at postgraduate level at the London School of Economics & Political Science (LSE).

Raven Hayden Rudnik is an International Baccalaureate graduate studying for a degree in International Political Studies at the University of Łódź. Specializing in Asian Studies, he will soon present his Bachelor's thesis on The Future of Korean Reunification. He argues that the social, economic, and political differences between South Korea and North Korea that emerged after the Division of Korea prevented, and will continue to prevent, reunification. He is an idealist who wants to make a difference to the world around him – his goal is to work for the United Nations in the future. In the Transcultural Student Research Group he is a member of the team researching The Impact of Road Transportation on Air Quality in Vietnam.

Friederike Schöler is a Corporate Management & Economics student studying for her Master's at Zeppelin University. In addition to her studies she works in the Group Treasury department of a global multi business corporate. Her joint Bachelor's program focused on business administration as well as media and communication.

Eliza Spocińska is a student at the University of Lodz. Her interest in East Asia and Southeast Asia encouraged her to study Asian Studies. Then she decided to continue her studies with a Master's degree in International Relations focussing on Oriental Studies. In the future, she would like to pursue a career involving contact with people from different countries and cultures.

Lisa Thien-Kim Tran is a joint degree student currently pursuing her Global MBA at STUST in the R.O.C. Taiwan. As part of these studies, she completed one year of MA classes focusing on international man-

agement between Europe and Asia at the HTWG Konstanz in Germany. She gained her BSc in Business Administration at the HSBA in Hamburg, Germany. Her professional background, coupled with her familial and cultural connections to Vietnam, have motivated her to contribute to this edition through her chapter (on women in leadership).

Huynh Thi Ngoc Truong is currently studying for a BSc in Business Administration at the Vietnamese-German University, Vietnam. As part of her research into the green economy, she is involved with the Transcultural Caravan with the main topic "Partnerships for the United Nations' Sustainable Development Goals (SDGs) in Southeast Asia" organized by Zeppelin University, Germany. Her research topic in the Transcultural Research Student Group 2022 is the Sustainable Economy.

Diana Zervas is currently in the final semester of her Bachelor's degree at Zeppelin University studying sociology, politics and economics. In 2021, she completed an internship at the Leadership Excellence Institute Zeppelin, where she was part of the communications team of the Transcultural Leadership Summit 2021 on the topic "Perspectives from Southeast Asia". As an intern at Wider Sense in Berlin, she gained experience in her focus interest of study: sustainable development.

Part I

Overview on Sustainable Development Goals and Southeast Asia

The History of Sustainable Development and the Sustainable Development Goals

Natalia Ratajczyk

The second half of the 20th century was characterized by a change in our approach to the environment: from an anthropocentric attitude, aimed at maximizing the acquisition of all natural resources and lack of care for the environment, to a more responsible attitude and greater respect for nature. The heralds of these changes that attracted the attention of humankind and made us think more deeply about the fate and condition of the environment were documents and publications appearing from the 1960s onwards. Published in 1969, the Report of UN Secretary-General U Thant, "Problems of the human environment", emphasized the emergence of a worldwide crisis regarding our relationship with the environment. The signs of this state were, among others: demographic explosion, insufficient integration of technology with the requirements of the environment, destruction of arable land, unplanned development of urban zones, pollution of land, water and air, reduction of free land and the growing danger of extinction of many forms of plant and animal life. It was noted that the continuation of such a development may threaten life on Earth (UN 1969). Another publication was the 1st Report of the Club of Rome "Limits to Growth" (Meadows et al. 1973), indicating the rapid depletion of resources and the threat of global conflict resulting from the deepening differences between the "rich North" and "the poor South". This report predicted a global collapse, related to the inability to feed the ever-growing human population, exceeding the capacity of the environment for repair and self-cleaning and the depletion of natural resources.

The negative impact of humans on the environment and the destructive power of this impact were also discussed in publications addressed to a wider audience. Rachel Carson's "Silent Spring" (1962) was published in the United States. It was also a time when new NGOs emerged. The WWF was founded in Switzerland and Greenpeace in Canada.

The first action that was taken on an international scale, which was aimed at a global discussion on stopping the growing degradation of the natural environment, was a conference organized in 1972 in Stockholm, Sweden. At this meeting, "the need for a common outlook and for common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment was proclaimed" (UNEP 1972: 2). The final effect of the conference was the adoption of a declaration and 26 principles that were intended to guide the nations of the world. The human right to freedom, equality and living in conditions ensuring dignity and prosperity was emphasized, while referring to the obligation to protect and improve the environment for present and future generations (Principle No. 1).

The development of the above principle was the emergence of the concept of sustainable development, which was first referred to in 1980 in World Conservation Strategy (IUCN et al. 1980). The subtitle of this document is: "Living Resource Conservation for Sustainable Development". In the document development was defined as transformation of the biosphere and the use of human and financial resources as well as resources of living and non-living nature to meet the needs of humanity and improve its quality of life. The document states that such development should be guarded by nature conservation, understood as managing the use of the biosphere and ensuring sustainable and maximum benefits for present and future generations. The definition of sustainable development was also included in the Report of the UN Commission chaired by GH Brundtland entitled "Our Common Future", which was presented in 1987. The document called for the beginning of a new era of sustainable development, in accordance with the principles of environmental management. Sustainable development has been defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular, the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organi-

zation on the environment's ability to meet present and future needs." (World Commission on Environment and Development 1987: 41).

The implementation of the idea of sustainable development was reflected in the Global Action Program – Agenda 21, adopted during the meeting in 1992 in Rio de Janeiro. The conference "Environment and Development" and the program adopted therein were to clearly indicate the path to sustainable development of all countries of the world" (UN 1992).

In the Agenda 21 assumptions, sustainable development is a course of economic development that does not significantly and irreversibly affect the human living environment, reconciling the laws of economy and nature. This state can be achieved if environmental protection is considered as an activity of material production, with all the consequences for the financial system, pricing policy, economic calculation, etc. Expenses for environmental protection should not be treated as a burden on national income, but as a factor causing growth (Kozlowski 1997).

Sustainable development as a concept is characterized by a departure from the sectoral and individual approach of human activities in favor of a holistic approach in which all elements are designed to coexist with each other, dovetailing with one another. This development is aimed at reconciling three fields: natural, social, and economic (Figure 1).

Based on these assumptions, sustainable development puts humans and their needs in first place, remaining an anthropocentric concept. This was stated in the first principle of the Rio Declaration on Environment and Development (UN 1992), where the emphasis was placed on humans' right to a healthy life in harmony with nature. Sustainable development is more than just a means of economic development. At its core, it assumes a change in people's way of thinking, their worldview, and thus it is a revolutionary concept – the beginning of a new era in the history of humanity: the era of ecology.

Natalia Ratajczyk

Figure 1: Sustainable Development as a Common Part of the Social,
Economic, and Natural Order
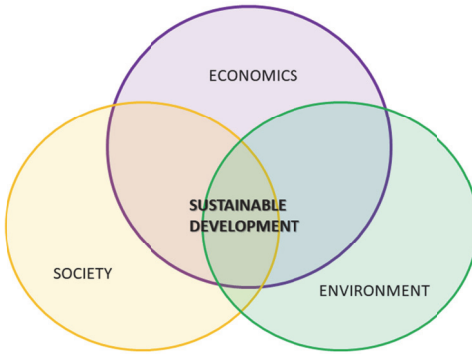
Source: Own illustration.

According to Kozlowski (1993), the era of ecology is based on 12 princi-
ples, which have their roots in the documents adopted at the conference
in Rio de Janeiro in 1992:

1. Recognition of human mental development as the main goal of life,
    and as a result, higher quality of life,

2. Determining the unexceedable level of satisfying one's own material
    needs, related to the change in the consumption pattern, especially in
    industrialized countries,

3. Assuming the average fertility of two children in a family – a prob-
    lem related to the demographic explosion in the world in the 20th
    century,

4. Accepting the concept of sustainable development as the basis for the
    implementation of the assumptions of the ecological era,

5. Striving to protect the main ecosystems of the Earth – the atmos-
    phere, seas and oceans, freshwater resources, forests, mountain areas
    and counteracting desertification and drought. This assumption also
    includes the protection of the entire biological diversity of the Earth,
    understood as the diversity of all possible living organisms within a
    species, between species and ecosystems,

6. Mastering knowledge about the management of natural resources, which is to result in the rational management of land, waste, chemicals, and radioactive waste,

7. Adoption of the concept of a supportive open economic system, based on partnership and justice, the aim of which is to eliminate unsustainable production systems,

8. Adoption of the principle of fair trade, which would include environmental conditions and costs in the price of products, and would eliminate unlawful discrimination of weaker partners from developing countries by contractors from industrial powers,

9. Taxation of industrialized countries for the benefit of developing countries, in order to achieve the goals of the new socio-economic order,

10. Creating national ecological policies, to eliminate narrow, sectoral view; strengthen decision-making policy and improve environmental management,

11. Developing the rights and activity of citizens by supporting non-governmental organizations, creating activities for eco-development in groups of women, youth, and local communities, and improving access to information about the environment,

12. Creating new organizational structures, including: The Committee for Sustainable Development.

The ecological era is not only a different philosophy, but above all it is a new form of relationship between man and nature. While people of the modern era focused their interests and efforts on learning about nature, the man of the ecological era must focus on learning about his own nature and developing the humanities (Piatek 2005).

The beginning of a new era brought new goals that responded to the ever-deepening social and environmental crisis in the world. In New York, in the year 2000, the Member States of the UN unanimously adopted the Millennium Declaration (UN 2000). This Declaration emphasized six fundamental values as being essential in international cooperation: freedom, equality, solidarity, tolerance, respect for nature and shared responsibility, and identified six key areas for action in developing countries:

1. Peace, security, and disarmament

2. Development and poverty eradication

3. Protecting our common the environment

4. Human rights, democracy, and good governance

5. Protecting the vulnerable, including women and children

6. Meeting the special needs of Africa

The Millennium Declaration was an important milestone in the history of humankind and reflected a new commitment to working together to address the challenges facing the world. The Declaration and the Millennium Development Goals (MDGs) that followed it helped to mobilize resources and efforts to achieve progress on poverty reduction, education, health, gender equality, environmental degradation, and other important development goals.

The Millennium Development Goals were eight international development goals that were established by the United Nations in 2000. These goals aimed to improve the living standards of people in developing countries, in particular to reduce extreme poverty by 2015. The goals were:

Figure 2: The Millennium Development Goals

Source: MDGMonitor 2015.

In June 2012, the United Nations Conference on Sustainable Development in Rio de Janeiro, Brazil, was held. The conference was also known

as "Rio +20" because it took place twenty years after the UN Conference in Rio de Janeiro in 1992. During the 2012 conference, world leaders agreed to set new global goals to promote sustainable development and replace the expiring MDGs (Griggs et al. 2013).

In 2013, the United Nations established a high-level panel of experts to develop a proposal for the SDGs, which consisted of 27 members from different countries, including heads of state, government officials, and civil society representatives. Besides the proposal for new goals, this panel made an assessment of the MDGs, and came up with optimistic conclusions: during the 13 years since the millennium goals had been set, the number of people living below the international poverty line had dropped by half a million, more than 30% decrease in child death rates had been observed, and there had been a 25% fall in the number of deaths caused by malaria (UN 2013).

Based on the Millennium Development Goals, the United Nations adopted the Sustainable Development Goals (SDGs), which aim to achieve sustainable development worldwide by 2030. The SDGs are a set of 17 goals established by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that all people live in peace and prosperity by 2030. The 17 SDGs are (UN General Assembly 2015):

Figure 3: The Sustainable Development Goals

Source: UNESCO 2023.

The 17 goals, with 169 targets, are guided by five basic principles (People, Planet, Prosperity, Peace and Partnering) with the most important principle being 'no one is left behind' (Abord Hugon Nonet et al. 2022), which aims to ensure a just transition and implementation of the goals among the most vulnerable groups and countries. The implementation of the SDGs is a shared responsibility of all stakeholders including: governments, civil society organizations, the private sector, and individuals. The SDGs can be implemented in many different ways:

– *National Strategies*: Each country can develop a national strategy to achieve the SDGs by setting targets, identifying priorities, and establishing mechanisms for monitoring and reporting progress.

– *Policy and Legislative Changes*: Governments can adopt policies and legislation, including measures to reduce poverty, improve access to education and healthcare, and promote gender equality.

– *Partnerships*: Partnerships between different stakeholders can share knowledge, and coordinate efforts to meet the SDGs.

– *Financing*: The implementation of the SDGs requires financing. Financing can be obtained from international and national aid and the private sector.

– *Monitoring and Reporting*: Regular monitoring and reporting on progress towards the SDGs is essential to ensure accountability and identify areas that require attention. This can include the use of indicators and data collection systems to track progress and identify challenges.

– *Individual Action*: Individuals can also play a role in achieving the SDGs. This can include adopting sustainable lifestyles, supporting local initiatives, volunteering, and advocating for change.

The implementation of the SDGs requires a multi-stakeholder approach with appropriate national and international strategies and policies, credible sources of funding and international, diversified cooperation. The Sustainable Development Goals (SDGs) are interconnected, meaning that progress in one goal can support progress in others, while failure to meet one goal can hinder the meeting of others. The interdependence of the SDGs reflects the fact that sustainable development is a complex concept that cannot be achieved through isolated efforts.

On one hand, achieving SDG 2 (Zero Hunger) can support progress towards SDG 5 (Good Health and Well-being), since malnutrition causes a loss of strength and greater vulnerability to disease. Similarly, progress in SDG 5 (Gender Equality) and SDG 4 (Quality Education) can support SDG 8 (Decent Work and Economic Growth), as empowering women can increase economic opportunities and development. On the other hand, failure to meet one goal can hinder progress in others. For example, biodiversity loss, which is addressed in SDG 14 (Life Below Water) and SDG 15 (Life on Land), can undermine progress towards many of the other SDGs, including SDG 2 (Zero Hunger), SDG 6 (Clean Water and Sanitation), and SDG 13 (Climate Action).

The interdependence of the SDGs highlights the importance of a holistic and integrated approach to sustainable development. Efforts to meet one goal should be complemented by efforts to meet others, and policies and strategies should be designed to maximize synergies and minimize trade-offs between different goals.

In summary, the interdependence of the SDGs underscores the need for a coordinated and collaborative approach to sustainable development that recognizes the interconnected nature of social, economic, and environmental issues. Meeting the goals is a great challenge for humanity. It requires the involvement of political, financial, and social capital. People need to change their way of looking at the environment and at other societies. Only international cooperation and support will guarantee achievement of the goals by 2030.

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Systematic Literature Review on SDGs: Trends, Disciplines and Geographies

Jessica Geraldo Schwengber and Lukas Belser

1. Introduction

The SDGs were adopted by world leaders at a UN summit in September 2015 and represent an initiative to promote global sustainable development in the period 2016-2030. They consist of 17 goals with 169 targets. The SDGs are a successor to the Millennium Development Goals (MDGs) adopted in 2000 when 189 world leaders signed the historic Millennium Declaration (for an overview of the historical path that led to the MDGs, see Hulme 2009). The MDGs consisted of eight goals to be achieved by 2015 and aimed to address development challenges. They were referred to as the world's biggest promise (Hulme 2009). Although they have been considered "implausible" for at least some countries (Clemens et al. 2007) and ambitious and unrealistic to some scholars (e.g., Fehling et al. 2013), due to the MDGs, important development steps were taken: for example, thanks to the MDGs, there has been a reduction in average child mortality worldwide (Kumar et al. 2015, Fehling et al. 2013, Servaes 2017), a decrease in the number of people living on less than $1.25 per day (Fehling et al. 2013), an increase in school enrolment in sub-Saharan Africa (ibid.), improved access to sources of drinking water (Servaes 2017), and a reduction in inequality between girls and boys in elementary school (ibid.), to cite but a few achievements. Although much had been advanced, many other challenges remained in 2015, and the SDGs represented a continuation and im-

provement of the global sustainable development strategy as set out by the United Nations:

> "The SDGs, also known as Global Goals, build on the success of the Millennium Development Goals (MDGs) and aim to go further to end all forms of poverty. The new Goals are unique in that they call for action by all countries, poor, rich, and middle-income to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and addresses a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection". (UN 2023)

The SDGs therefore represented a new step forward compared to the MDGs. While the MDGs were developed by a group of experts, the SDGs were the result of consultations with various types of organization; the range of goals was broadened: the MDGs included only 8 goals, the SDGs 17. The MDGs focused on initiatives in underdeveloped and developing countries, while the SDGs take a holistic approach and call on all countries to contribute to the goals. The SDGs also broadened the range of issues that fall under the umbrella of sustainable development such as human rights, equity, human development, etc. Different types of organizations are invited to contribute, including civil society organizations (Kumar et al. 2016).

Since their implementation, the SDGs have also been a topic of academic debate. Many scholars have attempted to provide an overview of the academic debate through literature reviews. Many of these literature reviews relate the SDGs to specific fields, such as business/management/economics (e.g., Pizzi et al. 2020, Mio et al. 2020, Lopez-Concepcion et al. 2021, Voola et al. 2022, Jimenez et al. 2021, Boar et al. 2020, Parmentola et al. 2021, Di Vaio et al. 2020, Celone 2019), higher education (e.g.., Serafini et al. 2022, Castro et al. 2022), politics (e.g., Guha and Chakrabarti 2019). Others focused on specific topics, for instance, the literature reviews on scenario modelling tools (Allen et al. 2016), geospatial information (Avtar et al. 2020) for measuring, implementing, and monitoring the SDGs. Others focused on reviewing SDG implementation in different countries (e.g., Allen et al. 2018, Cheng et al. 2021). There was also interest in reviewing constraints and potentials

(e.g., Caiado et al. 2018). In summary, the literature reviews specialize in specific topics, sectors, instruments, or specific geographies. The aim of this paper is to present a systematic literature review of the SDGs to provide a general overview of the academic debate on them. In particular, the literature review aims to show the trend in the literature (how academic interest in the SDGs has increased/decreased since their implementation in 2015), in which disciplines research on the SDGs has been conducted, and also the geographical distribution of academic work on the SDGs.

2. Methodology

The process of this systematic literature review consists of three methodological steps. The steps are summarized in Table 1.

Table 1: Steps Systematic Literature Review

I. Planning the review	II. Conduction the review	III. Reporting the review
1. Problem formulation 2. Development of review protocol	3. Search for Literature 4. Screen for Inclusion 5. Assess quality 6. Extract data 7. Analyse and synthesize data	8. Report Findings

Source: Xiao & Watson 2019: 103.

The problem formulation has already been discussed in the introduction, i.e., the aim of this literature review is to provide an overview of the number of publications on the SGDs in the years since their introduction in 2015 until 2022. In addition, this literature review aims to provide an overview of the academic disciplines that deal with SGDs, as well as the territorial distribution of the academic and scientific literature.

As for the review protocol guide for this study, first of all a time window was established. Literature from 2015 to 2022 was included in the review. This timeframe was set because the SDGs were published by the

United Nations in 2015 (United Nations 2023) and this research was conducted at the beginning of 2023. Without the ability to include all months of the year, inclusion of 2023 would skew the results (at least the trend in the number of publications) because representative numbers of publications in 2023 were not yet available at the time of the study.

Second, studies from all academic disciplines were included in this review. This is necessary because each SDG addresses different sustainable challenges (see United Nations 2023). Although the United Nations calls for a holistic approach to sustainable development, the individual goals may attract the attention of scholars from different disciplines who approach them from different angles (natural sciences, engineering, social sciences, etc.). The SDGs are intended to ensure sustainable development at economic, social, and environmental levels on a global scale.

Third, to ensure global coverage, publications in all possible languages were considered. This is aimed at hindering language biases in the body of published literature (see Sterne & Harbord 2004).

Fourth, all publication types were considered. This latter requirement is highly recommended by multiple scholars in order to reduce the possibility of publication bias (see Petticrew & Roberts 2005; Xiao & Watson 2019).

Fifth, the database for collecting the papers was set. Three criteria were relevant for the definition of the database:

1. Level of coverage of all disciplines

2. Level of coverage of all publication types

3. Level of coverage all global regions

It is particularly important that the database provides the relevant information per publication as well as the appropriate tools to adequately extract the data (via download). Hence, the Scopus database was chosen. As a commercial database, Scopus covers academic and scientific literature from 240 disciplines, different publication types (e.g., monographs, journal articles, conference papers), and about 87 million documents (Scopus 2023). Scopus also covers all world regions in terms of author affiliation (Scopus 2023, 19). Usability is also ensured by a download option of the search string results.

Sixth, after selecting the database, keywords were defined on which the search strings are based. There are researchers who suggest adjusting the keywords as the search progresses (Hart 2018). This is important when searching in a broader topic area (Hart 2018, 19). Since the objectives of this systematic literature review are clearly defined to provide an overview of research on exactly one term (Sustainable Development Goals), the definition of the keywords was done accordingly. Therefore, the keywords include the spellings used for the term "sustainable development goals": SDG, SDGs, sdg, sdgs. Regional differences in the use of the term (Kitchenham & Charters 2007) can be neglected because the term was created and standardized by an international organization (United Nations 2023) and is internationally accepted.

After the research protocol was established and the research was planned (first step of the protocol), the research moved to the second phase, which was conducting the review in Scopus. The Search string on Scopus was applied to "All Fields" while the four single keywords were connected by the Boolean operator "OR". In the end, 15,451 papers were included in this literature review, which were then analysed using the programming language R. When downloading the results, the following publication information was considered (Table 2).

Table 2: Included Publication-Related Information.

Citation Information	Bibliographic Information	Abstract & Keywords
Author(s)	Affiliations	Author keywords
Document title	Serial identifiers	Indexed keywords
Year	Publisher	
EID	Language	
Source title		
Citation count		
Source, Document type		
DOI		

Source: Own table based on Scopus dataset.

The key information regarding the planning and conduction of the review is summarized in the table below. Stage three (reporting the review) is presented in the next section of this chapter.

Table 3: Review Protocol

Timeframe	2015-2022
Disciplines	All[1]
Geographical Coverage	Global
Languages	All
Types of publication	All[2]
Platform	Scopus
Keywords	SDG, SDGs, sdg, sdgs
N° of texts included in the review	15,451
Software	R (R-Studio)

Source: Own table.

3. Results

The first step of the literature review was to analyse the trend of publications from 2015 to 2022. As can be seen in *Figure 1*, the number of publications on the topic of SDGs increased exponentially over the 7 years. While in the first two years the number of publications on the topic was less than 1,000 per year, in the last year considered (2022) the number of publications almost reaches 5,000, i.e., almost five times compared to the first years of the analysis (2015 and 2016).

In addition to the trend, this research was also interested in analysing in which disciplines scientific papers on the SDGs have been published. Since a paper can be interdisciplinary, more than one discipline can be assigned to a publication. Therefore, the sum of publications per discipline is higher than the total number of papers included in the sample.

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[1] Scopus generated results for 27 disciplines. See Figure 2.
[2] Scopus generated results for 12 types of publication: articles, review, conference papers, book chapters, editorial, note, letter, erratum, book, short survey, conference review, data paper, retracted, article in press.

Figure 1: Trend in the Publications on SDGs from 2015 to 2022
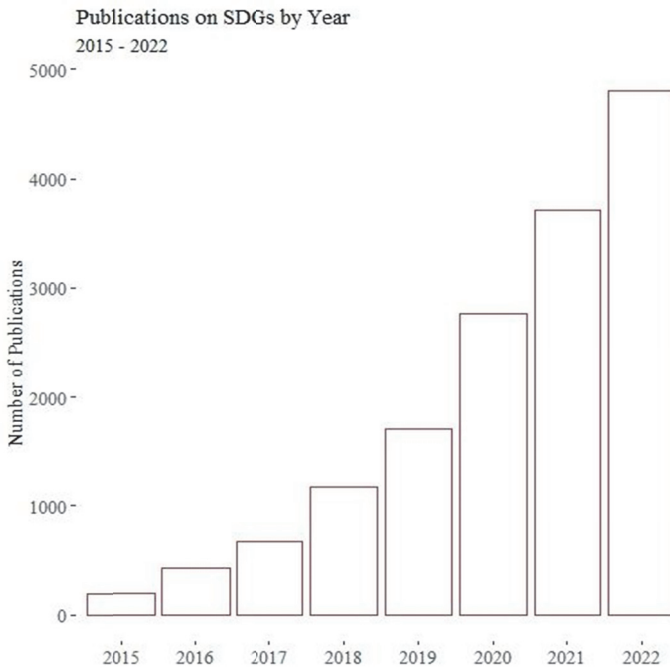
Source: Own figure based on Scopus dataset.

The analysis by discipline shows that contributions were published by academics and scientists from various disciplines, with the environmental and social sciences ranking highest with more than 6,000 contributions each in the seven years of analysis. In addition to publications on the two main disciplines, a relevant number of publications (over 2,000 in seven years) also come from energy, medicine, and engineering. Business administration and accounting, computer science, economics, econometrics, and finance also contribute to the literature with a discrete number of publications in the seven years of analysis (see Figure 2).

Figure 2: Number of Publications on SDGs per Disciplines
in the Time Frame 2015-2022.
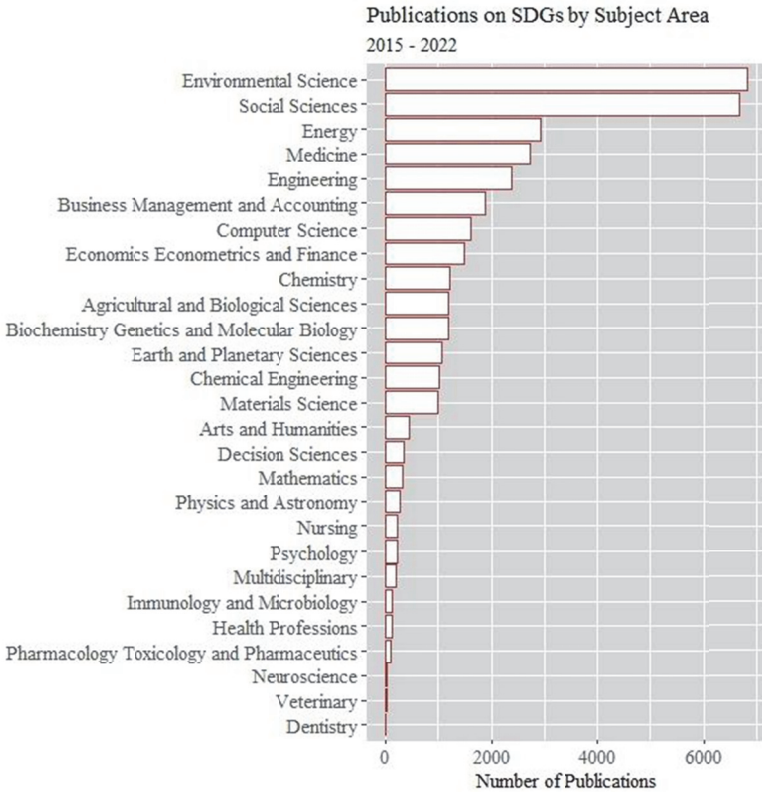
Source: Own figure based on Scopus dataset.

The analysis also sought to capture the geographic distribution of work on the SDGs during the period studied. The geographical distribution does not refer to the nationality of the authors, but to the geographical location of their affiliation. In this way, the scientific interest of institutes in different parts of the world is captured. The term "global" affiliation was used when the authors belong to an international organization (such as UNICEF).

The results show that Europe and Asia-Pacific dominate publications on SDGs with 38% and 35% respectively. North America (13%) is third by a significant margin, followed by Africa (8%), global affiliations (4%), and South America (2%) (see Figure 3).

Figure 3: Geographical Affiliation (Regions) of Publications on SDGs

Source: Own figure based on Scopus dataset.

Since geographic regions are composed of many countries, the next step was to include specific countries in the analysis to obtain a better over-view of how institutions in different countries of a region contribute to the scientific debate on the SDGs. The analysis shows that the major in-fluence in Europe and Asia-Pacific comes from organizations in specific countries, namely the United Kingdom and, to a lesser extent, the Netherlands, Spain, and Sweden in Europe, and China and Australia in the Asia-Pacific region. In North America, the U.S. leads the way (10%). In Africa, the only country present in the list is South Africa. 20 % of the publications are distributed among different countries (see Figure 4).

Figure 4: Geographical Affiliation (Countries) of Publications on SDGs

Publications on SDGs by Country of Author Affiliation
2015-2022
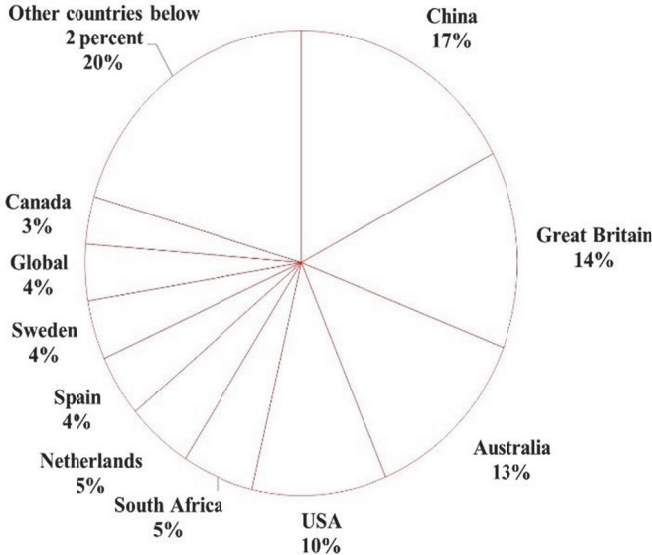
Source: Own figure based on Scopus dataset.

4. Discussion

The aim of this review is to provide a comprehensive overview of the literature on the SDGs. While many systematic reviews focus on different topics, instruments, regions, etc., to our knowledge there is no work that provides a broad and global overview of publications on the SDGs regardless of topic and specific SDG. This review analysed numbers, disciplines, and regions to provide an overall picture of scholarly publications on the SDGs.

The systematic literature review shows that the number of publications has increased exponentially since the introduction of the SDGs in 2015. This can be interpreted as an increasing academic interest in the topics of sustainable development. The review has shown that this inter-

est is mainly concentrated in the environmental and social sciences, although a relevant number of contributions also come from other disciplines. This finding underscores the multi-disciplinary nature of the SDGs. This finding is also supported by the fact that many of the contributions were in more than one discipline, showing that interdisciplinary research on the SDGs is being conducted. In terms of author affiliation, the literature review revealed that much of the research is concentrated in Europe and Asia-Pacific, which together account for 73% of the publications, indicating a strong concentration of research in these two regions. When analysed more closely by region, the literature review revealed that research is concentrated in specific countries in these regions, with China and Australia leading in Asia-Pacific and the United Kingdom leading in Europe. While the size and population of countries such as China may contribute to these findings, these results can provide some insights into the investment in SDG research and the relevance of SDG research in institutions in different regions and countries.

In terms of the geographical affiliation of the academics and scientists, no country from Southeast Asia is represented among the relevant countries. In Europe, neither Germany nor Poland is mentioned. In this way, the book, of which this chapter is a part, contributes to a more even distribution of affiliation by including research by scholars from Vietnam, Germany, and Poland.

5. Limitations and Further Research

Although this review was able to provide a broad overview of the scientific literature on the SDGs, it is not free of limitations. First, only one platform (Scopus) was considered, although the literature review sample included 15,451 publications. While, to our knowledge, there is no literature review on a topic as large as the SDGs that covers the entire body of literature, the sample is limited to the Scopus database. Further research could compare the results of this study to a literature review with the same design but using a different platform(s) to examine whether there are discrepancies with the results of this study.

Even though the literature review highlighted the multi-disciplinary nature of the studies on the SDGs and the geographic distribution of authors' affiliations, further studies could also examine whether disci-

plines are proportionally distributed across the different geographic locations or whether authors from different regional/national affiliations are conducting research on the SDGs on different topics. The literature review also provided the total data for each year. Further research could also analyse how contributions to the SDGs from different perspectives change over the years.

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Southeast Asia – Diversity, Decoloniality and Digital Change

Christian von Lübke

Southeast Asia continues to inspire and intrigue observers from all walks of life due to its diverse cultural traditions and its interwoven threads of geographical, historical, and social transformation. This essay will explore some of these threads by highlighting Southeast Asia's (1) deep-rooted diversity, (2) decolonial nation-building, (3) digital leapfrogging, and (4) under-rated prospects.

1. *Southeast Asia's Sociocultural and Economic Diversity*

Southeast Asia is a region of tremendous diversity, which is readily reflected in its wide variety of geographical, ethnic, religious, political, and economic facets. Geographically, the region stretches from continental Southeast Asia, which includes countries such as Thailand, Vietnam, Myanmar, Cambodia, and Laos, to maritime Southeast Asia, which comprises Indonesia, Malaysia, Brunei, Singapore, Timor-Leste, and the Philippines. Southeast Asia exhibits a colourful mélange of tropical rainforests, pristine coastlines, volcanic mountains, and resplendent river deltas.

The ASEAN region is also a remarkable showcase of diverse ethnicities and languages. Hundreds of distinct ethnic groups have settled in the urbanized lowlands and the less populated highlands – displaying a rich tapestry of cultural heritage with distinct traditions, rituals and customs, arts and crafts and architectural designs (Reid 2000). Some of the larger ethnic groups include (among many others) the Javanese in Indonesia, the Bamar in Myanmar, the Kinh in Vietnam, the Malay in Malaysia, and

the Khmer in Cambodia. Linguistically, Southeast Asia's diversity is equally remarkable. Hundreds of local languages are spoken across the region. Multilingualism is widespread, as most Southeast Asians speak at least two languages fluently (Enfield 2011:73): the local dialect of their birthplace and the national language that has buttressed the intricate process of identity and nation building (such as Bahasa Indonesia, Pasa Thai, or Tagalog).[1]

The colourfulness of Southeast Asia's social fabric also extends to the sphere of religions and traditional belief systems. The region has adherents of various faiths that coexist, cooperate and, at times, compete for influence. The dominant religions in the region include Islam, Buddhism, Christianity, Hinduism, and various variants of indigenous beliefs. Islam is widespread in maritime Southeast Asia, particularly in countries such as Indonesia and Malaysia. Indonesia is the most populous Muslim-majority country in the world. While most Muslim communities in Indonesia practice moderate and syncretic forms of Sunni Islam (Hefner 2011), orthodox groups and interests have notably gained traction in recent years (Aspinall & Mietzner 2019). Buddhism, the region's second largest religion, has a significant presence in continental Southeast Asia. While communities in Thailand, Cambodia, Laos, and Myanmar predominantly practice Theravada Buddhism, Mahayana Buddhism remains the predominant form in Vietnam. Christianity remains the predominant faith in the Philippines and East Timor, in both countries roughly ninety percent identify as Roman Catholic. Hinduism is practiced on the Indonesian island of Bali as well as in Indian communities in Malaysia. The already colourful presence of Muslim, Buddhist, Christian, and Hindu communities is further adorned by indigenous belief systems that cherish connections to nature, ancestors, and spiritual realms across Southeast Asia.

Economically, Southeast Asia continues to display striking economic heterogeneity. The region showcases nations that are among the richest and poorest countries worldwide. Singapore has, despite its small size and lack of resources, transformed into a high-income economy with a per capita income of over $90.000.[2] Due to the combination of its strate-

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[1] For a discussion on Southeast Asian ethnicities, cultural diversity, and religious fluidity see, e.g., Kosuta (2017) and Reid (2000, 2001, 2015).

[2] For an overview of up-to-date income developments see data.worldbank.org.

gic location, trade links, clean government, education and infrastructure investments, and meritocratic leadership, Singapore has developed from an impoverished backwater harbour into one of the most prosperous city states in the world. Myanmar, in contrast, is the region's poorest nation with a per capita income of roughly $1,100. Due to ethnic conflicts, recurrent military coups, and slow progress on institutional reforms, Myanmar's economic development remains on a par with equally large states in Sub-Saharan Africa (such as Tanzania). Indonesia boasts the region's largest economy with a nominal GDP exceeding $1.4 trillion. Despite being a lower-middle-income country, Indonesia leverages its large and youthful population, rich natural resources, and emergent eco-system of technology startups to maintain solid economic growth. Timor Leste, in comparison, is the smallest economy in Southeast Asia with a nominal GDP of just under $2 billion. These distinct differences in income and market size underscore the region's enormous heterogeneity in terms of economic development.

Southeast Asia's political systems are equally heterogeneous. The ASEAN region is home to republics and monarchies, socialist and capitalist orders, authoritarian and democratic systems. In 2023, the political map includes a military dictatorship (Myanmar), a military-backed constitutional monarchy (Thailand), an absolute monarchy (Brunei), two socialist states with one-party rule (Vietnam, Laos), several semi-democratic regimes (Indonesia, Malaysia, Philippines, Timor Leste, and, with qualifications, Singapore). Yet, apart from the diversity of political systems, another key feature is the strong presence of authoritarian forms of government (Emmerson 1995). To explain the strong presence of authoritarianism, it is helpful to take a closer look at colonial contexts and post war nation building efforts in Southeast Asia.

2.   *Decolonial Nation-Building*

The obvious scarcity of genuine democracy finds its roots in the region's history of colonial suppression and anti-communist containment. Centuries of European encroachments[3] were followed by the brief and brutal

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[3] French colonial powers occupied Vietnam, Laos, Cambodia (French Indochina) between 1887 and 1954; Myanmar remained under British colonial rule until its independence in 1948, whereas former British territories in Malaya – Singapore and

invasions of Japan's imperial forces (1941-45) and were accompanied, during the Cold War era (1947-91), by anti-communist alliances that served to strengthen the hands of regional dictators – such as Suharto in Indonesia, Marcos in the Philippines, and Diem in South Vietnam. Initial post war developments were strongly influenced by military forces and the competition between political ideologies. The combination of colonial history and cold war rationale did not bode well for democracy (Hansson, Hewison, & Glassman 2020). Thus, the defining distinction in recent history has been less between democratic and authoritarian rule; and more between free-market and socialist forms of governance. A snapshot in the early 1980s revealed different shades of authoritarianism in Southeast Asia, but also distinctly different state ideologies; with a notable split between emergent free-market capitalism on the one hand (e.g., Indonesia under General Suharto, Thailand under General Prem) and socialist planned economies on the other (for instance, Laos and Vietnam, pre-Doi Moi).

Another regional feature that stands out – irrespective of divergent historical and ideological underpinnings – is the profound achievement of preventing disintegration and secession. Despite its vast diversity in social groups and interests, despite its atrocities during colonial rule, and despite its turbulent Cold War pathways, Southeast Asia has been surprisingly successful in its efforts of nation and community building. This success is underlined by the fact that large and highly diverse states, such as Indonesia, Thailand, and the Philippines, have not fallen apart in the turbulence of postcolonial transformation – but have succeeded in weaving a joint thread of postcolonial identity (Anderson 1983, 1990). The founding figures of Southeast Asia were able to contain a series of ethno-religious conflicts and national disintegration and, in doing so, paved the way for nation building.

Malaysia – became independent nations in 1963 and 1965 respectively. The Dutch East Indian Company (VOC) controlled large parts of Indonesia's spice trade and cash-crop economies between 1602-1799; subsequently (after the collapse of the VOC), Indonesian territories were occupied by the Dutch Crown (1800-1949). The Philippines was under Spanish (1565-1898) and US colonial rule (1898-1942). These periods of foreign occupation had a profound impact on the cultural, religious, and political developments in Southeast Asia (Reid 2000, 2015; Wolters 1999).

Indonesia is an instructive case in point. Indonesia's diverse ethnic, linguistic, and cultural composition posed significant challenges to national unity. The country consists of over 6,000 inhabited islands with hundreds of different ethnic groups. In view of this diversity, Indonesia's founding fathers, Sukarno, and Hatta, were committed to the "Pancasila" state philosophy, which emphasizes national unity, consensus-based democracy, humanitarian values, social justice, and religious tolerance. The guiding principle of "unity in diversity" (Bhinneka Tunggal Ika) and the promotion of a common language (Bahasa Indonesia) became the keystones of the emerging nation, fostering a sense of inclusiveness and belonging among Indonesia's highly diverse ethnic and religious communities (Wertheim 1969:67).[4]

Equally noteworthy is the continued resilience of Southeast Asia's regional cooperation and political/economic integration. At the high point of the Vietnam War, in 1967, ASEAN was formed as an association of five countries – Singapore, Indonesia, Thailand, Malaysia, and the Philippines – with the key objective of establishing a security alliance. What started as a regional bulwark against communism – in view of the perceived domino-like expansion of socialist regimes in East and Southeast Asia[5] – was soon to become an intergovernmental organization that promoted territorial integrity, peaceful co-existence, and socio-economic development. ASEAN has been an important moderating and integrating force that has kept regional elites – regardless of diverging economic and political ideologies – from reverting to violence and launching attacks against each other. This includes (quasi-)socialist regimes such as Vietnam, Laos, and Cambodia, which joined the grouping between 1995-99 and have not been involved in any armed confrontation since their accession. Given the tumultuous historical setting and the vastly diverging ethnical/religious/economic/political circumstances in each of ASEAN's member states, it is a minor miracle that the regional association was formed and continues to foster political and economic dialogue.

[4] Indonesia became one of the most democratic and decentralized nations in Southeast Asia at the turn of the century. For a more detailed discussion on Indonesia's "big bang" transformation see Aspinall (2010), Mietzner (2009), and von Luebke (2009, 2010).

[5] For a discussion on ASEAN's early historical formation see Mabubani & Sng (2017) and Narine (2008).

This is all the truer in the context of rising geopolitical complexity. ASEAN has successfully engaged external powers and emerged as a key player in the turbulent waters of the Indo-Pacific. The policy of "ASEAN centrality" emphasizes the grouping's role as facilitator, bridge-builder, and mediator between rival interests (Mahbubani & Sng 2017:6). To sustain its position, ASEAN has nurtured strategic partnerships with major powers, including China, the United States, India, Japan, and Australia and, in doing so, has attenuated geopolitical risks and enhanced its leverage in global policy arenas. All in all, ASEAN's ability to navigate regional complexities, overcome colonial and bilateral animosities, and foster cooperation among a diverse set of emerging nations is testament to the concerted effort in building a peaceful and prosperous Southeast Asia.

3. Digital Leapfrogging and Disruptive Innovations

Southeast Asia is digitalizing at a breathtaking speed. The region is catching up with its counterparts in East Asia and leapfrogging into the age of 5G, e-commerce, and AI-powered tech startups. While in the early 2000s Indonesia's connectivity appeared dim – given the vast challenge of connecting hundreds of remote island communities with submarine cable systems – the advent of advanced wireless technologies led to an unforeseen acceleration of data connectivity (Ratten 2022: 4). Today, virtually all of Indonesia's 83,000 villages, Thailand's 75,000 mubans, and the Philippines' 42,000 barangays are integrated into the digital ecosystem.[6] Technological and social transformations are at the root of these digital developments across Southeast Asia. The last ten years have seen the emergence of large, youthful, and tech-savvy generations and, at the same time, technical leapfrogging with 5G connectivity, the affordability of second-hand phones, and the rapid expansion of e-commerce and fintech markets.

Recent studies indicate that Southeast Asia's internet markets are among the most promising in the world. According to Temasek, Google, and Bain's (2022) "E-conomy SEA 2022" report, ASEAN's digital economy is projected to reach a level of USD 0.6-1.0 trillion by 2030. The

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[6] On the subnational level, the smallest unit of government is referred to as "muban" in Thailand and "barangay" in the Philippines.

study estimates that Southeast Asia's service sectors in the fields of emerging technologies – including e-commerce, fintech, and online travel – will continue to expand with a compound annual growth rate of roughly 20 percent. Unicorn and decacorn startups – i.e., newly emerging companies valued at over $1 billion and $10 billion respectively – are mushrooming across the ASEAN region: including notable examples such as Grab (Singapore/Malaysia), Gojek/Goto (Indonesia), MoMo (Vietnam), Revolution Precrafted (Philippines) and many others.

Gojek stands out for being Indonesia's first unicorn and a showcase of Southeast Asia's new generation of tech companies. Given Jakarta's dreadful traffic conditions, Gojek's founder, Nadiem Makarim (who currently serves as Indonesia's Minister of Education and Research), took up the challenge of providing innovative mobility solutions. The business case was appealing: thousands of underused traditional motorbike taxis (Indonesian: Ojek) were invited to join into the company's fleet of driver partners, who were criss-crossing through congested streets and moving people and goods in swift and effective ways (Go Ojek – Gojek). Since 2015, the company has launched an AI-powered app with a wide range of digital services. Apart from common ride hailing, customers can use their mobile phones to order food, groceries, entertainment tickets, courier and moving services, car repairs, and cleaning services; and pay for all these orders instantly with GoPay. To scale its customer base across Southeast Asia, Gojek upgraded its programming and data operations by acquiring the Indian tech company LeftShift in 2016. Today, the startup company has in excess of 200 million users across 190 cities in Indonesia, Thailand, Singapore, and Vietnam (Chalermpong et al. 2023). Unsurprisingly, this stellar rise has sparked occasional discontent because of Gojek's ability to disrupt traditional retail/transport sectors such as long-established taxi cooperatives (Ford & Honan 2017). These caveats notwithstanding, Gojek has become an integral part of Southeast Asia's emerging digital ecosystems that continue to leverage e-commerce and fintech solutions for an increasingly technology-driven society.

4. Southeast Asia's Underrated Potential

For many years, Europe's business and policy circles have taken little note of Southeast Asia and its economic and political prospects. Due to

geopolitical shifts and de-risking strategies, which place more emphasis on regional diversification and investments outside China, the ASEAN region has attracted more attention in recent times.

Yet, if we consider the economic ties of Germany, Europe's largest economy, with Indonesia (the largest ASEAN economy), it becomes apparent that regional diversification towards Southeast Asia remains comparatively insignificant. In 2019, prior to the Covid pandemic, German FDI flows to Indonesia amounted to 0.06 billion euros, whereas FDI flows to similarly large European economies such as the Netherlands, Italy, and Spain accrued to 44.1 billion, 9.0 billion, and 3.5 billion euros respectively (Deutsche Bundesbank 2023:8-14). Similar disproportionate trends emerge in trade statistics: while exports to the Netherlands, Italy, and Spain in 2022 account for 110.6 billion, 87.5 billion, and 49.1 billion euros respectively, they were a mere 3.1 billion in the case of Indonesia (Statistisches Bundesamt 2023).

Why does trade and investment potential remain untapped? Why are European (and in particular German) companies risk-averse in view of Southeast Asia's emerging markets? The answers may lie in the perceived level of adminstrative complexity and business uncertainty. Nations such as Indonesia, Vietnam, and the Philippines have high levels of bureaucratic red tape, excessive public corruption, and infrastructural deficits, including electricity shortages, poor physical road conditions, and a dearth of deep-sea ports and railway connections. In the light of these challenges, many large investments are directed towards European, North American, and East Asian markets (e.g., Japan and Singapore) that have sound governance and infrastructure standards.

Current caveats and uncertainties notwithstanding, Southeast Asia remains an under-rated investment region. Economic and business scholars alike agree that the centre of economic gravity has been continuously shifting towards Asia (Khanna 2019; Nayyar 2019). Following the breathtaking transformation of China, Southeast Asia has become a global economic powerhouse with one of the highest levels of economic growth in recent years. In 2022, ASEAN economies such as Vietnam, Malaysia, and the Philippines have registered GDP growth levels between 7.5 and 8.5 percent (OECD 2023). Several factors contribute to this strong performance. Key growth drivers include Southeast Asia's rapid expansion of digital economies, its abundance of natural resources, decline in extreme poverty, rise in middle-class households, emergence

of youthful and tech-savvy populations, and its deepening integration into global value chains (Djafar & Milberg 2020; Drysdale & Armstrong 2021).

However, maintaining economic growth and, at the same time, limiting pollution and natural resource depletion will remain a key challenge for ASEAN. The region is increasingly vulnerable to climate change. Extreme weather events – including droughts, typhoons, flooding, and rising sea levels – are pervasive and pose a serious threat for urban and rural communities. Against this backdrop, it will be of pivotal importance that Southeast Asia aligns its economic objectives with global efforts towards achieving sustainable development goals (SDG). While ASEAN nations have made remarkable strides in terms of poverty alleviation and education enhancement over the past ten years (Sachs et al. 2023; Holzhacker 2018), current SDG reports highlight that only limited progress has been made in respect to environmental and climate goals.[7] These remaining challenges call for international and interdisciplinary partnerships – including transregional collaborative efforts in fields of biodiversity protection and climate action.

Another key development has been the signing of the Regional Comprehensive Economic Partnership. The RCEP is a historic trade deal that encompasses roughly 30 percent of global GDP as well as 30 percent of the world's population (Gao & Shaffer 2021:1). It fosters market integration by bringing down tariffs and non-tariff barriers and by introducing unified rules of origin across the RCEP member states. This will interconnect ASEAN's markets more closely with leading economies in the Asia Pacific – namely Japan, China, South Korea, New Zealand, and Australia. While the US and India refrained from joining the RCEP, Southeast Asian nations will further integrate their economies into the world's largest trade bloc and, hence, generate additional momentum for trade and investment outlooks.

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[7] Global progress reports show that most countries are not meeting their environmental, climate, and biodiversity goals – namely, development goals in the fields of "responsible consumption and production" (SDG 12), "action to combat climate change and its impacts" (SDG 13), protection of "life below water" (SDG 14) and "life on land" (SDG 15). The SDG dashboards for East, Southeast and South Asia highlight similar deficits, indicating that far too little progress has been made in these dimensions (Sachs et al. 2023:36).

Neglecting ASEAN's exceptional developments would be to Europe's detriment. This essay highlights that Southeast Asia has successfully combined the power of diversity and community. In doing so, it has become a beacon of resilience and development. Irrespective of colonial and Cold War atrocities, ASEAN's societies have continuously adapted to changing contexts and challenges. Leveraging their abundant resources, digital ecosystems, youthful populations, and large and regionally integrated markets, Southeast Asian economies present a highly promising opportunity for European partners – in commercial and non-profit sectors alike. Undoubtedly, complexities prevail and stakes remain considerably high, given geopolitical and nation-specific challenges. Yet, it would be Europe's loss to ignore the tremendous momentum in the ASEAN region and miss out on forward-looking partnerships and prospects.

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Part II

Gender, Culture and Society in Vietnam and their Connection with Sustainable Development

Navigating Traditional Culture of Gender and Institutional Norms: Autoethnography of a Woman Academic's Career Advancement

Ngoc Lan Thi Dang

1. Introduction

This chapter records the author's lived experiences in navigating the complicated interplay of traditional culture, culture of gender and institutional values and norms as I advanced in my career as a woman faculty and administrator in academia. My personal experiences, coupled with gender issues, are approached through the lens of institutional logics, feminist theories, together with insights drawn from the history of Confucianism, and the culture of gender. Auto-ethnography, the primary research method used, helps me describe and interpret (1) relational orientation and work-family integration in the collectivist culture of my country; (2) the strong influences of conservative cultural values and norms, particularly perpetuating Confucian ideology, on women's occupational choices and decisions; and (3) the developmental steps that I undertook to navigate my academic and personal lives. This qualitative method also allows me to reflect on my personal perspectives on, and beliefs in, women's societal roles and domestic responsibilities as well as the substantial challenges I faced in becoming a female leader and fulfilling my duties in a male-dominated world. The chapter concludes by discussing the intersections between myself and the above-mentioned cultural and institutional factors, which sheds light on the under-repre-

sentation of women in key leadership positions and positions of influence and power in higher education.

2. *Rationale*

Women in academia in Viet Nam are under-represented in senior leadership positions, but the reasons for this poor representation as well as their underlying personal stories about their work and life do not seem to be sufficiently explored and described. In other words, there is very little literature that investigates these issues. Accordingly, this chapter strives to fill this literature gap by drawing on the author's self-narrative in and reflection on my lived experiences as a female academic and mid-level leader in higher education and the unique ways by which I was promoted to positions of power and leadership, regardless of the lack of ambitions and plans to become a leader in my career. More specifically, the chapter aims to describe and analyze my own natural ways of navigating the traditional culture, the culture of gender, and institutional norms to be recognized and recommended for leadership posts in Vietnamese higher education, which will provide insights into distinct professional pathways for female academics in Viet Nam.

3. *Objectives*

The main objectives of this chapter are to portray myself as a female academic and mid-level leader in a hierarchical, centralized Vietnamese higher education system, which operates in a highly patriarchal society. In addition, I want to narrate and share my own experiences of working for two public universities in Viet Nam, experiencing ups and downs throughout my career path, and advancing, or more precisely being promoted, to key leadership positions in a male-dominated and male-centred working environment. In this regard, my reflexivity is included to describe and discuss the intersections between myself and the traditional cultural, institutional, and sexist factors.

4. Contextual Background

Leadership is a male-dominated world in Viet Nam: a society heavily influenced by Confucianism, which nurtured the ideology of valuing men and disparaging women, tying women to their families and domestic responsibilities, and excluding them from all types of social work and activities (Grosse 2015; Rydstrøm & Drummond 2004; Vu 1997). Although Viet Nam enacted the Law on Gender Equality in 2006, regulating that women and men were equal in all walks of life, women do not actually have equal status. In other words, there are so few women rising to the top within their organizations that Viet Nam created a quota of 30% of women to be in leadership positions in all governmental bodies at all levels.

Women in Viet Nam perform excellently in their undergraduate studies and advance relatively easily to middle management positions, yet for some reason they fail to reach the highest executive positions of their organizations and consistently earn less than their male peers for the same work (Maheshwari et al. 2021; Werhane & Painter-Morland 2011; World Bank 2017). The following proverb explains a core value that is one of the root causes of women's subordination in Viet Nam.

> "Having a son means having everything;
> Having ten daughters means having nothing."

Since I was a little girl, I have heard this proverb, particularly from my grandmother and mother as they chanted it in an effort to put me to sleep. Almost 45 years after I first heard it, it still prevails in Viet Nam, and its implications remain true in various areas of life. This saying depicts the (purported) supremacy of Vietnamese men and the subordination of Vietnamese women. Deeply rooted in Confucianism, it reflects severe prejudice against women in feudal times, particularly from the second half of the 11th century to the second decade of the 20th century, when Vietnamese rulers used Confucianism as the basis of the educational system and gender-conservative relationships in society (Krieger 2004; L. Nguyen 1995; Rydstrom et al. 2008; Zhang & Locke 2001).

In fact, according to Confucian ideology, women had no rights in their family or in society, and their economic lives depended entirely on their fathers, brothers, husbands, or sons. Moreover, Confucianism emphasizes women's roles as daughters, mothers, and wives as well as their full

compliance with the moral code for women, including three types of obedience ("tam tong")[1] and four feminine virtues ("tu duc")[2] (Krieger 2004; Rydstrøm et al. 2008; Schuler et al. 2006). In this respect, it is Confucianism that laid the foundations for the firmly established patriarchy in Viet Nam in feudal times (Grosse 2015; Vu 1997).

Because Confucianism was imposed on the spiritual life of the Vietnamese by Chinese invaders during their domination in Viet Nam for more than one thousand years, from 179 BC to 938 AD (Grosse 2015; D. Nguyen et al. 2010; L. Nguyen 1995; Rydstrom et al. 2008; Zhang & Locke 2001), its ideology and norms are hard to eliminate in today's society. Furthermore, the feudalists in Viet Nam soon turned it into a mandate for an entire way of life that lasted until 1945, when the August Revolution was successful, and President Ho Chi Minh declared the coming into existence of the Democratic Republic of Viet Nam. Meanwhile, many generations of Confucian teachers tried to etch words like those in the above proverb into the consciousness of the Vietnamese (Bergman 1975; Grosse 2015). Consequently, Confucianism, coupled with its negative factors, still has an extensive influence on the spiritual life of the Vietnamese people in general and Vietnamese women in particular, despite the turn toward liberation, individual freedom, and gender equality for women since 1945.

The negative impact of Confucianism on Vietnamese women manifested itself clearly in the old higher education system. The first university in Viet Nam was founded in 1076, but it only enrolled men (L. Nguyen 1995). Women were not officially allowed to enroll in higher education until the early 20th century (Phan 1987). Nevertheless, the first Vietnamese woman, who obtained her doctorate, Ms. Nguyen Thi Du, lived under the Mac Dynasty in the 16th century (Le 2002; Phan 1987; Van 2009). Ms. Du, in fact, had to change her name to a male one and disguise herself as a man in order to sit a national exam for men. After passing the exam, and as she was about to be appointed as a mandarin, she was discovered to be a woman. Fortunately, the king, who had a radical mind, pardoned her from lese-majesty (lack of respect for the

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[1] Three types of obedience: (1) to obey their father when single, (2) to obey their husband when married, and (3) to obey their eldest son if their husband passes away.

[2] Four feminine virtues: (1) industry (cong), (2) proper appearance (dung), (3) proper speech (ngon), and (4) right conduct (hanh).

King) penalty and asked her to be the teacher for royal maids (T. N. T. Le 2002; Van 2009).

Under feudal dynasties, Vietnamese women were not allowed to participate in any type of learning, irrespective of their high capabilities and burning desire to acquire knowledge. Without literacy and diplomas, they could not be hired and be paid in order to support themselves and their families. As a result, their economic life depended entirely on the men in their families. During French colonialism (1858-1954), only a few daughters of elite families in urban areas could pursue schooling and advanced education (Phan 1987).

In 1946, the first Constitution of the Democratic Republic of Viet Nam declared, "Women and men are equal in all domains of life," which was valid for half of the country, from Parallel 17 up to the northernmost part of Viet Nam, for 46 years. This principle of gender equality was not applicable in the South of Viet Nam, the remaining half of the country, from 1946 to 1975, because it was ruled by a different regime, called Nguy Quyen Saigon. After the two parts of the country were reunified and its name was changed to the Socialist Republic of Viet Nam, the Constitution of 1992 clearly confirmed this principle. In addition, Viet Nam is one of the first countries that signed and implemented the CEDAW (Convention on the Elimination of All Forms of Discrimination Against Women), aiming to eliminate all forms of discrimination against women and to ensure women's full development and advancement (T. Le 2009; National Committee for the Advancement of Women in Viet Nam 2006). Equally important, in the two prolonged wars against the French and the Americans, Vietnamese women changed their traditional roles by getting out of their kitchens, fighting the enemy, and making important contributions to regaining independence and freedom for the country. To acknowledge their great progress and outstanding contributions, President Ho Chi Minh rewarded them with eight golden words: anh hung, bat khuat, trung hau, dam dang (heroic, unyielding, loyal, and resourceful) (Viet Nam Women's Union 1996).

Nowadays, women account for more than half of Viet Nam's population, and they increasingly hold powerful positions in politics, economics, culture, and education (World Bank 2017). Therefore, gender equality has become a major national priority in order to ensure social justice, democracy, and civilization, as Madam Nguyen Thi Binh, former Vice President of Viet Nam, asserted (1997). In fact, Viet Nam passed the Law

on Gender Equality in 2006, regulating the responsibilities of individuals, families, organizations, and government bodies for implementing and ensuring gender equality. Since then, there have been innumerable strategies and action plans at the national, city, provincial, district, and ward levels to increase women's participation in all walks of life and levels of decision-making.

Nevertheless, despite the prohibition of discrimination against women described in the Constitution and the CEDAW (2001), along with the implementation of the Gender Equality Law, gender disparities and inequalities continue to exist, and new challenges face women as they increasingly participate in politics, economics, education, and other important areas in life (Dang 1997; Karl 1995; World Bank 2017). Research on gender practices in Vietnam has shown that the public, especially men, still does not value women's social roles and positions highly, and the prejudice which disparages women and presumes that they cannot hold top leadership positions continues to exist (Tran 2000; Tran 2006; World Bank 2017). Further, the beliefs that men have superior qualities are taken for granted and remain prevalent in public life. Consequently, most women are assigned lower positions, usually acting as deputies or vices for their male counterparts, and thus they do not have real power (Maheshwari et al. 2021; H. Nguyen 2007; World Bank 2017). In this respect, very few women assume top leadership roles in government administration, economics, politics, information and culture, science and technology, and higher education.

5. *Theoretical Framework*

This chapter is framed within the context of gender equality in Viet Nam, but it focuses on the nature of the leadership development process of women in higher education.

In particular, my experiences as a mid-level woman leader at two multi-disciplinary public universities are explored and described in order to see how gender inequality issues manifest themselves and how women attain leadership positions in this context. My personal experiences, coupled with gender issues, are approached through the lens of institutional logics (Thornton et al. 2015), feminist theories, involving sex inequality, difference, dominance, and patriarchy (Johnson 1997; MacKinnon 1989),

together with insights drawn from the history of Confucianism (Grosse 2015; T. N. T. Le 2002; Ngo 2004; L. Nguyen 1995; Phan 2004; Vu 1997) and the culture of gender (Barry 1996; Cheung & Halpern 2010; Ha 2001; Q. Le 1996). Overall, the chapter explores whether and if so, how social attitudes and norms rooted in national history and traditional culture have influenced the nature of my professional advancement process. It describes and interprets, with respect to Vietnamese cultural values, norms, and beliefs, my stories of (1) how I attained mid-level positions of leadership; (2) my leadership experience in a male-dominated world; (3) what challenges and opportunities that I, as a woman, daughter, wife, and mother in a highly patriarchal society, encountered on my career path; and (4) how Confucianism, along with the culture of gender, influenced my thoughts as well as my professional behaviours and decisions.

6. Methodology

Auto-ethnography is employed in this chapter since I am the only subject of this study (Creswell & Poth 2018; Ellis 2004; Ellis & Bochner 2000; Muncey 2010). Auto-ethnography, which includes personal narrative and reflexivity (Creswell & Poth 2018), is defined as a research method using "personal experience ("auto") to describe and interpret ("graphy") cultural texts, experiences, beliefs, and practices ("ethno")" (Adams et al. 2017:1). In other words, this approach contains the author's personal story and the wider cultural meaning for the story, and thus helps me narrate my lived and personal experiences in my career. Particularly, auto-ethnography enables me to describe, interpret and reflect on my own experience in leadership promotions at the two public universities, Rice University (RU), where I worked for almost 20 years, and the Vietnamese-German University (VGU) where I have been working since November 2014, along with my navigation through the patriarchal traditional culture to survive and thrive in a male-centred working environment and male-dominated leadership world in Viet Nam. Finally, my choice of this approach relies primarily on the fact that it allows my personal experience to be infused with political or cultural norms and expectations (Adams et al. 2017).

7. Personal Lived Experiences in Higher Education in Viet Nam

7.1 Milestones and Successes in the Career Path

I graduated from rural Rice University (RU), the longest-established and multi-disciplinary university located in the Mekong Delta of Viet Nam, specializing in Teaching English as a Foreign Language (TEFL) in June 1994. Thanks to my high achievements, the Dean of the Faculty of Foreign Languages offered me a full-time job as an English language teacher after graduation. However, after doing this job for only three months, I decided to transfer to the Department of International Relations of RU in order to have better opportunities to develop my career outside Viet Nam. With this shift of job, from December 1994 till the time when I left for my Master's degree in Australia in January 2000, I worked as an international relations officer at RU. It is also significant to recall the milestone when I won an ADS (Australian Development Scholarship) awarded by the Australian Government in 1999 and went to the University of Sydney to begin my Master's degree program in Educational Management and Human Resource Development in early 2000. After coming back from Australia in January 2002, the RU Rector promoted me to the position of Deputy Director of the Department of International Relations, and I became the youngest female leader in the history of the RU. Behind the scenes, this promotion was approved not only by the Board of Rectors but also by the University (Communist) Party, the Director of the Department of International Relations, and all the staff members of the department based on my reputation as a hard-working employee, on the respect of my colleagues, and on my outstanding expertise and merit.

While in the above-mentioned leadership post, I worked hard and was committed to the growth of my department and university. Nevertheless, my direct male boss, who basically preferred 'sheep' and sycophants rather than effective staff, usually treated me badly and unfairly since he was concerned that competent women might take over his post or even be promoted to higher positions because of the institutional policy and quota of 30% women having to be in leadership posts at all levels. At that time, because my ultimate goal was to attain a doctorate and I was tired of my boss, the most important thing for me was to get away from him and study for my doctorate in a prestigious foreign university. As a result, in 2005 I applied for a scholarship to go to the United States for

my professional development, which I thought would serve as a bridge to my desired doctoral program. After much effort, I won the Hubert H. Humphrey fellowship awarded by the US Department of State and undertook a one-academic year non-degree program in administration and leadership development at Pennsylvania State University (PSU) from August 2005. After successfully completing this program in June 2006, I came back to Viet Nam and continued working as Deputy Director of RU's Department of International Relations.

During the period of one year after returning to work, I continuously strove to apply for a doctoral scholarship, and a unique opportunity arose when I encountered the Dean of the Graduate School of Michigan State University (MSU), who came to the RU to attend its 40th anniversary celebrations in September 2006. She helped me submit my application to the Department of Educational Administration of the College of Education at MSU, which then provided me with a research assistantship, funding my tuition fees, health insurance, and costs of living in the U.S. In addition, the dean herself offered me a graduate fellowship which lasted for 5.5 years. In other words, the graduate assistantship and the fellowship granted by MSU allowed me to pursue and complete my doctoral degree program in Higher, Adult, and Lifelong Education in 5.5 years, with a bonus of my daughter being born in the U.S. and being offered US citizenship in September 2012. About six weeks after her birth, I successfully defended my doctoral dissertation at the Department of Educational Administration at MSU, marking another important milestone in my academic career.

At the end of March 2013, I brought my daughter back to Viet Nam to resume my work at the RU in early April 2013, while my husband and son remained in the U.S. for six months so that my son could finish 6th grade. In June of the same year, the Rector of the RU appointed me Vice Dean of the Graduate School, which I then believed was an ideal workplace for me to implement changes by implementing what I had studied in the U.S. However, I once again ran into a mean and narcissistic boss who was boastful and willing to harm others to sustain his position and authority. Most of the time, I was driven crazy, and I lost confidence because of the "black society" or destructive, harmful network he had formed in the Graduate School. Consequently, my 1.5 years of working for the RU Graduate School was one of the darkest periods in my career while I desperately wanted to use my new expertise and the skills

acquired on my Ph.D. education to perform beneficial activities for the graduate study programs of the RU as well as for poor and disadvantaged people in the Mekong Delta, where I was born and raised. All my dreams then collapsed because of the autocracy, authoritarianism, egocentrism, uncooperativeness, and jealousy of my line manager, who was also very good at disguising his narcissism and pleasing his superiors.

By June 2014, a valuable, unique opportunity came to me when one of my colleagues at the Ho Chi Minh (HCM) City University of Education recommended me to the Vice President for Academic Affairs of Viet-namese-German University (VGU) to fill the vacant position of Deputy Head of the Department of Academic Affairs. I submitted my CV and was invited to a face-to-face interview on the VGU campus. The inter-view was a success, but I had to go through two other interviews with the German Head of the Academic Affairs Department and the German President of the VGU. Like the Vietnamese Vice President, both the German leaders were satisfied with my qualifications, leadership capa-bility, and expertise in academic affairs.

As a result, I was officially employed by the VGU in July 2014; how-ever, I could not join the university until the beginning of November 2014 due to some unfinished tasks at the RU. Since then, I have been working for VGU in three different leadership positions: Deputy Head of the Department of Academic Affairs, Interim Director and Director of the Language Center and Foundation Year.

7.2 Challenges and Opportunities in My Career and Strategies for Self-Development

Looking back at my career path, I realize that there are both ups and downs or opportunities and challenges, which are often unavoidable. However, all of these contributed to my professional maturity and suc-cess and shaped my current identity. The challenges are only steps for me on the way to achievement. From time to time, on reflection, I feel appreciative of the roadblocks and thankful to my bosses since, without them, I could not have become stronger, more determined, more confi-dent, and more mature, and thus accomplished challenging goals in my work and life.

7.3   Early Career

The first challenge I encountered in my profession was to change my work from a full-time English teacher to a full-time international relations officer. International relations were not the field in which I was trained, but I decided to work in this area in order to have opportunities to interact with international students, professors, and staff from almost all continents, except Africa, coming to the RU to study and work during the 1990s in order to learn from them and have opportunities to travel abroad for my graduate studies.

Regardless of my lack of knowledge of international relations, I quickly learned how to carry out my new tasks effectively thanks to the kind support and guidance of the RU Board of Rectors, particularly the Rector (late People's Educator Prof. Dr Tran Phuoc Duong) and the Vice Rector for internal affairs, both of whom were also RU's well-known, talented, and ethical leading professors. The Rector even sent me to the Netherlands and Belgium to take short-term training courses in managing international cooperation projects and to gain real-life experiences of performing international cooperation at an institutional level.

Another major challenge that I faced was after having been married for less than two months, I had to leave my husband in Viet Nam and go to Australia to pursue my Master's degree program at the University of Sydney in New South Wales in January 2000. The policy of the scholarship sponsor, AusAID, at that time did not permit scholarship recipients to bring their family members to Australia, so I had to travel to and stay in Sydney alone. After approximately three weeks in the program, my pregnancy was confirmed by a medical clinic in Sydney. Although my husband and his family were happy with this news, I was very worried and depressed about it because of my solitude in Sydney and the stress of the graduate program in Educational Management and Human Resource Development, of which I did not have any prior knowledge. Moreover, the AusAID scholarship program did not pay for my baby to be born in Australia so after the first semester I had to suspend my Master's program for one year and return to Viet Nam to give birth to my son. In fact, these first six months of my pregnancy were one of the hardest periods in my life owing to morning sickness and the intensive stressful learning schedule. Many times, I had to book meetings with a psychologist at the University of Sydney to receive her advice on how to overcome stress,

loneliness, and extensive academic pressure. Fortunately, thanks to her effective consultation I was able to complete the first semester of my graduate program successfully and travel back to Viet Nam for my baby to be born. One year later, when my son was 8.5 months old, I decided to come back to Australia to resume and complete the second and last semester of my Master's program. Again, due to the policy of the scholarship sponsor, I had to leave my son in Viet Nam with my husband. This period of returning to Sydney was extremely challenging for me since I could not be with my baby to take care of him. In addition, digital communication and the Internet then were not as popular and diverse as they are today. Consequently, I could only call my husband once a week with a 10-Australian-dollar international phone card, which usually allowed me to speak for only 10 minutes or less. Obviously, with this form of communication I could not speak to my son and see his image, which caused me a lot of sadness, depression, and anxiety. Nevertheless, thanks to my passion for learning, my determination and persistence, I was able to overcome the big challenges to my spiritual life and complete the Master's program with distinction, which enabled me to return to Viet Nam after another six-month semester, as regulated by my contract with the AusAID Scholarship sponsor.

Furthermore, the most critical and tragic event happening to me when I was 17 years old was the death of my mother at the age of 43. My mother was an elementary school teacher and the breadwinner of my family, so after her passing as the elder sister of three young siblings – 14, 12, and 10 years old – I had to financially support them and bring them up. For almost a decade after this family tragedy, with the support of my maternal grandmother I played the role of mother to my siblings. In spite of the poverty, hunger, and psychological pain, my younger sister and I finished our tertiary education, attained Bachelor's degrees, and found stable jobs with a decent income. In contrast, my two younger brothers dropped out of school at the ages of 14 and 12, two years following the death of our mother and so had to train as skilled workers; one became a goldsmith, the other a coach driver. Nevertheless, the good thing from this tragic and miserable period was that I learned to become stronger, more mature, more humane, and more financially independent. Along the same lines, I turned into a caring, considerate, empathetic, generous, and benevolent sister and individual.

7.4 Mid and Current Career

From October 2002, when I was appointed Deputy Director of the Department of International Relations, to the end of October 2014, when I decided to leave the RU for the VGU, I was unfortunately again assigned to work with two imprecise, dictatorial, egocentric, and narcissistic bosses (Northouse & Lee 2019). At the end of every academic year, they used the results of my hard work as their accomplishments to receive merit awards at institutional and ministerial or national levels, and thus my professional progress and advancement were hindered or even blocked because I did not have any distinctive achievements recorded in my employment history at RU. The first boss preferred to lead 'sheep' and sycophants, yet I was not this type of person, and so could not enter his network and enjoy his support and recommendation to the University Party to admit me as a Communist Party member. Without the membership of this powerful body in the university, my promotion to a higher position was completely blocked at the RU as well as at other public universities in Viet Nam. However, I tried to empower myself by looking for opportunities to go abroad for my doctoral studies since I was aware that only with a doctoral degree would I be able to develop further at any higher education institution. Accordingly, in 2004 I decided to apply for the Hubert H. Humphrey Fellowship awarded by the US Department of State believing that this scholarship program would serve as a good bridge to my application for a doctoral fellowship. Fate smiled on me when I won this prestigious fellowship and went to the U.S. to start a one-academic-year professional development program in administration and leadership in higher education at Penn State University in Pennsylvania. Significantly, the next step in my career completely met my expectations. Thanks to the Humphrey fellowship I had a good reputation and, coupled with my extensive experience in higher education, I won a fellowship and research assistantship from the MSU Graduate School and College of Education to pursue my Ph.D. degree program for 5.5 years at this prestigious university, starting from August 2007.

My second boss at the RU was even worse than the first one in that he was a cunning, boastful, ruthless, self-centered, non-cooperative, and dictatorial leader (Northouse & Lee 2019). As presented earlier, after coming back from my doctoral program in the U.S., I decided to work for the Graduate School instead of returning to the Department of Inter-

national Relations, and I worked with this man as his associate dean for 1.5 years. I still recall what happened to me one day when he asked me to observe a group of English teachers grading English entrance exam papers of Master's candidates, and I was also a marker of this exam. In the marking process, I discovered one teacher's trick of changing the score I gave to one paper, shifting my score of 5.0 to 8.0 by overwriting his score on mine. According to the university regulations in marking as well as the general marking rules in education, the score given by the second examiner or marker must be written next to that of the first examiner, not overwritten. Thus, I reported this cheating to my boss, but then he and the secretary of the Exams Committee, who was actually his closest inferior and "sycophant" (Northouse & Lee 2019) at the Graduate School, blamed me and accused me, rather than the cheating teacher, of harming the integrity of the Master's matriculation exam and told other teacher markers that I was a liar and a troublemaker. The situation became worse when he bent the truth and reported me to the Board of Rectors so that they would sanction me. I was so surprised and shocked at his words and behaviors towards me that I did not have any effective counter-arguments to defend myself before this board. As a result, I had to accept their misunderstanding, criticism, and blame.

Nonetheless, and fortunately, my fate changed when a terrific opportunity arose, and I could escape this harmful, disastrous leader and his unhealthy network. As mentioned earlier, through the recommendation of a friend working for the HCM City University of Education, I applied for, and was appointed, Deputy Head of the Academic Affairs Department of the VGU and started my work at this public research-based university on 3rd November 2014. The VGU is a transnational new-model higher education institution founded by the former Minister of Education and Training and Deputy Prime Minister of Viet Nam, Prof. Dr. Nguyen Thien Nhan, as a gesture of international cooperation and friendship between the German and Vietnamese governments. Since working here, I have encountered many well-known, talented, and ethical Vietnamese and German faculty, staff, administrators, and leaders who were trained and educated not only in Germany but also in various prestigious universities in a wide range of developed countries all over the world. I really enjoyed working at VGU, and in June 2016 I decided to move to the Language Center and Foundation Year (LCFY), my existing division, to better fit into my specialization, and acted as its Interim Director when its

German Director resigned. However, not until after more than one year of challenging my capacity, expertise, leadership skills and tolerance, did the Vice President for Academic and Student Affairs officially appoint me as LCFY Director, and I have held this position since then.

After becoming the LCFY Director at the VGU, I have assumed more tasks and responsibilities but have had the full authority to decide the affairs of my division, from financial to human resources issues. Inside the university, more faculty and staff ask for my administrative support and rely on me to solve problems between their divisions and mine. Interestingly, outside the university, there are more chances for me to network with faculty, staff, and graduate students from both domestic and foreign universities to implement academic or cultural activities and to conduct research in my specialized area, higher education administration. Nonetheless, one major roadblock hindering my career advancement and perhaps putting an end to my advancement to any higher leadership posts is the fact that I am not a Communist Party member. All my narcissistic, jealous, mean, and dictatorial current and former bosses did not recommend me to the Party as a potential candidate primarily because they were concerned about my possibly replacing them or being promoted to a more senior leadership position higher than them thanks to the nationwide policy of 30% women leaders at all administrative levels both inside and outside of the higher education enterprise.

8. Discussion

8.1 Institutional Logics and My Professional Development

Thornton and Ocasio (1999: 804) define institutional logics as "the socially constructed patterns of symbols and material practices, assumptions, values, beliefs, and rules by which individuals and organizations produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality." Research also points out that institutional and professional logics generate interaction between two variants or two academics in the institution (Thornton et al. 2015). Additionally, there is a mutual effect between institutions and individual and organizational behavior (Dobbin 1994; Hall & Taylor 1996; Thelen 2004). In other words, institutions influence individual and organiza-

tional behavior, and individuals and organizations may create and change institutions. Furthermore, in an institution multiple logics are available to actors and able to interact and compete for their influences in societal domains (Friedland & Alford 1991).

The aforementioned theory of institutional logics explains my permanently strong desire to move forward in my career in higher education primarily because of the belief that if I did not attain graduate degrees, I was not worthy of being a university faculty member. As a fresh graduate from my Bachelor's degree program in TEFL, I could understand that if I wanted to survive and grow professionally at a university, I had to have a Master's degree as a minimum. Therefore, from the beginning of my academic career, I applied for scholarships to pursue my graduate studies abroad, especially in English-speaking countries. My applications for scholarships were obligatory since, by the middle of 1990s, Viet Nam was still among the poorest nations in the world, where levels of hunger and poverty was high. Consequently, my annual salary was not enough to pay for one month's living expenses in Australia or the U.S. Significantly, my higher degrees, my Master's and Ph.D., were essential for my survival, work, and promotion at both the RU and VGU as, by early 2000s, the Vietnamese Ministry of Education and Training (MOET) required university lecturers to hold at least a Master's degree, otherwise they were not allowed to instruct undergraduate students. Along the same lines, a faculty or staff member could only be promoted to a mid-level leadership position (e.g., dean, vice dean, director, or vice director of a support department or service center) if he or she had a doctorate. Although I did not plan and have an ambition to become a university leader, my graduate degrees played a pivotal role in my unexpected promotions.

8.2   The Culture of Gender and My Unexpected Positions of Leadership

The culture of gender is defined as cross-cultural gender norms creating opportunities and constraints for all women leaders, despite their cultural differences (Inglehart & Norris 2003). In other words, women leaders across national boundaries share these norms and are exposed to similar gender stereotypes and sexist prejudices in organizations. Further, gender norms define women's and men's roles and behaviors, which in turn

make their experiences different (Cheung & Halpern 2010). In this regard, there are restrictions on the roles of women, causing difficulties for them to achieve at high levels in their demanding careers. Unlike many other countries in Asia and the Western world, Viet Nam is a highly patriarchal society where gender neutrality is the male standard, and women are measured according to their correspondence or lack of correspondence with men (T. N. T. Le 2002; Vu 1997). Thus, women usually must adjust their behaviour and compromise their values in order not to be excluded from most of life's pursuits and to enjoy harmonious relationships with men. Growing up and working in this society, very few Vietnamese women, if any, have any ambitions or aspirations to become leaders in their professional life. As a Vietnamese woman and female academic, I did not have such ambitions either. I began my career as an English teacher at the RU, a leading public higher education institution in the Mekong Delta region of Viet Nam as stated previously, and I did not develop any strategies or techniques to move up the hierarchical administrative structure at both the RU and my current workplace (VGU). Consequently, I usually believe that becoming a leader at the RU and VGU was mainly down to luck. However, the reality of institutional promotion shows that, regardless of gender, promotions to leadership roles in academia depend largely on conspicuous individual capabilities and expertise as well as on the recommendation and support of superiors and colleagues, and so I was not an exception.

Unlike other female academics whose promotions "are often dependent on good recommendations from men" (N. B. T. Nguyen 2000: 105), my promotions did not hinge on my special relationship and connection with my male supervisors. In fact, my merit and outstanding expertise coupled with good interpersonal skills played an important role in winning the support of my just, honest superiors and committed colleagues and in their recommending me to my past and current positions of power and influence. It is true that my advancement to leadership positions "just happened" when I performed my work well, was awarded higher degrees, and gained the support of my superiors and colleagues (Luke 2001: 139). Luke's studies on women in academia in Thailand, Singapore and Hong Kong also indicated that women academics moved into middle and senior administrative positions without any prior planning and expectation, which is completely consistent with my personal experience.

8.3 Confucianism and Patriarchy in Viet Nam:
Adverse Influences on Women

Confucianism highlighted male supremacy and dominance and female subordination and oppression. It considered women "second class" citizens and made their status and role inferior to those of men (Grosse 2015; Krieger 2004; N. Phan 2004; World Bank 2017). While men were linked with yang to indicate brightness, mightiness, and vigor, women related to yin, symbolizing darkness, weaknesses, and passiveness (N. Phan 2004). Nationally, the highest power belonged to the king, and in a family to the father, who possessed all the family's land and property. Confucianism considered women mean and difficult-to-educate people who usually spoiled things or were easily spoiled. In this respect, it devalued women and even disparaged them, both in the family and in society. Likewise, it substantially confined their societal roles and restricted the freedom in their life (Frenier & Mancini 1996; Ha 2001; Hodgkin 1981; Rydstrøm & Drummond 2004).

Moreover, women did not have any educational and employment opportunities, nor could they be involved in any social, economic, or political activity, because they were expected to stay behind "high walls and closed gates" (Ha 2001; Krieger 2004; Ngo 2004). Both single and married women were not allowed to make their own decisions nor their own choices for their future, and thus they were economically dependent on their fathers and husbands (after marriage). In their village, for instance, women were not allowed to sit on a straw mattress placed in the middle of a large yard to discuss village affairs (Ngo 2004). Instead, this position was only reserved for men. In contrast to their male counterparts, ideal women were supposed to stay inside their homes and work in the kitchen. Significantly, they had to abide by three types of obedience ("tam tong"), and four feminine virtues ("tu duc"), which required them at the same time to be me hien, dau thao, vo dam (gentle mother, nice daughter-in-law, and dedicated, industrious wife) (Grosse 2015; Ha 2001; T. N. T. Le 2002; Ngo 2004; Vu 1997).

In today's society, although the practice of "tam tong" has almost been eradicated, "tu duc" still prevails and widely influences women's sense of their roles in society and family. In fact, "tu duc", coupled with patriarchy, facilitates, and acts as a catalyst for male supremacy and dominance and female subordination and oppression in Viet Nam. In this

respect, men generally assume a wide variety of positions of authority in areas such as politics, economics, religion, law, education, military, and domestics (Grosse 2015; Johnson 1997; World Bank 2017). By contrast, when a woman advances into such a position, people are likely to be struck by the exception to the rule and maintain some stereotypes as well as prejudice about her leadership abilities and styles. Usually, they wonder how she can be compared to a man holding the same position since a woman's capacity is supposed to be more appropriate to domestic and caring work. This practice restricts the roles available to women and forces them to give up developing ambitions to become leaders, since the public still popularly think that the leadership world is for males, and the female position is in the house and around the kitchen (Kazmi 2014; T. N. T. Le 2002; Maheshwari et al. 2021; Ngo 2004). Born and growing up in Viet Nam, a Confucian country with all the above-mentioned norms and ideology, I did not develop any plans or strategies to become a leader in my career, and leadership posts just came to me "naturally" or "unexpectedly" when I had excellent expertise and received my colleagues' trust and respect.

However, educated and trained in developed countries such as Australia and the U.S., I do not believe that leadership and top leadership positions are for men, yet the image of a "right" or "ideal" woman passed down to me by my grandmother and mother, coupled with subtle influences of the Confucian ideology, has caused me to be more committed to my family than my career. Moreover, because of the underlying ideology of male supremacy and dominance together with patriarchal thinking (Grosse 2015; Johnson 1997; Rydstrøm et al. 2008; Rydstrøm & Drummond 2004), my male bosses frequently caused problems for me as they saw my outstanding capability and potential to become a promising leader who could be nominated as an eligible and prioritized candidate in the election of the new Board of Rectors owing to the requirement of the nation-wide quota of 30% women in leadership posts in education and all other fields. My male bosses were indeed concerned about losing face, dominance, and authority if a female held a higher position. Overall, Confucian ideology coupled with patriarchal values and norms made my male bosses in particular and Vietnamese men in general treat me and other women harshly, especially capable and bright ones, because of their underlying or covert fear of losing face and power if the latter overtake the former.

9. Conclusion

This chapter depicts my personal experiences of advancing to leadership positions, which was unexpected and unplanned. To a certain extent, it may not be very appropriate for me to use the word "navigating" in the title of the chapter since I did not have any plans nor develop any strategies to climb the career ladder. As mentioned throughout the chapter, Confucianism, patriarchy, and the culture of gender in Viet Nam along with the institutional norms created an unfavourable context and working conditions for me to attain important powerful positions in higher education. It is due to this practice that I almost did not have any career aspirations beyond becoming an instructor, lecturer, and researcher at the two universities for which I have worked for almost 30 years. However, my experiences demonstrate that by effectively performing my work, fulfilling delegated assignments and tasks to the best of my ability, demonstrating my expertise, and gaining the trust and respect of my supervisors and colleagues, advancement to key leadership positions would come unintentionally or unexpectedly.

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The Role of the Education System in Promoting Gender (In-) Equality in Vietnam

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1. Introduction

Culture is a key driver that shapes our society. However, culture and cultural norms are constantly changing. They can take many different forms, because they are often linked to the history and current social, economic, and political developments of a country. In particular, they influence the development of society and issues such as gender equality. Especially in countries of the Global South, gender equality is often not yet present at all levels. With the 2030 Agenda, the United Nations has set itself the task of promoting sustainable peace and prosperity to protect our planet within the framework of the 17 Sustainable Development Goals. This paper addresses the issues of education in terms of SDG 4 and gender equity in terms of SDG 5 from a country-specific perspective in Southeast Asia, using Vietnam as an example. In Vietnam, the subject of gender equality is addressed through various different laws and initiatives. One instance is Law No. 73/2006/QH11 on Gender Equality – enacted in 2006, which covers equal opportunity and treatment in various aspects, from social to family life (Thu Viện Phát Luật 2006). Another is the Vietnam Women's Union which has been in operation since 1930. However, there are still gaps between the implementation of these national goals and the actual situation in Vietnamese society. One of the main reasons goes back to gender biases and norms from traditional ideologies and practices in the culture.

To clarify these negative influences, the first part of this paper introduces the different ideologies and moral systems along with their relevant characteristics. Specifically, the focus is on, chronologically, Confucianism, Feudal Ideology, and modern ideology and belief. Then, with education being the main focus, the representation of women in the curriculum for the compulsory subject of Literature is discussed to gain a view of how these traditions are presented to students and how that might influence their perspectives on gender roles and equality. Furthermore, some examples of the adverse effects of outdated cultural beliefs and practices in gender equality initiatives in Vietnam are also highlighted to further emphasize the issue.

The second part focuses on educational systems and curricula and their role in promoting gender equality. This chapter presents the example of Global Citizenship Education (GCED) and its developments in the private sector in Vietnam. It shows how these developments take on negative influences due to the lack of government support and the discourse it forms as the private sector expands on additional educational programs. This leads to negative developments in the long run, as private organizations use GCED as a means of generating money. The chapter therefore provides insights into the circumstances under which education on social issues such as gender inequality has developed in the private sector in Vietnam. To explore these fields, this paper is led by the following guiding questions:

1. How does Vietnamese culture define the concept of gender roles?

2. How does culture influence the educational system and curricula in Vietnam?

3. What are the current initiatives in the educational sector to achieve gender equality in Vietnam?

2. The influence of Historical Belief Systems on Gender Norms and the Role of Vietnamese Women

2.1 Confucianism & Feudal Ideology

The construct of Vietnamese society's perspective on gender norms and the status of women was, and still is, built on orthodox ideologies and

moral systems. In particular, due to the country's history with China – primarily through the over-one-thousand-year Chinese domination (111 BC-938 AD) period, the influence of Confucianism was and, to a certain extent, still is, highly present in people's lives and thinking (Schuler et al. 2006). According to the moral structure, women are second-class citizens who are subordinates to the men in their lives. Two popular teachings from Confucianism regarding women from the moral principles are the "Tam tòng" (Three Obediences) and the "Tứ đức" (Four Virtues) (Vu 1997):

- "Tam tòng" (Three Obediences) – "Tại gia tòng phụ (obedient to her father at home before getting married), xuất giá tòng phu (obedient to her husband after getting married), phu tử tòng tử (obedient to her son after her husband has died)"

- "Tứ đức" (Four Virtues) – "Công (industry – must be industrious and skilful at housework, cooking, and embroidery), dung (appearance – must be presentable and act gracefully), ngôn (speech – must speak softly and politely), hạnh (conduct – act and behave accordingly and properly)."

According to these teachings, women are to be kept within the confines of their homes. Their lives focus on, and are limited to, being daughters, wives, and mothers with little agency over themselves. Moreover, they are subjected to impossible standards while not being allowed to participate in education or to have their own occupation (Vu 1997).

Due to certain desirable features of Confucian, many Vietnamese dynasties, despite no longer being under Chinese domination, still enforced some level of the moral standard system in all areas spanning politics, education and daily life alongside the indigenous social structure and practices (McLeod & Nguyễn 2001). Furthermore, since the Lê dynasty (1428-1789), through the Lê Code, Neo-Confucian, or as often called by modern Vietnamese – Feudal Ideology, proceeded to be incorporated more into the lives of the general public (Whitmore 1984). Some central characteristics of this ideology are the importance of family as the foundation of society, the patriarchal system, gender prejudice, and the disparity between men and women. Moreover, during this period, specifically in the Trần (1225-1400) and Lê dynasties, the rigid system of patrilineal rules was established. As a result, given the importance of con-

tinuing the family line and sacrificial practice, sons became even more valued than daughters.

> "Nhất nam viết hữu, thập nữ viết vô" – Only one son is enough, ten daughters mean nothing (Vietnamese proverb)

On the other hand, it is worth noting that interpretation and implementation of these rules were still much less severe and more forgiving than they originally were in China (Whitmore 1984). In certain aspects, Vietnamese women of the time, in accordance with the law, enjoyed more rights than their Chinese counterparts. Some instances include the Lê Code defining marriage as a union between two individuals rather than a strictly patriarchal unit. By law, women also had ownership rights of property they had owned before marriage and could keep everything in the cases of divorce or death of their spouse.

2.2 Modern State: Ideology and Norms

Moving into the period of the two wars of resistance against the French (1858-1954) and the Americans (1955-1975), with Socialist beliefs being increasingly incorporated into Vietnamese people's lives, the ideal woman is no longer only responsible for caring for household matters and raising children. Women are now also tasked with contributing to the family's finances and being valuable members of society. This movement is often painted as empowering women by permitting them to grow out of their traditional constraints and granting them more opportunities. The trend was promoted and showcased as such during the two wars to appeal to and encourage women to join and support the war effort (Tétreault 1996). The issue is, however, that there was no similar update for men. Traditionally, male roles, like carrying out economic activities and upholding society, are also expected to be shared by women – essentially without the same level of complementary status and appreciation. By contrast, the responsibilities of homemaking and childcare are still mainly held by women.

   To this day, many sayings and proverbs still perpetuate gender norms that confine both men and women to traditional stereotypes. Commonly, they emphasise placing the responsibility of homemaking and raising children solely on women. Some instances are:

"Đàn ông xây nhà, đàn bà xây tổ ấm" – Men build the house, women build the home

"Con hư tại mẹ, cháu hư tại bà" – If children misbehave, it is because of their mothers; if grandchildren misbehave, it is because of their grandmothers

"Phụ nữ hơn nhau ở tấm chồng" – Woman are better than each other on the basis of their husbands

3. Gender Norms and the Representation of Vietnamese Women in the General Education Curriculum

3.1. Classic Literature

Both the discussed Confucianism and modern ideology influenced educational systems in Vietnam. Gender norms and the representation of Vietnamese women are visible in the compulsory curriculum used in the general Vietnamese education system. The extent of such an influence is discussed in detail in this section. Specifically, close attention is paid to social subjects, mainly Literature.

3.1.1 Women as Motherly Figures, Daughters, and Wives

The curriculum for the compulsory subject of Tiếng Việt (Vietnamese language), as it is known at primary level, and Ngữ Văn (Vietnamese language and literature), as it is known at lower-secondary and upper-secondary level, covers a wide range of works from different genres of literature and is taught to students in loose chronological order through each grade (MoET 2018b). The portrayals of women painted in these works are reflections of the contemporary eras in which they were written. For the most part, they showcase women in their more traditional roles as mothers and wives. Even as we progressed into the 20th century and the roles of women had been expanded to being a part of the war effort, they were still presented in a more feminine and nurturing light. Hence, outdated beliefs and practices relating to gender norms and roles of the time echo through these pieces. And thus, this places the emphasis on how they are delivered to students.

In the Vietnamese works of literature covered in the general education curriculum, women are often portrayed as a part of family and society. Very commonly, they are:

- Mothers – Hồng's mother, who was forced to leave her young son with a relative to find work far away after her husband passed away, in "Trong lòng mẹ" (In mother's hold and love) – an excerpt from "Những ngày thơ ấu" (Childhood days) by Nguyên Hồng (Nguyễn et al. 2020b); the philosophical discussion of motherhood and a mother's love for her children in the poem "Con cò" (Stork) by Chế Lan Viên (Nguyễn et al. 2020d), the tired yet kind mother of the main character, who has been through a life of difficulties in "Vợ nhặt" (The picked-up wife) by Kim Lân (Phan et al. 2020b), etc.;

- Grandmothers – The author's recall of his childhood by the fireplace being raised and loved by his grandmother in "Bếp lửa" (Fireplace) by Bằng Việt (Nguyễn et al. 2020c), etc.;

- Daughters – The strong-willed daughter of a scared soldier in "Chiếc lược ngà" (The ivory comb) by Nguyễn Quang Sáng (Nguyễn et al. 2020c), etc.; and

- Wives – The abused wife of a poor fisher family living on a boat who could not get a divorce because of poverty and children in "Chiếc thuyền ngoài xa" (The boat far in the distance) by Nguyễn Minh Châu (Phan et al. 2020b), the author's wife who stepped out of traditional roles and worked hard to support the family while he studied in "Thương vợ" (Appreciation to my wife) by Tú Xương (Phan et al. 2020a), etc.

3.1.2 Women's Fate

The topic of women's fate is consistently present in Vietnamese folk literature. One common motif is to compare them to, or use metaphors using particular objects to emphasise their lack of control over their lives and their dependence on those around them, especially men.

"Thân em như tấm lụa đào, phất phơ giữa chợ biết vào tay ai" – I am like a piece of silk, fluttering in the middle of the market not knowing whose hand it will belong to

"Thân em như trái bần trôi, gió dập sóng dồi biết tấp vào đâu"– I am like a floating fruit, blown by the wind pushed by the waves not knowing where it will end up

Following this motif is "Bánh trôi nước" (Floating Sweet Dumpling) – the best-known poem of Hồ Xuân Hương (as cited by Nguyễn et al. 2020a), one of the rare female poets in Vietnamese history and the renowned "Bà Chúa Thơ Nôm" (The Queen of Nôm Poetry).

"Thân em vừa trắng lại vừa tròn,
Bảy nổi ba chìm với nước non,
Rắn nát mặc dầu tay kẻ nặng,
Mà em vẫn giữa tấm lòng son."

"My body is white; my fate, softly rounded,
Rising and sinking like mountains in streams.
Whatever way hands may shape me,
At the center my heart is red and true."

(Translation by Balaban (as cited by Hoàng 2018))

One of the most famous works in Vietnamese literature is the epic poem "Đoạn trường tân thanh" ("A New Cry from a Broken Heart") – or more commonly known as "Truyện Kiều" ("The Tale of Kiều"), written in Nôm (the Vietnamese vernacular scripts) by Nguyễn Du in 1820 (Nguyễn et al. 2020c). The work is highly praised, firstly, for its sophisticated use of the Vietnamese language by Nguyễn Du and, secondly, for the beauty, talent, and character of the heroine, Thuý Kiều. This epic poem showcases various characters whose names, to this day, are used to call and describe certain types of people. Aside from Thuý Kiều, there are two other notable female characters. The first one is Kiều's younger sister, Thuý Vân, whom Kiều asked to marry her true love in her place as Kiều had to be married off to a wealthy man in order to save her father and brother from a false accusation. The second one is Hoạn Thư – the wife of one of Thuý Kiều's love interests, whose name is nowadays used to denote jealous women. Many parts of the epic poem focus on the ill fate of women of the period, and some others dwell on their own conflicts with each other out of jealousy.

3.1.3 Cultural Influence of the Literature on Educational Teaching

For each of the categories mentioned here and for the general narrative surrounding women in literature classes, there is a consistent view being taught to the student. Such a view, on the other hand, influences educational teaching and its cultural view of women in society. Indeed, when discussing women as nurturing figures like mothers and wives, much praise is given to the character's ability to fulfill their familial roles – which supports other characters on their journey. When it comes to the beautiful but tragic characters like Thuý Kiều and the topic of women's fate overall, the Four Virtues and other flowery words are often brought up to compliment them and their beauty, along with the criticism of how the Feudal Ideology controls their lives and fuels their struggles.

In contrast to the criticism there is, sometimes, statements on how lucky it is to be a modern woman with equal rights and opportunities. All in all, in the discussion on women and gender equality, there is an abundance of praise of beauty along with a fixation of stating how these negatives are something of a "far and separated" past to uplift the current state of gender equality (Nguyễn et al. 2020a; Nguyễn et al. 2020c).

3.2 Civic Education

Apart from the classic literature discussed above, the role of women in Vietnamese society and culture is also influenced by civic education. One noteworthy topic included in the Civil Education program is lessons on the role of women in modern society and respecting women (MoET 2018a). The lesson is repeated a few times throughout the education of Vietnamese students since primary school. The content is relatively simple, focusing on (1) telling children to respect and love the women around them as their mothers, sisters, teachers, classmates, etc.; and (2) how the roles and responsibilities of women have expanded from only being mothers, daughters, and wives to also contributing to the family's finances and being valuable citizens of society in modern times.

4. The Impact of Cultural Factors and Ideologies on Gender Equality

4.1 The Vietnam Women Union (VWU)

This paper's analysis of existing literature gives some perspectives on how certain cultural factors and elements of orthodox ideologies are dragging down gender equality initiatives in Vietnam. A prime representation of this phenomenon is The Vietnam Women's Union (VWU) – an organisation operating with the goals of improving gender equality and enhancing the living standards of women. Through interviewing officers of, people who are directly involved with, and those living in the active community with the Vietnam Women's Union, Schuler et al. (2006) studied the moral foundation and operation of the organisation with the aim of gaining insights into the society's perception of women and gender norms. The research found heavy influences from Confucianism and Socialist Political beliefs and values, which uplift questionable traditional gender roles and stereotypes. In particular, the notions of family and community are commonly prioritised over women's well-being and needs. The Union would advise women to adjust and "better" themselves in order to be more supportive and agreeable to their husbands, to other family members, and even to neighbours. This is the advice given when there are conflicts, when their children misbehave, and when they are in abusive situations. Women are burdened with the responsibilities and consequences of the actions and behaviour of those around them. The paper also highlights what the organisation and society defined as a perfect woman in accordance with the "Three Criteria." Specifically, they are expected (1) to be in charge of maintaining the home, doing housekeeping, and childcare; (2) to bring economic benefits to their households, and (3) to contribute to society/the community. Overall, there are a lot of nuances in the interviewees' answers that really show their attitude towards women, especially as most of the interviewees are women, with a few males being husbands of women in these areas. The consensus here is that the aforementioned roles and responsibilities of women in families and society are an immovable fact. In detail, the female interviewees discussed how women should devote their time and effort to their families and communities, admitting to falling short in accomplishing the "Three Criteria", and how this is simply the way things are. On the other hand, the male interviewees mentioned doing the

bare minimum of occasionally helping around the house, not forbidding their wives to go out (after finishing the housework and cooking), and simply acknowledging the existence of gender inequality as them being open-minded and good husbands (Schuler et al. 2006).

4.2 The Gender Wage Gap

A study on Vietnam by Chowdhury et al. (2018) found that the gender wage gap exists consistently. Significantly, the gap is even more prominent in education. There are a few explanations for this issue. In particular, under pressure to fulfill their role as homemakers beyond having a career, women were found to pay more attention to non-monetary compensation (e.g., insurance, paid leave, etc.) than their male counterparts when considering employment contracts. Notably, this preference can even be found in 12-year-old girls. Most interestingly, from examining 12-year-old children's aspiring careers and the respective average income of those occupations, they discovered some supporting evidence for the hypothesis that social gender norms have an influence on these choices. In terms of education, a study by Nguyễn (2012) shows that Vietnam had basically achieved the United Nations Millennium Development Goals of removing gender inequality in education for children under 14 years old. However, women are still at a disadvantage compared to their male counterparts in the areas of higher education and the workforce. Firstly, men still generally have a higher education. Moreover, women have less participation in the employment market than men – especially as skilled workers – and receive lower pay. Additionally, it can also be observed from the data that women are mainly responsible for housework and childcare – especially, and surprisingly more so, in urban areas and among the two largest ethnic groups, the Kinh and the Hoa.

At first glance, some specific effects of the orthodox ideologies concerning women and gender norms might seem optimistic. For example, women have the tendency to be more careful in evaluating the non-monetary benefits of employment contracts instead of merely focusing on salary. Another instance is how they would generally act diplomatically and selflessly, which would benefit their communities. Nevertheless, the

underlying reasons for these actions and ways of thinking are still rooted in beliefs that promote gender inequality and are worth reconsidering.

There are initiatives in the Vietnamese public sector aimed at developing social change and promoting gender equality. However, these efforts alone are not enough. Many initiatives are therefore developing in the private sector (Le & Duong 2022). The efforts that are made are sometimes due to external influences. They come, for example, from NGOs and international organizations, which are committed to the promotion of democracy, diversity, and peace, and have made it one of their central goals to address interconnected (global) challenges through education.

5. Initiatives to Promote Gender Equality in the Educational Sector in Vietnam

5.1 Global Citizenship Education

As can be seen from the previous sections, the teaching of topics such as gender equality or other societal issues is not always directly supported by the formal Vietnamese school system (Nguyen 2017). This makes extra-curricular educational initiatives even more important, as they make an important contribution to addressing problems in society. The following chapter presents two educational initiatives to promote gender equality in education in Vietnam. One is from a historical perspective, namely the Tonkin Free School, and one from a contemporary perspective, namely Global Citizenship Education (GCED). This chapter argues that even after the closure of the Tonkin Free School, the school symbolizes progressive ideals that are consistent with contemporary notions of gender equality, making it crucial for educational concepts and initiatives such as Liberal Arts Education in Vietnam (Huy 2021). Similar to Liberal Arts Education is the concept of GCED introduced by the United Nations (UN) in 2015. In the following, GCED is presented from a regional perspective, using Vietnam as an example to explain the discourse and impact that GCED can have locally. In doing so, the objective of GCED is shown based on different educational initiatives of the UN and the Southeast Asia Primary Learning Metrics (SEA-PLM), which both implement GCED as an educational framework. Although there are

different manifestations, these initiatives are mostly similar in their objective, which is to empower learners of all ages to take an active role in building more peaceful, tolerant, inclusive, and safe societies, both locally and globally (UNICEF & SEAMEO 2020). From this, one pillar can be derived: respecting and promoting gender equality as part of GCED. In this way, GCED and Vietnamese educational initiatives contribute to the promotion of gender equality in Vietnam and thus to the UN's SDG 4 and SDG 5. However, the insight into the current discourse of GCED in Vietnam reveals weaknesses in its implementation. Essentially, GCED is more developed in the private sector and is therefore being used for the purposes of private organizations. This leads to a development of GCED that no longer strives for the ideals of GCED but becomes a means to an end for the private sector to make money from educational initiatives (Le & Duong 2022).

First, defining GCED is not an easy task, because GCED is not a uniformly defined or static concept. Non-governmental organizations, for example, Oxfam (2015), or international organizations like the United Nations Educational, Scientific and Cultural Organization (UNESCO) have developed their own framework of GCED. They offer Global Citizenship Guides and other kinds of support and instruction for teaching GCED. Over time, GCED has been conceived as a new educational paradigm that goes beyond the mere transmission of knowledge and skills (UNESCO 2013). Moreover, it aims to promote responsibility, honesty, and integrity. As such, GCED is highlighted in Goal 4.7 of the Sustainable Development Goals of the United Nations, which calls on all learners to acquire by 2030:

> "the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development" (United Nations 2023).

From this, it can be derived in the broad sense that GCED contributes to the achievement of gender equality in terms of UN SDG 5 beside issues such as poverty reduction, environmental protection, health, and peace. A definition from UNESCO (2015) calls GCED an educational approach to promote respect and solidarity among learners in order to develop a sense

of belonging to a common humanity. This helps learners to become responsible and active global citizens, who contribute to a more just, inclusive, and peaceful world (Nguyen 2017). Therefore, the three core GCED notions are (i) respect for diversity, (ii) solidarity, and a (iii) shared sense of humanity (APCEIU 2020b).

There have been some large-scale learning assessments that measure the concepts and effects of GCED, for example, in the context of global civic education such as the "International Civic and Citizenship Education Study" (ICCS) or in the context of global competency in the "Programme for International Student Assessment" (PISA). Although examples of GCED can be found throughout the Asia-Pacific region and the notion of GCED is rooted in all cultures in various forms, there have been no studies of local GCED manifestations in Southeast Asia that include GCED parameters and measurements (APCEIU 2019). In 2019, for the first time a large-scale comparative learning assessment system was implemented in the Southeast Asian region that included a GCED measurement framework. The study is called Southeast Asia Primary Learning Metrics (SEA-PLM) and is the first large-scale assessment to focus on Global Citizenship at the primary level in six Southeast Asian countries, including Vietnam (UNICEF & SEAMEO 2020).

SEA-PLM was initiated in 2012 by the Southeast Asian Association of Ministers of Education (SEAMEO) and UNICEF. Aligned on international standards in comparative measurement, SEA-PLM is the first large-scale learning assessment system in the region that generated data and metrics comparing learning and context in three key learning domains (reading, writing, and mathematics) as well as value and engagement in global citizenship (UNICEF & SEAMEO 2020). For this, SEA-PLM achievement scales have been developed that are aligned with student performance on global indicators for literacy and numeracy as defined by United Nations SDG 4 and for global citizenship as defined by SDG 4.1 (UNICEF & SEAMEO 2020).

The organizational structure is managed through a partnership between the Southeast Asian Ministers of Education Organization (SEAMEO) and UNICEF's East Asia and Pacific Regional Office (EAPRO) on the content and administrative level, as well as technical support from the Australian Council for Educational Research (ACER). Each organization then provides support at regional and country level (UNICEF & SEAMEO 2017).

The first round of SEA-PLM was conducted in 2019 and the results of the 2019 survey were published in the "SEA-PLM Main Regional Report" in 2020 (UNICEF & SEAMEO 2020). The survey will be conducted at 4-5 years interval to track progress over time. The study provided information on the learning outcomes of primary school children after fifth grade in six Southeast Asian countries: Cambodia, Lao People's Democratic Republic, Myanmar, Malaysia, the Philippines, and Vietnam. Researchers studied the school program, curriculum and assessment documents and guidelines. Data for 2019 involved a total of five million students in fifth grade and 1,193 schools, representing approximately 30,000 students and more than 150 schools per country (UNICEF & SEAMEO 2020). In addition, key contextual information was collected from students, parents, teachers, and school leaders, which complemented the learning assessment metrics, and was published in the SEA-PLM Secondary Analysis Reports. The SEA-PLM survey was translated into 11 national languages of the participating countries (UNICEF & SEAMEO 2020). SEA-PLM defines GCED as follows:

> "Global citizens appreciate and understand the interconnectedness of all life on the planet. They act and relate to others with this understanding to make the world a more peaceful, just, safe and sustainable place." (UNICEF & SEAMEO 2017: 6)

The report's findings related to GCED are, generally speaking, encouraging and point to promising ways to improve teaching in the field of social studies. Of the six participating countries, Vietnam performed best in numeracy and literacy. However, regarding GCED outcomes, it showed average results, as GCED results varied in all participating countries. Nevertheless, children show particular interest in and positive attitudes on issues affecting their communities, for example, environmental issues, and social cohesion. In particular, children are interested in topics that affect them such as climate change and conflict resolution with classmates (SEA-PLM 2019a). However, improvement could come from schools providing more opportunities for children to learn and practice attitudes and values in terms of gender equality as this is one pillar of the global citizenship framework that can be improved. This could be done, according to the SEA-PLM Main Regional Report (UNICEF & SEAMEO 2020), by speaking in organized debates or dis-

cussing global issues. Another area relates to collective identity, as less than 60% of grade five children identified themselves as Asian and therefore lacked a regional sense of belonging (UNICEF & SEAMEO 2020). Most teachers indicated that they were prepared for, and felt confident, teaching almost all topics listed in the GCED questionnaire (SEA-PLM 2019b). However, the majority of teachers did not feel explicitly well trained to teach specific topics of GCED, such as global values and attitudes or activities (Guo 2014). This means, for example, that teachers were less prepared to teach topics such as globalization (34% 'very well') and inequality (42% 'very well') (UNICEF & SEAMEO 2020). As written in the Main Regional Report, equality policies and programs can be put in place that would enable a significant proportion of children to improve their learning performance and reach higher levels of achievement. The report's data shows that in all countries, children who had attended preschool for at least one year consistently performed better than children who had not. Higher parental engagement also contributes to better learning outcomes, which can be linked to better reading, writing, and mathematics performance among children (UNICEF & SEAMEO 2017). Essentially, the SEA-PLM 2019 survey helps provide information on how to better frame regional or global concepts in primary curricula. At the same time, the challenge is to maintain national citizenship values and cultural beliefs as core objectives as well as how to provide all children with equal opportunities to develop values, behaviors, and skills with regard to GCED at primary level (UNICEF & SEAMEO 2020).

In summary, the SEA-PLM has already done much to support improvements in education in the Southeast Asian region. It is commendable that it was the first large scale assessment of learning metrics in the region to analyze GCED in addition to the classic areas of numeracy and literacy. Both the results from the SEA-PLM 2019 main survey and the supplementary secondary analysis provide findings about the learning outcomes of primary children. As well as GCED the findings from the questionnaires provide a good insight into the state of GCED skills and competencies of primary children in the six participating Southeast Asian countries. In particular, SEA-PLM 2019 proposed factors influencing children's learning from a comparative perspective in the Southeast Asian region. This is an important starting point for reducing inequalities in basic education in Southeast Asian countries like Vietnam. To provide further support in reducing learning inequalities, a systematic approach is

needed to address the problem. A critical starting point is to address understanding of the context and factors that influence student learning, which will hopefully be further developed in the upcoming SEA-PLM survey to be conducted in 2023, with results expected in 2024.

As for the actual application of GCED in Vietnam, much of how discourses around GCED have emerged in Vietnam is related to the country's history. Thus, to understand the meaning and practice of current global citizenship in Vietnam, one must look at the country and its development. To date, there is little literature on GCED in Vietnam. One case study of GCED in a Vietnamese school was conducted by the Asia-Pacific Centre of Education for International Understanding (APCEIU 2020a) and published with other case studies of GCED in Asia in the publication titled "GCED Learning and Assessment: An Analysis of Four Case Studies in Asia". Other key research articles in this area are by authors Dr. Bich-Hang Duong and Hang M. Le (2022) entitled "Global citizenship education in Vietnam: exploring contested terrains for a new ideal citizen" and Nguyen Thi Viet Ha (2021) "Giáo dục công dân toàn cầu trong môn Đạo đức cấp Tiểu học (Chương trình Giáo dục phổ thông 2018)" (own English translation: Global Citizenship Education in Ethics Primary Education (New Curriculum 2018)). According to the two groups of authors, GCED was explicitly introduced as a concept when the New Curriculum was published in 2018, which provides the framework for the country's official education policy. From this, the Vietnamese government's long-term goals can be seen. In the era of globalization and the fourth industrial revolution, Vietnam is striving for economic integration and increasing global competitiveness in today's world. Economically, Vietnam has achieved outstanding development. With the economic reforms Đổi mới ("renovation" or "restoration") in 1986, Vietnam has transitioned from a centralized economy to a socialist-oriented market economy (Duong 2022). Today, Vietnam is a mixed socialist-oriented market economy and its transition from a centrally planned to a market economy has transformed the country from one of the poorest countries in the world to a middle-income country in one generation (London 2022). With economic growth averaging more than six percent over the past decade, Vietnam has now achieved middle-income country status and has become one of the most dynamic emerging economies in the Southeast Asian region (GIZ 2022). Furthermore, Vietnam is ambitious in its development efforts and aims to become a

high-income country by 2045 (OECD 2022). According to World Bank estimates, however, Vietnam must dramatically improve its performance in policy implementation, especially in the areas of finance, environment, digital transformation, poverty and social protection, and infrastructure in order to meet these challenges (World Bank 2022). To achieve this, the New Curriculum set out by the Vietnamese government, aims to improve the quality of human resources in Vietnam, so that the Vietnamese can become "citizens of the twenty-first century" (Le & Duong 2022: 10). For this, the ideal global citizen has a good attitude towards protecting natural resources and the environment, and leading society towards sustainable development, social progress, transparency, justice and civilization. According to Dr. Bich-Hang Duong and Hang M. Le, GCED in Vietnam has distinct Vietnamese traits, so the ideal global citizen can be described by four typical characteristics:

1. bản lĩnh (boldness)

2. kết nối (connectedness)

3. cá tính (individuality)

4. yêu thương (love)

The Vietnamese Ministry of Education and Training (MoET) described the ideal Vietnamese global citizen as someone who cultivates characteristics and skills such as activity, creativity, and adaptability to work effectively in an international environment (Le & Duong 2022). In this sense, GCED in Vietnamese education policy represents a top-down demand by the government. Moreover, the discourses around GCED uphold values that promote "social coherence," "national solidarity," and "collective dedication" to national development (Le & Duong 2022: 11). In addition to educating a patriotic Vietnamese culture, the government aims to cultivate universal human values such as respect for differences, reconciliation, harmony, and cooperation. As a result, citizens would embrace their national identity but also develop an understanding of the world. It can be concluded that Vietnamese discourses on Global Citizenship contain patriotic nationalist elements. This idea of patriotism is rooted in the nation-state itself (Nguyen Thi 2021). According to Hang M. Le and Bich-Hang Duong (2022), this approach is a distinctive Vietnamese feature of Global Citizenship Education, which can be called

Vietnamese Global Citizenship. It means being a patriotic Vietnamese while cultivating universal human values such as respect for differences, reconciliation, harmony, and cooperation (Le & Duong 2022). In this way, Vietnamese citizens will "help promote the beauty and strengths of Vietnam to the world" (Le & Duong 2022: 11).

In the process of Vietnamese pursuit of GCED for nationalistic reasons, there are some challenges to GCED implementation in a Vietnamese context. So far, the concept has made few inroads into public education. GCED remains stuck at the discursive-political level in the public education system (Le & Duong 2022). This is partly due to the highly centralized bureaucracy that prevents rapid adoption. As a result, implementation of GCED in the public sector and through non-profit initiatives remains low (Nguyen Thi 2021).

While the public sector has stagnated, the private sector is taking advantage of this slowdown. Hence, many initiatives and programs related to GCED in Vietnam have emerged in the private sector. These range from English language centres to private schools (from kindergarten to college), study abroad advisors, private tutoring institutes, youth-centred organizations, etc. Programs in the private sector typically emphasize life skills that range from activities and team projects such as presentations and debates to cooking competitions, theatre, programming classes, Model United Nations competitions, and field trips (Le & Duong 2022). Coordinators also include expat teachers, or international volunteers, who help students improve their English and acquire intercultural skills. The curriculum is often based on project-based learning, oral presentations, and debates on global issues. In particular, topics such as climate change and environmental responsibility are popular and are designed to introduce Vietnamese students to global thinking. There is also a focus on improving individual skills, self-management, and personal responsibility (Le & Duong 2022). For this, private GCE institutions organize a variety of activities through which students are expected to develop individual skills that they achieve through English lessons and life skills coaching as well as other programs such as international camps, science days, art days, talk shows and workshops. However, global issues such as environmental protection or sustainable development are often not addressed, which creates a power struggle between those who suffer from the continued exploitation of natural resources and those who benefit from it (Le & Duong 2022). Reflection on the fact that

there is a connection to economic development, industrialization, urbanization, etc., wherein certain actors are held accountable, is missing (Le & Duong 2022). Many of these educational models are guided by the 6 Cs of the Global Competencies model: critical thinking and problem solving, collaboration, creativity, communication, citizenship, and character. While they all have one thing in common – the goal of teaching students GCED skills and competencies from their perspective, such as through project-based learning, oral presentations, and debates about global issues – there is little coherence in how global citizenship is conceptualized in the private sector (Le & Duong 2022). It varies widely from player to player, and the different uses of the term "global citizenship" depend on how it is defined. This development in the private sector has led to it proving to be a lucrative market for private education players and GCED has thus become a powerful marketing tool for private sector players (Le & Duong 2022).

Critics have therefore criticized the rapid expansion of GCED in Vietnam as an instrumentalist approach to education. Especially since the private sector has recognized the popularity of service-learning projects as a key to social change. Therefore, they often offer programs to improve individual skills, self-management, and personal responsibility (Le & Duong 2022). "Investing in the self" (Le & Duong 2022: 11) has become a trend in the context of Vietnamese GCED. However, this self-investment has often been criticized in the literature as a neoliberal approach to education and training in Vietnam. In order to equip the younger generation with the appropriate GCED skills, such as public speaking, teamwork, critical thinking, problem solving, and other skills commonly referred to as "21st century skills", many parents invest in their children by, for instance, paying for private English classes or bilingual schools, which are among the most popular trends in Vietnam. Over time, this has led to hidden social competition, and people are trying to stay ahead of each other in this competition that has taken hold in neoliberal Vietnam (Le & Duong 2022).

5.2 The Tonkin Free School

In 1907, a school called "Đông Kinh Nghĩa Thục" (Tonkin Free School) was founded in Hanoi, thus initiating an important movement in Viet-

namese history. At that time, Vietnam was colonized by the French. Two important intellectuals of the time, Phan Bội Châu (1867-1940) and Phan Châu Trinh (1872-1926), were central figures in the establishment of the school and were 'persons of inspiration' in its founding (Huy 2021). Teaching at the school was intended to be revolutionized and the school promoted values such as critical thinking, freedom of thought, and freedom of expression. These efforts are similar to today's progressive thinking, which aligns with the United Nations SDGs, which advocate sustainable peace and prosperity to create a better world for all. In addition, the medium of instruction at Tonkin Free School was "Quốc Ngữ" – the Romanized Vietnamese in contrast to Sino-Vietnamese, which is based on Chinese characters, and which had been a more common medium of instruction at Vietnamese schools until then. Furthermore, women were allowed in the Tonkin School and were allowed there both as teachers and students. Hence, at the Tonkin Free School, women were included in intellectual conversations, and women's issues were openly debated. This represented progressive efforts in terms of gender equality similar to the UN SDG 5 in the present day. Hence, the Tonkin Free School expressed early ideals for a more just world, just as we aspire to today in the context of the United Nations SDGs and its GCED initiative. The overall goal was to make education accessible and free to all in order to strengthen the nation. Today, the movement of the school is considered to be the beginning of Vietnamese enlightenment as the notion of Vietnamese nationalism was discussed for the first time in history (Huy 2021). Until then, the Vietnamese did not see themselves as one nation. Since previously, Vietnam had had a king, they saw themselves as the subjects of a king. However, things quickly took a dramatic turn, and after nine months of operation, the school was closed by the French as it was suspected of being an anti-colonial plot. Since then, the Tonkin Free School has been considered an important icon of liberal education in the 20th century. This represents an important milestone in Vietnamese history and suggests relevance for later social developments and developments in the educational sector such as the introduction of Liberal Arts Education in Vietnam (Huy 2021), which is similar to the UN's concept of GCED.

6. Conclusion

In summary, societal changes have a crucial impact on all members in society, thus underlining the relevance of gender equality in the sense of the UN SDG 5. This makes it even more important to invest in education, as defined by UN SDG 4, and for educational initiatives to help promote gender equality in countries of the Global South. In the long term, this will hopefully help to ensure that all people are respected, develop a sense of belonging to a common humanity, and learners become responsible and active global citizens in line with the spirit of the UN GCED (UNESCO 2015). However, the literature review suggests that certain aspects of culture and traditions are still negatively impacting gender equality initiatives in Vietnam, especially within the education system. Although supported by laws and policies, women still suffer under outdated gender norms and prejudices and are placed in the difficult position of balancing and achieving the high standard of too many responsibilities, ranging from their traditional roles of housekeepers and childcare – rooted in Confucianism and Feudal Ideology – to their expanding modern roles as working women and members of the society, while not receiving sufficient support from a more equal distribution of familial tasks. This paper's review of the general education program focusing on Literature and Civic Education demonstrates the limited representation of women and the lack of acknowledgment of the shortcomings of the current state of gender equality. The way women and gender roles are presented to students through certain lessons is sometimes guilty of displaying undesirable gender stereotypes which hinder new generations' perspectives for growth. This highlights the role of culture, values, and curriculum in promoting gender inequality.

The analysis of the literature on Global Citizenship Education (GCED) in Vietnam shows that initiatives to promote gender roles and gender equality are mostly designed by the private sector. As a result, more and more players from the private sector are developing educational programs that serve their own values and profit. This is mainly due to the country's development as an emerging economy with high economic ambitions, where private education is often seen as a means to an end. In this context, the demand for private educational programs demonstrates key characteristics of the present situation of Vietnamese society and its social, economic, and cultural developments. However, it also

shows us the lack of support for social issues. Formal education and the public sector must therefore continue to advance these issues and recognize their role in improving both the economic and social development of a country. Furthermore, the example of Vietnam teaches us that the development of cultural norms and gender equality must be the shared concern and responsibility of all players in the country, whether in the public or private sector or in civil society. GCED therefore has a great responsibility in its mission to educate humanity and broaden its understanding of the interconnections between citizenship, democracy, participation, identity, inter- and multiculturalism, global issues, and sustainable development (Akkari & Maleq 2020). At the same time, GCED faces many challenges, such as a broader discussion of its privatization and values, which stem from a neo-liberal, Western-oriented perspective that has been widely criticized in society and academia. However, there is also much to learn from the local perspective that Vietnamese culture offers us. Thus, we see from the Tonkin Free School, that one does not always need outside influences such as GCED to initiate social change. With the Tonkin Free School, Vietnam already had its own efforts for emancipation and progressive change, as we understand them today, in a similar way to the sense of gender equality by the UN. Therefore, historical developments such as the Tonkin Free School should be included in this discourse and future gender equality developments must find a way to provide both local and global perspectives to learners. This, in turn, is a way for educators, education stakeholders, and policymakers to be responsible, active, and respectful global citizens themselves, working to improve gender equality in Vietnam.

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Gender Inequality in Vietnam and Its Driving Factors

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1. Introduction

In recent years gender equality has gained importance in many countries all over the world. It is even one of the 17 Sustainable Development Goals (SDGs) implemented by the United Nations. Goal 5 states that Gender Equality and women's empowerment is a pre-condition for achieving the Sustainable Development Goal and therefore cannot be neglected. Through being part of the 17 SDGs, Gender Equality is being paid even more attention than was the case before (United Nations 2022). A distinct example of how gender equality can be reached is through the implementation of laws which support females to be selected for leadership positions. Associated with reducing gender inequality is the call to close the gender wage gap. Narrowing down the inequalities between men and women, as well as increasing women's participation in the workforce, might have a positive impact on economic growth across countries (Lagarde & Ostry 2018). Gender inequality in Vietnam is caused by many factors affecting all aspects of Vietnamese life. It is the result of many direct and indirect factors, such as sectoral segregation, unequal share of paid and unpaid work, the phenomenon of the sticky floor and the glass ceiling, as well as pay discrimination. In Southeast Asia, gender inequality is also the result of factors such as history, philosophical values, religions, culture, psychological traits, inheritance practices, male preference, education, and political reasons.

This paper focuses on the driving factors of gender inequality in Vietnam and answers the following questions: What are the driving factors of gender inequality in Vietnam? How severe is this inequality? What is the Vietnamese government doing to close the gap? What can be done to change the situation? In addition to reviewing theoretical studies on gender inequality and the gender wage gap, this paper conducts a series of regression analyses of three waves of data from the Vietnam Household Living Standards Survey (VHLSS), dating from 2012 to 2016. The purposes of the regressions are to estimate the gender income gap in Vietnam over the above-mentioned period, as well as to test how factors such as marital status and level of educational attainment influence the wage gap. The focus has been narrowed to individuals who were of working age, which is defined as adults between the ages of 18 and 60.

The paper is structured as follows: The following section (section two) provides theoretical background knowledge while section three introduces the methodology. Section four explains the different effects of various important variables. Section five will provide a discussion of the findings and the last section sums up the conclusion.

2. Literature Review on Gender Inequality in Vietnam

Gender inequality in Southeast Asia and its driving factors are the subject of a large part of the existing literature. Gender inequalities are rooted in the culture and history of societies, as exemplified by Vietnam, where elements of the influence of various philosophical and ideological systems are visible (Zaballero 2015). Over the years, the image and role of women in this country have changed depending on the circumstances.

The literature review is aimed at providing an overview of some driving factors of gender inequality, namely the aspects of change of gender roles, psychological traits, educational gap, sticky floor and glass ceiling and retirement age. Another aim is to present and discuss policies towards reducing inequality.

2.1 The Change of Gender Roles

In ancient times, the matriarchal system developed in the area of contemporary Vietnam. At that time, the role of a woman was special – she was seen as a mother, leader, and fighter. According to Vietnamese myth, the world and everything in it was created by women. Goddesses also created humans and taught them how to cultivate the land. This led to the birth of the cult of mothers who give life and raise children. This view, leading to the comparison of a woman to a goddess, placed the woman over the man in the family. On the other hand, there was an image of a woman as a warrior. This was due to legends about women fighting in anti-Chinese uprisings. The most famous are the sisters Trung Trac and Trung Nhi, who led the army to victory, thanks to which, in 40 CE, the Vietnamese (briefly) regained independence after 200 years of enslavement (Huong 2009). There are many more brave women in leadership positions in the history of Vietnam. They also appeared after the introduction of patriarchal Confucianism.

Confucianism was adopted in Vietnam in the 11th century as a result of strong Chinese influence. It brought patriarchy and a new, completely different image of a woman. One of the fundamental Confucian values is harmony in society, which was to be ensured by hierarchy. In the Confucian hierarchy, the woman was placed lower than the man. Then the role of a woman was reduced to mother, wife, and daughter, who were dependent on their father, husband, brother and son. The ideal woman must obey authorities, put the needs of others over her own and avoid drawing attention to herself. This often brought discrimination against women on the basis of gender, which prevented them from self-developing and took away their right to decide, especially about their own lives. Due to the fact that a woman was supposed to take care of the family, she had to practise the skills for everyday life starting from a young age. While girls stayed at home supporting their mothers and learning the required skills, boys went to school. Parents preferred to invest in their sons' education because they were responsible for financial support of the family. This system also persisted during the times of French colonialism. At that time, most women were illiterate, access to work and participation in power were also restricted for them (Huong 2009).

Another important system which changed the role of women is socialism. Ho Chi Minh emphasised the role of women in society. He

believed that the new state could not function without the involvement of women and called for the rejection of Confucianism, and its discriminating values against women. Therefore, in the constitution of independent Vietnam of 1946, it was established that women and men should have equal rights in every aspect of life. In the 1960s, femininity did not matter because it promoted the image of women as exemplary citizens engaged in work for the state (Huong 2009). In contrast, during the war, women were encouraged to assume the role of men – Vietnamese women were heads of families, and worked in administration, agriculture and industry (Goodkind 1995).

The next turn came with the doi moi reforms enacted in 1986. The reforms led to the abandonment of traditional communism in favour of opening up the economy to the world and new trade partners. As time passed, Western models began to appear in Vietnam, which also changed the perception of the role of women (Huong 2009). Now women have access to education, which enables them to become more independent and make their own decisions. The family is still important, but the woman is not limited to the roles of wife, mother and daughter – now she has more freedom of action and does not have to abandon her ambitions for the good of the family and society.

2.2 Psychological Traits

The image of a man and a woman created over centuries, as described in the previous paragraph, is still a strongly influencing factor in the fight against gender inequality – women are considered gentle and caring, and men are considered strong and decisive. In managerial positions, male characteristics – or rather connoted with a male – are usually desired. Due to the image of a woman, it is more difficult for her to obtain such a position, because she must prove that she is able to equal a man. The role of psychological traits cannot be neglected (Bear & Babcock 2017). A difference between men and women can be seen in their willingness to volunteer for tasks which are not closely related to a promotion or financial incentive. Women are much more likely to accept and conduct these tasks than men are. In addition, the two factors agreeableness and neuroticism also have an influence on the wage difference. According to Braakmann (2009) women have a higher level of agreeableness, which

means they have a higher ability to get along well with other individuals. Furthermore, agreeableness also includes cooperation and compromise being attempted rather than conflict. It can affect the negotiation process and its result. Women also have higher levels of neuroticism, which means lower emotional stability. Both above factors bring disadvantages for women in terms of wages and employment (ibid.).

A similar approach is presented by Bogdan Wojciszke (2012), who cites data showing that women exhibit greater communication skills and, more often than men, act as experts moderating social conflicts. Men, on the contrary, show a greater tendency to compete and take risks.

An important role is also played by stereotypes referring to the role of the delicate woman as a caretaker of the home and a strong man who takes care of the material existence of the family. These stereotypes are associated with society's expectations, which influences the choice of professions for men and women. Young people choose professions dedicated to their gender rather than being based on their skills. Therefore, women are much more likely than men to choose care-related professions (Kilbom et al. 1998). However, these types of job are usually lower paid and involve a lot of mental and emotional burden (ibid.).

2.3 Educational Gap

All children should have equal access to opportunities for education (Tran & Yang 2022). The education gap measures how equally this access is distributed. In recent years, the educational gap is narrowing. However, there is still an issue regarding what field of education girls and boys are more likely to choose. Girls are more likely to choose philosophical studies where their verbal ability is improved, and boys are more willing to choose the STEM (Science, Technology, Engineering and Mathematics) field. UNESCO (2017) data shows that only 35 percent of the total number of female students chose to study in the fields of science, technology, engineering, and mathematics and just 9 percent of the mentioned students focus on technology, information, and communication. Gender stereotypes formed by society have contributed greatly to a false perception of the skills of women and men. While women's ability for STEM jobs is not recognized, males are considered as less suitable for jobs in education, arts, and service (Phuoc 2021). However, espe-

cially mathematical fields can provide students with a higher future income (Ceci et al. 2014). Dercon and Singh (2013) conducted a study of the Young Lives data from Ethiopia, India, Peru, and Vietnam, which results in the rather surprising results that boys are being outperformed by girls and, in addition, the parents have a pro-girl bias with respect to their education aspirations.

2.4 Sticky Floor and Glass Ceiling

The phenomenon of the glass ceiling (or sticky floor) is a barrier to advancement in a profession. Glass ceiling can be measured as the gender wage gap at the upper level of wage distribution. It describes the phenomenon when women are in the top of middle management, but once they have reached that point there is an invisible barrier which prevents them from further advancing to top management, in other words they get stuck in their last position. However, the sticky floor is at the lower end of wage distribution. Mainly women who are working in low and medium ranked jobs are kept at the bottom of the job scale. In both of the above areas, women face greater discrimination than in other quantiles (Ciminelli et al. 2021).

Both glass ceiling and sticky floor have a psychological background and are related to the common belief that men are more talented than women. Even children struggle with the glass ceiling. When a man (or boy) performs well, it is interpreted as intelligence and failure is due to bad luck. On the other hand, the success of a woman (or girl) is considered as luck, and her failure is due to limited possibilities caused by biological sex. This belief leads to women being constantly undervalued (Kilbom et al. 1998).

Tran (2018) analyses the two scenarios of the glass ceiling and sticky floor and their presence in the Vietnamese labour market. Both terms describe discriminatory barriers for women to further advance or receive a pay rise once they have reached a certain level.

According to Tran (2018), the phenomenon of sticky floor and glass ceiling occur in both the private and the public sectors. The sticky floor is only visible in the private sector since the wages are not regulated by law and the market environment is more competitive. Lower paid jobs will be often taken by female employees. The glass ceiling, however, is identi-

fiable in the state sector where clear pay scales are defined for employees in any position. However, females have trouble getting the same promotion as men because they have to care for children and elderly as well as being responsible for other household chores. Therefore, they are seen as not as competitive as their male counterparts.

2.5 Retirement Age

In January 2021 the plan of the Vietnamese government to gradually increase the retirement age was officially introduced. The retirement age for men was 60 and for women it was 55. With the new plan the retirement age for men will increase annually by three months up to age 62 which will be finally reached in the year 2028. The retirement age for women was 55 and according to the new regulation it will increase annually by 4 months until age 60, which will be reached by 2035. With the measure that the annual retirement age for women increases by 4 months while it increases by 3 months for men, the gender wage gap is intended to be reduced. In the end, the retirement age of the two sexes will only be separated by 2 years instead of 5 years as was the case before the regulation. Not just men but also women are given the chance to pursue their career and have the opportunity to work longer and earn more. Therefore, the gender wage gap, especially in the age cohort 55-59 (Fig.1), will be reduced, since women will be allowed to participate actively in the labour market in their normal jobs. Without this law, after the official retirement age, women and men can just work in jobs where they are not officially registered, and the pay will be low (Nguyen et al. 2021).

Figure 1: Gender Wage Gap in Different Age Groups

Note: 95% confidence interval is shown by bars
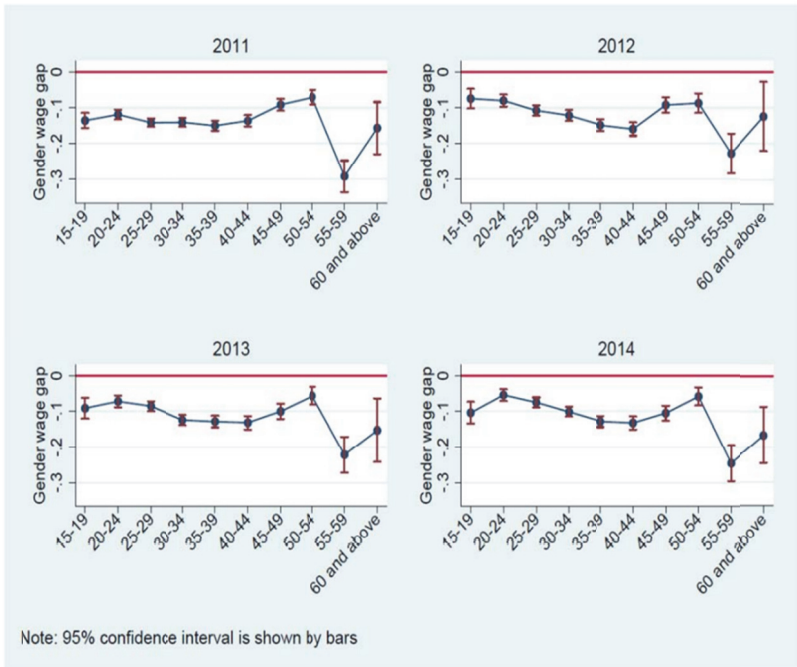
Source: Chowdhury et al. (2018).

2.6 Gender Wage Gap

The graph below shows the average monthly salary for paid workers and employees in Vietnam from the 1st quarter in 2019 to the 4th quarter in 2020. The darker blue area shows the salary for males while the lighter blue area shows the monthly salary for females. In all quarters men have a higher monthly salary than females. The last quarter of 2020 has a gap of 0.64 – the lowest gap in the period from Q1 2019 to Q3 2020.

Figure 2: Average Monthly Salary 2019-2020
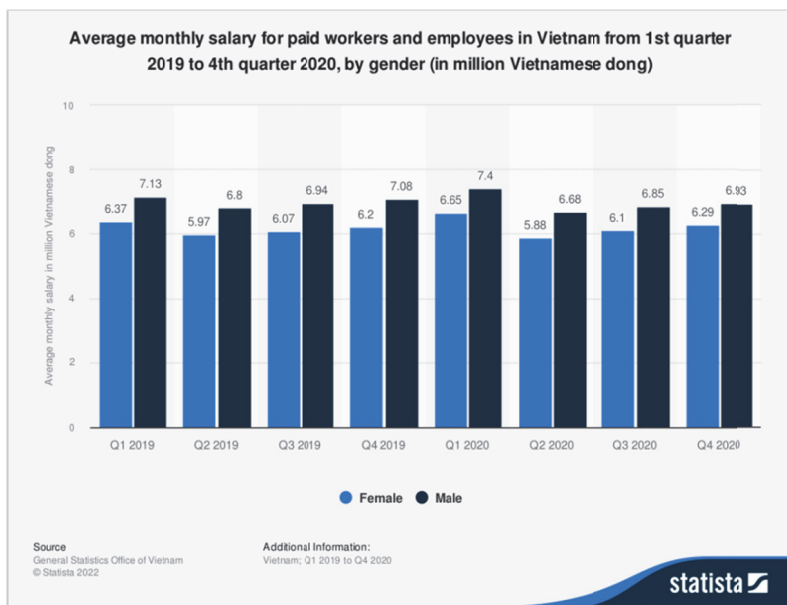
Source: Statista (2022).

Empirical research consistently found a gender wage gap in Vietnam throughout the last three decades. Using the Vietnam Living Standards Survey (VLSS) from 1992 to 1993 and from 1997 to 1998 and the decomposition method by Juhn et al. (1991 (as cited by Liu 2004a)), Liu (2004a) found that women in Vietnam earned only as much as 77% to 82% of the amount that men earned. Most of this gap cannot be explained by observable differences, hinting at discrimination against female workers. Liu (2004b) examined the VLSS 1997/1998 data and found that gender income inequality tends to be more severe in the private sector than in the state sector, but the gender wage gap also exists in both sectors.

In addition to the VLSS data from 1992 to 1993 and from 1997 to 1998, Pham and Reilly (2007) analyse the Vietnam Household Living Standards Survey (VHLSS) data in 2002 to investigate how the decline in the government sector in Vietnam at the end of the 1990s affected gender

income inequality. The findings demonstrate a reduction in the amount that men earn more than comparable female counterparts, from 31% in 1993 to roughly 19% in both 1998 and 2002.

More recently, Vu and Yamada (2018) examined the VHLSS data for the years 2002, 2006, 2010 and 2014 to explore the empirical driving factors of changes in the gender wage gap. The results indicate that gender income inequality over this period is primarily a consequence of differences in human capital factors such as age and levels of educational attainment between the two gender groups. Additionally, structural changes in the economy, most importantly the increase in size of the private sector and the disappearance of state-owned firms, have contributed to enhancing market competition, creating new job opportunities, and have resulted in reducing gender inequality in terms of earnings. Besides this, the findings suggest that there were no significant and consistent glass ceiling or sticky floor effects in the Vietnamese labour market over this period.

However, using all seven VHLSS data sets from 2004 to 2016, Vo et al. (2019) found hints of both the glass ceiling and sticky floor effects. On average, men earned an annual income approximately 25% higher than the amount earned by comparable women. More specifically, this figure started at 21.6% in 2004, grew steadily over the years and peaked at 31% in 2012, then declined to 26.1% in 2016.

Another prominent empirical study on the gender wage gap in Vietnam is conducted by Obermann et al. (2020), in which two VHLSS data sets – 2010 and 2016 – are analysed. The findings imply that female workers earned approximately 28.20% less than comparable males in 2010. Nevertheless, this number fell to 14.29% in 2016, suggesting an improvement in gender income equality.

2.7 Policies Regarding Gender Equality

As it is presented in paragraph "The Change of Gender Roles" the Socialist Republic of Vietnam is a state which has basically cared about women's rights from the beginning of its existence. Big changes were brought by Ho Chi Minh's way of thinking. He saw great potential in the work of women and believed that granting them rights and equality

would contribute to the significant development of Vietnam. It can be seen in numerous legal acts (Huong 2009, Goodkind 1995).

The first Constitution of the Democratic Republic of Vietnam of 1946 included a provision according to which women were equal to men "in all respects". The issue of equality was developed in the Constitution of 1959, where the rights and obligations of women were clarified: women and men were given equal rights in political, cultural, social, and family activities. Also, women should be paid the same as men for the same work. The possibility of taking paid leave in the period before and after childbirth was also introduced. The state was also to ensure the develop-ment of maternity homes, nurseries, and kindergartens. All those rights were repeated in the Constitution of 1980, where a provision was added about the state supporting women in improving their qualifications in many aspects of life and promoting the role of women in society. The creation of new social welfare facilities was also included, relieving women of childcare (Hien & Tuan 2022). These rights were maintained in subsequent Constitutions.

One of the most important documents dealing with the issue of equal-ity in Vietnam is the Law on Gender Equality, passed in 2006. According to this law, gender equality means a situation when men and women have equal roles, conditions, and opportunities to develop their skills. Both men and women should contribute to the development of society and be able to enjoy the effects of this development (Hien & Tuan 2022). According to the Law on Gender Equality of 2006, men and women are equal in marriage, family, and society; have equal rights and obligations regarding joint property; husband and wife are equal in family planning decisions; the family has a duty to treat sons and daughters equally in education, entertainment and work (National Assembly 2006).

In addition to the Constitution of Vietnam and the Law on Gender Equality from 2006, there are many other documents dealing with women's rights. The Law on Domestic Violence Prevention (National Assembly 2007) prioritises the safety of women (children, the elderly and the disabled are in the same group). According to the Law on Marriage and Family (National Assembly 2014), housework shall be regarded as income-generating labour, and husband and wife be required to share family responsibilities. According to Article 17: "Husband and wife are equal, having equal rights and obligations in all family affairs and in the performance of citizens' rights and obligations […]" (National Assembly

2014). The same law protects young mothers by making it impossible for a man to request a divorce when his wife is pregnant, gives birth or is nursing a child under 12 months. The next important document is the Law on Elections of Deputies (National Assembly 2015), according to which, at least 35% of total official National Assembly candidates must be women. The same goes for People's Council candidates (National Assembly 2014).

In addition, in connection with the Sustainable Development Goals, the Vietnamese government introduced the National Strategy on Gender Equality for 2011-2020. The goals of the strategy include fighting female illiteracy, increasing the proportion of women in business, and providing vocational and technical training to women in rural areas (Nguyen 2021). Though not all the goals have been fully achieved, the Vietnamese government introduced the National Strategy on Gender Equality 2021-2030. The main goals are: increasing the rate of female directors or business owners; reducing the average time women spend doing unpaid housework; guaranteeing access to basic support services for women suffering from domestic and gender-based violence; and reducing the maternal mortality rate; introducing gender equality at schools and pedagogical universities (Nguyen 2021).

Vietnam has created a solid legal framework for women, thus fulfilling one of the Sustainable Development Goals. However, these rules are not enforced consistently enough. As Tran (2019) notes, Vietnamese women still experience discrimination in recruitment, promotion and pay. Also, there is no research about men's involvement in household chores or childcare.

3. Methodology

3.1 Data

The data sets to be examined are from three waves of the Vietnam Household Living Standards Survey (VHLSS) and are retrieved from the website of Niên Giám Thống Kê (2022). Each wave of data is collected for each year 2012, 2014 and 2016. The survey is conducted throughout Vietnam every two years by the General Statistics Office, with technical support from the World Bank (General Statistics Office 2018).

The survey collects data including demographic information as well as information on employment, property, healthcare and schooling of individuals, households, and communities across the country. This paper concentrates on the data on an individual level.

3.2 Variables

3.2.1 Dependent Variable

The dependent variable is the natural log function of average real hourly wages over the year of the survey. This is a continuous variable and will appear in result tables as "Ln(Real Hourly Wages)". Hourly wages (in thousand Vietnamese Dongs) are calculated by dividing total wages over the 12 months preceding the survey by the total number of working hours in those 12 months. To adjust for inflation, wages are deflated using the Consumer Price Index of Vietnam from the Federal Reserve Bank of St. Louis (IMF 2022) with 2010 as the base year.

3.2.2 Explanatory Variables

The regressors include 5 categorical variables and 6 continuous variables. The categorical variables, or dummies, are those representing the gender, marital status, ethnicity of the individual, the level of urbanisation in their city, and the year they were interviewed for the VHLSS. The continuous variables contain information about each respondent's age, age squared, family size, the amount of time spent at work, level of education and potential experience. More detailed description of each independent variable are as follows:

3.2.3 Categorical Independent Variables

First, the binary variable representing the participant's gender, called "Female", will take on the value of 1 for females and 0 for males.

Second, the variable of marital status is named "Married", which equals 1 if the individual is married, and 0 if they are single, widowed or divorced.

The next binary variable – "Urban" – indicates the level of urbanisation and is defined as 1 for urban areas and 0 otherwise.

Similarly, the ethnicity of the participant is captured by the "Ethnic minority" dummy, which equals 0 if the person is one of the Kinh people, who are the majority of the Vietnamese population, and 1 if the individual belongs to one of the other ethnic groups.

The year in which the interview is conducted for the observation, denoted "Year", is included in order to control for nation-wide variations across time.

By default, the lowest value that a categorical variable can take will be used as the base level by the analytical software Stata. This means that for the binary dummies that can only have the values 1 or 0, then 0 shall be the base level and the results will show the coefficients for the category of 1 as compared to 0. For instance, in case of regressing income on gender, the coefficients will indicate how much the income of group 1 – in this case female workers – earns in comparison to group 0 – in this case male workers. Similarly, for the case of the year variable, 2012 is the lowest value and will be the base year. Therefore, the results will show how much the income levels in 2014 and 2016 tend to be higher or lower than in 2012.

3.2.4 Continuous Independent Variables

Among the continuous regressors, age and family size come directly from the VHLSS data.

Then, "Age squared" is the quadratic function of age, which captures the marginal effects of age on earnings.

Next, the number of hours spent working over the 12 months preceding the survey – "Work hours in the year" is the result of multiplying the respondent's average number of work hours per day with their number of working days in those 12 months.

The next continuous predictor, "Years of schooling", is the highest completed grade in grade school for the respondents with no reported higher education. For those who complete the 12 years of school and proceed to higher education, the typical number of years needed for their degrees as defined by the Vietnamese Department of Formal Training (2020) shall be added to 12. For instance, the "Years of schooling" for a

participant holding a PhD is 22, which is the result of adding 12 school years, 4 undergraduate years, 2 years to complete a Master's degree to 4 years of a typical doctorate programme.

Finally, "Potential experience" is calculated as "Age" minus "Years of schooling" minus 6. This variable has been used by Oaxaca (1973) also to estimate the gender wage gap. Since there is no data on actual working experience in the VHLSS data set, this is probably one of the most reasonable estimation techniques for this variable, since most people start going to school at the age of 6 and start working shortly after finishing their education.

3.3 Descriptive Statistics

After merging data from relevant questionnaires of the survey, removing duplicates and appending data from the 3 years, the appended data set is filtered to keep only observations from 18 to 60 years of age who report their earnings over 12 months preceding the interview.

The final sample consists of 23,292 observations, among which 41.11% are female. Table 1 below summarises the mean and standard deviation of each variable for females, males and the pooled sample.

As can be noticed from the descriptive statistics, between 2012 and 2016 in Vietnam women received approximately 1,500 Vietnamese Dong per hour less than men on average (Table 1).

Table 1: Descriptive Statistics

Variable	Sample				Female		Male	
	Mean	Std. dev.	Min	Max	Mean	Std. dev.	Mean	Std. dev.
Female	0.4111	0.4920	0	1	1	0	0	0
Married	0.7415	0.4378	0	1	0.7446	0.4361	0.7393	0.4390
Urban	0.3993	0.4898	0	1	0.4282	0.4948	0.3792	0.4852
Ethnic minority	0.1041	0.3054	0	1	0.0964	0.2951	0.1095	0.3123
Age	35.9067	10.6688	18	60	35.0016	10.2671	36.5386	10.8964
Age squared	1403.1070	810.6973	324	3600	1330.5116	768.9709	1453.7898	834.8932
Work hours in the year	1971.6800	674.2473	30	7920	1952.9593	689.8240	1984.7497	662.8674
Family size	4.3690	1.5166	1	13	4.3759	1.5483	4.3641	1.4942
Years of schooling	9.8875	4.2718	0	22	10.2045	4.3946	9.6662	4.1699
Potential experience	20.0192	11.8487	1	54	18.7971	11.8503	20.8723	11.7731
Real hourly wages	16.8849	30.2052	0.3134	3736.9470	16.0015	41.9430	17.5016	17.8965

Source: Own table.

3.4 Regression Models

All analytical models in this study are based on the Ordinary Least Squares (OLS) regressions. OLS regression analysis is used to determine

how independent variables affect the dependent variable (Frost 2023). The p-value indicates the validity of the correlation between the corresponding regressor and the dependent variable. If the p-value is higher than 0.05, the statement of the coefficients is not valid at 95% confidence level and therefore not significant. Variables with a p-value lower than 0.05 show significance, and if the p-value is lower than 0.01 the variable is highly significant. Using Multiple Linear Regression Analysis, one should be aware that the results defined as statistically significant are not able to prove that a research hypothesis is an absolute truth. There is still a less than 5% probability that the null hypothesis might be the correct one and the results were created by chance (Frost 2023).

The regression equation of this study is as follows:

$$\text{Ln(Real Hourly Wages)} = \alpha + Z_i'\beta + u_i$$

where α is a constant, Z_i' is the vector of independent variables, β is the vector of coefficients and u_i is the disturbance term. The coefficients (β) demonstrate how the independent variables change the dependent variable.

In addition, this study extended this model by adding an interaction term between the gender variable and the level of educational attainment of the individual. The extended equation is as below:

$$\text{Ln(Real Hourly Wages)} = \alpha + Z_i'\beta + \gamma * (\text{Female} * \text{Years of Schooling}) + u_i$$

where γ is the coefficient on the interaction term. The β coefficient for "Female" from the extended model is now the gender wage gap among participants with 0 years of schooling, and an additional year of schooling will change the gap by $100 * \gamma$ percentage point.

4. Empirical Results

4.1 Estimating the Gender Wage Gap in Vietnam
Between 2012 and 2016

In this analysis, the log function of real hourly wages is regressed on the gender dummy variable. The regression controls for marital status, level of urbanisation, ethnicity, age, age squared, number of work hours in the year, number of members in the family, level of education, potential experience, and the year of the data. Table 2 displays the findings.

Apart from the family size variable, all selected independent variables exhibit statistical significance at the 95% confidence level. The coefficient of the gender dummy is -.1804, implying that women earn averagely 18.04% less income compared to men whose characteristics such as age, education, experience, ethnicity, marital status, location, number of working hours and year of survey are comparable.

This figure is slightly lower than the recent world average of 20% (International Labour Organization 2022) and comparable to the estimated wage gap of 18% in 2020 in Germany (Destatis 2022). However, it is still higher than the figure for other countries such as the United States with 16% in 2020 (Barroso & Brown 2021), Poland with 4.5%, Luxembourg with 0.7% and the European Union average of 13% in 2020 (Eurostat 2022).

The sign of each significant control variable's coefficient can be interpreted as follows. First, married participants tend to have an income that is higher than that of single, widowed, or divorced people by 7.25% on average. Workers living in cities earn 13.39% more than those in rural areas. Similarly, wage earners from minority ethnic groups receive an average of 3.88% lower income. An additional year of education tends to raise wages by 5.56% on average. An additional year of age or potential experience increases wages by 5.84%. However, the negative coefficient of age squared means that age and potential experience lead to diminishing marginal increase in earnings. In other words, when a young worker joins the labour market, his or her salary tends to increase every year, quickly at first, but these raises become smaller later in their careers. Next, real hourly income tends to increase over time.

Table 2: Result of Pooled OLS Regression

Ln(Real Hourly Wages)	Coefficient	Robust standard error	t	P>|t|	[95% confidence interval]	
Female	-0.1804	0.0067	-26.8300	0.0000	-0.1936	-0.1672
Married	0.0725	0.0091	7.9600	0.0000	0.0546	0.0903
Urban	0.1339	0.0071	18.9700	0.0000	0.1200	0.1477
Ethnic minority	-0.0388	0.0119	-3.2600	0.0010	-0.0621	0.0155
Age	0.0584	0.0026	22.6500	0.0000	0.0533	0.0634
Age squared	-0.0007	0.0000	-20.5300	0.0000	-0.0008	-0.0006
Work hours in the year	-0.0001	0.0000	-17.8200	0.0000	-0.0001	-0.0001
Family size	0.0021	0.0021	0.9700	0.3320	-0.0021	0.0063
Years of schooling	0.0556	0.0008	67.0500	0.0000	0.0540	0.0573
Potential experience	0.0000	(omitted)				
Year (compared to 2012)						
2014	0.0893	0.0081	11.0700	0.0000	0.0735	0.1051
2016	0.1843	0.0080	23.1400	0.0000	0.1686	0.1999
Constant	1.0525	0.0476	22.0900	0.0000	0.9591	1.1458

Source: Own table.

In particular, wages in 2014 and in 2016 were higher than those in 2012 by 8.93% and 18.43% respectively. The only unintuitive coefficient is that of the number of working hours in the year, which is negative and therefore implies that working more hours in the year results in lower earnings per hour. Nevertheless, the magnitude of this effect is 0.01%, which can be considered negligible. In general, these non-gender-related determinants of income are consistent with results found by Vo et al. (2019). The interpretation of these control variables is beyond the scope of the current paper, but the intuitive result suggests that the control variables are relevant, which in turn validates the estimation of the coefficient for the gender variable.

4.2 Effect of Marital Status

Since one of the driving factors of gender inequality in Vietnam is the prevalence of Confucianism, which ties women to household responsibilities and discourages them from pursuing their professional careers (Dang 2017), this analysis examines the impact of marital status on the gender wage gap.

To accomplish this purpose, an OLS regression is conducted separately for the group of workers who are married and the group of single, divorced, or widowed workers. The family size variable is no longer included as a control variable due to its lack of statistical significance. All the other independent variables are still controlled for (see results in the table below).

The result indicates that the gender wage gap is wider for married participants than for those who are single, widowed or divorced. Specifically, among the pool of workers who are married, females' average earnings are 14.35% lower than males', whereas this figure is 18.88% for unmarried respondents. A similar phenomenon is found by Zhang and Hannum (2015) in the period from 1989 to 2009 in China, where Confucianism originated.

The widened wage gap among married workers indicates that the earnings disadvantage is more severe for married women in Vietnam, implying that family responsibilities play a role in gender income inequality. As suggested by Dang (2017), under the influence of Confucianism, a wife is supposed to complete household chores, take care of

the children and sometimes also the elderly in the family, while a husband is not expected to share these burdens and even looked down upon by other men if they are found doing any of these tasks, which are considered beneath the role of a man. These additional responsibilities at home require women to give up extra time, effort, and energy, which may have a negative effect on their earning ability at work.

Table 3: Results of Separate OLS Regressions for Married and Unmarried Participants

Ln(Real Hourly Wages)	Unmarried			Married		
	Coefficient	Standard error	P>|t|	Coefficient	Standard error	P>|t|
Female	-0.1435	0.0138	0.000	-0.1888	0.0077	0.000
Urban	0.0878	0.0140	0.000	0.1482	0.0082	0.000
Ethnic minority	-0.0446	0.0213	0.036	-0.0407	0.0126	0.001
Age	0.0696	0.0046	0.000	0.0571	0.0030	0.000
Age squared	-0.0009	0.0001	0.000	-0.0007	0.0000	0.000
Work hours in the year	-0.0001	0.0000	0.000	-0.0001	0.0000	0.000
Years of schooling	0.0429	0.0018	0.000	0.0587	0.0009	0.000
Potential experience	0.0000	(omitted)		0.0000	(omitted)	
Year (compared to 2012)						
2014	0.0468	0.0161	0.004	0.1035	0.0092	0.000
2016	0.1699	0.0158	0.000	0.1911	0.0091	0.000
Constant	0.9957	0.0742	0.000	1.1494	0.0604	0.000

Source: Own table.

4.3 Effect of Education

Next, the years of schooling variable is interacted with the gender dummy to evaluate the influence of education on the gender income gap (results in the table below).

As can be seen from Table 4, all explanatory variables and the interaction term show statistical significance. The coefficient for the gender dummy variable is now -.3178, implying that among workers with no formal education, females earn 31.78 % less than males. However, the coefficient for the interaction term is .0138, which means that for each additional year of education, this income disparity will be reduced by 1.38 percentage points. In particular, Figure 3 demonstrates the prediction of the gender wage gap for each corresponding number of years of schooling. The horizontal axis shows the level of education, and the vertical axis shows the estimated gender wage gap. The more years of schooling that workers have obtained, the narrower the income differential between men and women becomes. For employees with a PhD, the confidence interval for the income gap estimation even includes zero. The findings emphasise the importance of education in reducing gender income inequality in Vietnam.

Table 4: Result of Pooled OLS Regression with Interaction Term

Ln(Real Hourly Wages)	Coefficient	Robust standard error	t	P>|t|	[95% confidence interval]	
Female	-0.3178	0.0168	-18.92	0.000	-0.3507	-0.2848
Married	0.0726	0.0090	8.11	0.000	0.0551	0.0902
Urban	0.1332	0.0071	18.89	0.000	0.1193	0.1470
Ethnic minority	-0.0387	0.0119	-3.26	0.001	-0.0619	-0.0154
Age	0.0580	0.0026	22.53	0.000	0.0530	0.0631
Age squared	-0.0007	0.0000	-20.31	0.000	-0.0008	-0.0006
Work hours in the year	-0.0001	0.0000	-17.70	0.000	-0.0001	-0.0001
Years of schooling	0.0497	0.0010	47.37	0.000	0.0476	0.0517
Potential experience	0.0000	(omitted)				
Year (compared to 2012)						
2014	0.0880	0.0080	10.93	0.000	0.0722	0.1037
2016	0.1827	0.0080	22.97	0.000	0.1671	0.1983
Female # Years of schooling	0.0138	0.0016	8.75	0.000	0.0107	0.0169
Constant	1.1225	0.0462	24.28	0.000	1.0319	1.2131

Source: Own table.

Figure 3: The Influence of Years of Schooling on Income Disparity
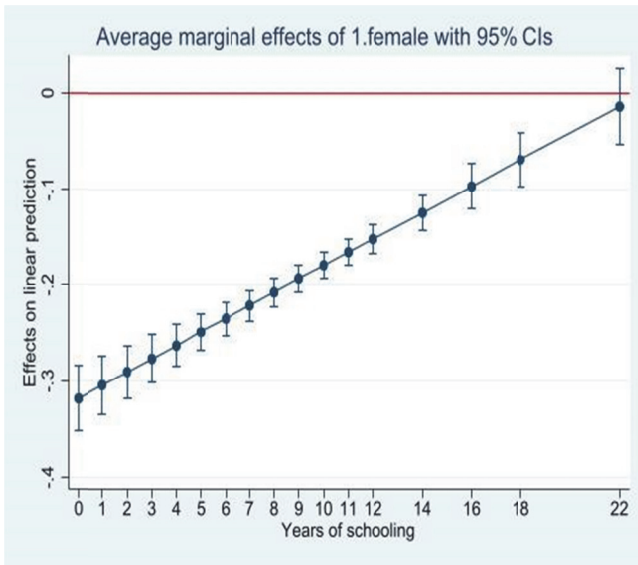
Source: Own illustration.

5. Discussion

Closing the gender gap market is a very important issue to solve, especially considering that Vietnam is undergoing severe demographic change. The population of Vietnam is a rapidly ageing society and special in its position since this ageing is faster and at an earlier level of the country's development compared to other countries in the world (Glinskaya et al. 2021). It is the effect of shrinking birth rates and rising life expectancy. More elderly people have to be taken care of financially and physically, while less labour is available on the labour market. Since the struggle to find employees will become more severe, it is inevitable that new measures by government and by companies should be introduced. Females must be seen as members of the society who are able to fill the skills shortage. However, they must be strongly supported by law and regulations, and it has to be ensured that companies comply with these laws. In the outcomes above it is shown that a married woman will earn less than a woman who is divorced or unmarried and therefore the

unmarried woman does most likely not have to take care of children, the elderly and do household chores. Since married women have different priorities, they are more likely to accept a lower paid job offer, which has more flexible regulations and is closer to their home. Since the women in this sample have a higher average number of years of schooling than men, as shown in Table 1, human capital is wasted if women cannot participate in the labour market actively due to stereotypical gender roles.

To be an attractive employer, companies should adapt quickly by providing flexible working time arrangements, the option to work from home, as well as investing in females and giving them the possibility to learn more specific skills needed in the company.

Another factor which has a strong effect on closing the gender wage gap is the opportunity of education. Regarding our results in the section Education if they have no formal education, females earn 31.78 % less than males. To close this gap, education is the key means. As seen in Fig.3, each additional year of education will reduce the income disparity by 1.38 percentage points. Girls and young women should be encouraged to achieve a high level of education by parents, schools, and the government. Girls should also be supported to choose more frequent STEM (Science, Technology, Engineering and Mathematics) subjects. Since it is a hardly feasible task to change the mindset of generations regarding the education of their children, it will be the task of the government to provide more opportunities and support for girls and young women to attend a higher education.

It should be also taken into consideration that GDP is positively affected by a higher employment rate and with the above-mentioned regulations the employment rate would rise, which would lead to a higher GDP and therefore to better economic performance.

Furthermore, more factors may be taken into account in future research, such as occupational industries, local government policies and initiatives (effectiveness of implementing gender equality policies).

6. Conclusion

Regression analyses of VHLSS data from 2012 to 2016 indicate that female workers in Vietnam earn approximately 18.04% lower than their male counterparts, adjusting for differences in marital status, level of

urbanisation, ethnicity, age, age squared, time spent at work, education, potential experience, and year of the survey. In addition, when the regression is conducted separately by marital status, the group of unmarried participants exhibit a narrower gender wage gap than the figure for married workers, 14.35% compared to 18.88% respectively, which supports the theory that Confucianism plays a role in tying women – especially married women – to more family responsibilities and potentially hindering them in advancing in their careers. Another regression with an interaction term between the gender and education variables reveals that the gender income disparity tends to be more severe among workers with fewer years of formal education, which implies that enhanced school attendance can be one of the potential solutions to gender inequality.

The history of Vietnam shows that society functioned first according to a matriarchal system, and then a patriarchal one. The influence of both these systems is still visible today. While patriarchy has lowered the position of women, it is possible to raise it again thanks to the remnants of matriarchy and prominent female figures in Vietnamese history who show the true worth of women. Thanks to this, the Vietnamese government introduced new rights for women relatively easily, starting with the rule of Ho Chi Minh.

Vietnam provides its female citizens with a legal framework and policies that (in theory) bring gender equality. However, there are three problems: (1) these laws are not properly enforced; (2) the stereotypical perception of women by employers; (3) the policies introduced are mainly about women. Although women have more and more employment opportunities, gender discrimination still exists in the recruitment process. This is related to the perception of women as being weaker (physically and mentally) than men. In addition, the Vietnamese government offers only facilities specialising in childcare. For women to actually be equal to men, the image of a husband who takes care of children and performs household duties on an equal footing with his wife should be promoted. However, this is a difficult and long-term task because it requires a change in the way the Vietnamese think.

The stereotypical perception of the role of women also affects the upbringing of young girls, who are often expected to be protective and altruistic. This, in turn, affects the choice of the field of study or future work, as well as the glass ceiling and sticky floor phenomena. Therefore, young girls should be encouraged to engage in STEM activities just as

much as boys are. In the same way, the stereotypical division between male and female professions should be combatted. Employers should promote the image of a woman being as valuable an employee as a man, which will contribute to limiting the glass ceiling and sticky floor phenomena.

7. *Limitation of the Study and Future Research*

As with any other study, the quantitative method used here has its limitations. A quantitative study focuses solely on numbers and is rather objective. In contrast to a qualitative approach no subjective insights have been taken into account. For future research it would be useful to complement the findings of the quantitative numbers with the outcomes of qualitative research regarding the same research question. This would lead to an even deeper explanation of the topic.

In addition, the data from 2012 to 2016 could be considered outdated. Future research could use more up-to-date data to investigate the current situation.

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Vietnam's Women in Leadership: Behind Outperforming Female Participation in Leadership-Background, Opportunities, and Challenges

Lisa Thien-Kim Tran

1. Introduction

Women's leadership is required to meet the Sustainable Development Goals (SDGs), in particular SDG 5 (gender equality and women's and girls' empowerment). Globally, only 28% of managers across all sectors are female. This shows us the importance of female empowerment and an improvement of entry hurdles for women in leadership at a local, national, regional, and global level (WHO 2022). The topic of women in leadership is closely related to the concept of female leadership. The discussion on the definition of female leadership remains a controversial one. Some scholars acknowledge female leadership as its own leadership style, while others suggest that, within leadership traits, there are traits that are more often found in women rather than men. When talking female leadership, it may be problematic to generalize, assuming women are a homogeneous group so that one leadership style applies to an entire gender (Parker & Dt 1996). We shall therefore discuss Vietnam's female representation in senior leadership and its corresponding implications, challenges, and opportunities rather than defining a conceptual framework for a female leadership style. This paper addresses the question as

to which barriers remain for women in leadership and which positive factors can be found in Vietnam.

Women remain under-represented in the business world, especially in leadership positions. (Grant Thornton 2022) Not even considering leadership positions, global labor participation rates illustrate a disparity between men and women (World Bank 2022a). This illustrates deep-rooted and multivariate issues leading to the gender gap in leadership. It also means that there is a great potential in employing women in leadership positions, since organizational research suggests that diverse teams perform better. (Rock et al. 2016, Nielsen et al. 2017) Yet, a study found that when a team is female-lead, male team members tend to rate female leaders as less effective (de Paola et al. 2022). The sum of positive aspects of female leadership is known as female leadership advantage (Offermann & Foley 2020). A 2021 study by Vo et al. found that firms with female CEOs were more profitable than those led by male CEOs. The study supports the hypothesis that women bring unique perspectives, leadership styles and capability, bringing quantifiable advantages to firms.

This paper aims to assess the current state of women in leadership in Vietnam.

The research goal is:
To provide a better understanding of the current state of women in the Vietnamese business world aiming to lead in higher positions.

The research question supporting the goal is:
Why is Vietnam's female participation in senior leadership on a very promising trajectory? What challenges lie ahead?

The research question is explored by conducting a literature analysis and expert interviews which help to gain deeper insights into the topic. Several sources are used for the literature research. Journals and scientific articles on female leadership are referenced and put into context to gain an understanding of the field, especially in Vietnam. This helps to form a basic understanding of the current state of female leadership in Vietnam. Then, insights from expert interviews give a nuanced view of the subject. Finally, the findings are discussed and summarized.

2. Women in Leadership in Vietnam: An Overview

Vietnam excels in terms of KPIs when it comes to female leadership. At 69.6%, labor participation for women far outperforms the global average of 46.3% (World Bank 2022b). Globally, 36.9%. of senior management roles are held by women (World Economic Forum 2022). Vietnam is located in the ASEAN region, where 40% of senior management roles are held by women. There, the number increased from 37% in 2022 to 40% in 2023, making it the region where the number of women in leadership positions is growing the fastest. Africa has a similar share of women in senior positions, making the two regions the highest ranking in the world. (Grant Thornton 2023) In Vietnam in particular the rate of female participation in senior management roles is as high as 39%. (VnExpress 2021) Also when it comes to business ownership, Vietnam's women own 19% of all businesses in the country (Vietnam Investment Review 2021). While these numbers are categorized as being above average in a global perspective, it is worth mentioning that total equality is not actually the case. Men still dominate the business world. Yet, reaching the important 30% mark has been proven to be the starting point of creating meaningful change (Dahlerup 2006; Grant Thornton 2021), and Vietnam beats this performance indicator in several areas.

2.1 Cultural Context of Women in Leadership in Vietnam

Cultural and historical influences in Vietnam have played a significant role in shaping the country's business landscape and, in turn, the opportunities and challenges faced by women in leadership positions and those who aim to be in it. In order to understand the current state of Vietnamese women in business, it is crucial to understand, or at least consider, the underlying cultural and historical factors of the country. The Confucian philosophy, which values respect for elders and a strong focus on family, has long been a meaningful pillar of Vietnamese society. In combination with the influence of collectivism, this has created a business environment where relationships and personal connections are highly valued (Gudykunst 2003). This emphasis on relationships and networks can, in some cases, work to the advantage of women, who are often skilled at building and maintaining relationships (Eagly & Carli 2007). In another

perspective, these cultural values can work against women. Being aggressive, assertive, independent, and competitive are associated with leadership (Seigne et al. 2007). These traits do not align with the ideal woman according to Confucianism, where women should be obedient and subservient (Vu et al. 2019). A study by Fletschner et al. (2010) examining couples in rural Vietnam found that women are more risk-adverse and less willing to compete than men, regardless of the likeliness of success.

Another aspect of Confucianism that has influenced women's positions in the workforce in the past is the emphasis on the man as the head of the family and the woman as the person who serves the tight-knit family. In the traditional Vietnamese family constellation, the woman takes care of the household, husband, and children, and in addition she must also care for her husband's parents and extended family. This responsibility interferes with the career ambitions of women. In recent years, this family structure has opened up, and women are often even encouraged to pursue higher education and well-paying jobs. Families vary in degree when it comes to being conservative and therefore some Vietnamese might grow up with a more traditional outlook on life than others. Moreover, traces of Confucianism are still evident in Vietnamese society. Hence, a conflict of at-home and work responsibilities is common for Vietnamese women (Hong Van 2019). According to Lan Thi Dang (2017), Vietnamese women grow up in a highly patriarchal environment where Confucian beliefs discourage them to have high ambitions for their careers.

Other sources illustrate that Vietnamese women have been able to build successful careers in business, often by leveraging their strengths in relationship-building and adapting to the cultural context. For example, women in Vietnam have been successful in building networks and using their connections to advance their careers (Scheela et al. 2004; Lan Thi Dang 2017). This has helped them to overcome some of the obstacles that they might face in a more individualistic or hierarchical business environment.

Moreover, the recent shift in Vietnam's economy from a state-led to a market-oriented system has created new opportunities for women in business. This transition has created a more level playing field, with women able to start their own businesses and succeed on their own merit (Nguyen et al. 2020). Furthermore, the government of Vietnam has made

efforts to promote gender equality in the workplace, with policies aimed at increasing the number of women in leadership positions (Tran 2018).

2.2 Challenges in Vietnam Faced by Women in Leadership

The business world in Vietnam remains dominated by men, and women continue to face numerous challenges in leadership positions. Gender stereotypes hinder women from participating in the working world equally, since they are perceived as secondary income providers. (United Nations Viet Nam 2021) As women in leadership positions have to fight stereotypes, they also have to fight myths that they are cold, or that they treat subordinate women unfairly (Arvate et al. 2018).

According to Vo and Harvie (2009), female entrepreneurs in Vietnam experience difficulties in gaining access to finance, government support and technology. In contrast, according to Pham and Talavera's (2018) findings, discrimination against female entrepreneurs by Vietnamese financial institutions is not observed. Their research reveals that female-led firms have an even higher likelihood of acquiring bank loans compared to their male-led counterparts. Furthermore, female-led firms enjoy improved access to business networks in comparison to men. Phan and Nguyen's (2023) findings show that women's leadership qualities are seldomly acknowledged, while perceived gender-based egalitarianism exists in the workplace. The gender pay gap in Vietnam has decreased recently; however, it is notable that the pay gap is still apparent in lower and higher-paid jobs (Hong Vo et al. 2021), alluding that middle income jobs with an average pay gap are the comfort zone for women.[1] This makes aspiring to a demanding leadership career less attractive for women, especially when traditional expectations are to have a family early. Challenges such as these can be especially pronounced for women who are entering the business world for the first time, as they may have limited experience and lack the necessary networks to succeed. The male-dominated culture in both society and organizations act as a barrier for women who aim to develop their career and are looking for leadership opportunities (Mate et al. 2019).

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[1] Vietnam's gender pay gap is also addressed by Pham et al. in this book.

2.3 Opportunities in Vietnam for Women in Leadership

Despite these challenges, there are many opportunities for women in leadership in the Vietnamese business world. One of the key factors is the growing recognition of the importance of gender equality in the workplace. Nguyen and Nguyen (2019) state that by eliminating barriers that women face due to age or prejudice in certain sectors, improving childcare services, and implementing gender equality in the workplace, the employment gender gap can be closed. Exemplary measurements include, but are not limited to, offering flexible work arrangements, providing training and development possibilities, and promoting women into leadership roles.

Looking at the crucial pillar of education, Vietnam has high literacy rates (World Bank 2022b), and women in the country are highly educated and well-prepared for careers in leadership positions: In 2016, for every male student in tertiary education, there are 1.24 women in the same place. (UNESCAP 2018).

Another opportunity for women in leadership in Vietnam is the growing support from the government. The Vietnamese Communist Party has promoted gender equality, as seen in its constitution and various laws and policies aimed at promoting women's rights. In recent years, the party has increased its efforts to improve the participation of women in the labor force and to eliminate gender-based discrimination in the workplace (UNDP 2022). The Vietnamese government has also launched programs to promote women's entrepreneurship and to provide support for women-owned businesses (MOD Vietnam 2023). These efforts have helped to create a more favorable environment for women to enter the business world and to progress in their careers.

All in all, while there are many challenges that women in leadership face in the Vietnamese business world, there are also many opportunities for them to succeed. By taking advantage of these opportunities, women in Vietnam can help to promote gender equality in the workplace and to support the rise of female leaders in the country. Through ongoing education and training, mentorship programs, and support from the government, women in Vietnam can continue to make progress in leadership positions and serve as an inspiration for other countries looking to promote gender equality in the workplace.

Table 1: Challenges and Opportunities in Vietnam for Women
in Leadership

Challenges	Opportunities
Lack of mentoring and networking opportunities	Companies recognize gender equality as a action-worthy issue
Gender pay gap	Women have access to education
Expectation to have a family early	Growing support from the government with various initiatives Governmental initiatives
Lack of flexible work arrangements	

Source: own elaboration.

3. Method: Expert Interviews

In order to find answers to the research questions presented in the introduction, namely 'Why is Vietnam's female participation in senior leadership on a very promising trajectory? What are the challenges ahead?', expert interviews were conducted.

A study by Flick (2018) demonstrates that expert interviews are suitable for gaining deep insights into complex topics. The experienced experts can contribute information which might not be collected through other methods. This may result in seeing the topic from different angles and perspectives, creating a more holistic approach. The use of expert interviews is, moreover, a way of increasing research validity. Expert interviews enhance the trustworthiness of research results (Hennink et al. 2011). Qualitative interviews have the advantage that participants have an open range of possibilities to answer. This allows them to even reject the interviewer's assumptions, if considered unfitting (Brinkmann & Kvale 2015). Zoom interviews in particular are cost-reducing and therefore more inclusive than traditional face-to-face interviews. It should be considered that Zoom interviews have a different atmosphere than personal interviews, e.g. due to an instable internet connection leading to a limited audio-visual experience (Oliffe et al. 2021).

3.1 Conduction of Expert Interviews

Female leadership experts who have experience in Vietnam were inter-
viewed to gain a deeper understanding of the situation in the country.
Four female leadership experts who have experience in Vietnam form the
sample for the present study. To be included in the sample, interviewees
had to satisfy two criteria: Work experience in Vietnam and leadership
responsibilities. The interviews lasted about 30-45 minutes and were
conducted in English. The interviews were conducted via video chat
between December 21st, 2022 and January 18, 2023. Participants were
asked about their perception of women in leadership in Vietnam and their
personal experiences in the Vietnamese business world. The question-
naire was divided in three parts: (1) General questions about women in
leadership, (2) questions addressing women in leadership specifically in
Vietnam, (3) advice that the interviewees may have for fellow women
interested in a career in business.

Table 2: Overview of Interview Partners

Expert (anonymized)	Date of Interview	Experience and background
E1	December 21, 2022	German with Vietnamese background. Years of management experience in Vietnam, experienced in Germany and other countries as well.
E2	January 13, 2023	Vietnamese. Management experience in Vietnamese service industry and member of female empowerment club.
E3	January 16, 2023	Vietnamese. Founder of her own company in Vietnam.
E4	January 18, 2023	German. Years of management experience in various countries, two spent in Vietnam.

Source: own elaboration.

3.2 Findings

In this section, the findings of the research method will be presented. The questions of the interview were targeted towards the topic of women in leadership in general and the specific situation in Vietnam. Therefore, the findings are structured in the same way.

3.2.1 Women in Leadership

In the first part of the interview, the participants were asked questions about female leadership and women in leadership in general. Most interviewees had problems with the concept of female leadership as a unique leadership style. All experts viewed leadership as a general concept which should not be divided by gender. In addition, people should be viewed as individuals with their own unique traits first, rather than their gender. (E1, Interview 1; E2, Interview 2; E4, Interview 4) All experts also agreed on diversity being an important factor in leadership. One expert stressed that, instead of looking through the gender lens, it was even more important to gather a number of different leadership styles in order to manage a successful company. She further explained that leadership can be learned, and one should pick the right style for oneself, regardless of gender. (E1, Interview 1, ll. 1) E4 agreed, stating that diversity was important in order to lead a successful team. The focus shouldn't be on gender but on balanced leadership styles. (E1, ll. 5; E4, ll. 36) E2 was an advocate of empowering people regardless of their gender, pointing out that by focusing on one gender one may force different treatment between genders which would be counterintuitive. Even though all participants stated that leadership was not defined by gender, some experts shared their observations as to how women often perform leadership roles in a certain way. For example, women will often be more caring and team-oriented than their male counterparts. (E4, Interview 4). It was also claimed that women are more empathetic leaders in many cases (E3, Interview 3; E2, Interview 4).

Contrasting to these beliefs, it is acknowledged that in personal observations, women will often display behavior that would be less common in men. E4 said that in her opinion, women may be more sensitive, empathetic, caring, and team-oriented. She also said that these observa-

tions were personal and had the limitation that there would be women who did not fit that description. (E4, Interview 4, ll. 22) E2 says about gender-related characteristics that "we [women] are blessed with being more flexible. We can be more empathetic with other people. We can be more meticulous, looking at the details, compared to the male. So maybe, I think, sometimes, males can have these characteristics as well, right? So maybe female leadership can be about describing the characteristics that normally belong to a woman compared to a male leading thing. You can have a female in a leading position, but her style can be more like we can observe with a typical male: Very strong, very decisive, not very flexible at all, very disciplined. So that's why I think maybe female leadership can be a definition not based on gender but based on the characteristics and the fact that a leader deals with other people". (E2, Interview 2, ll. 65) E3 commented that when building a career, "women only need to compete with themselves", meaning they should not compare themselves with men but focus on their unique strengths and weaknesses. Additionally, determination is identified as a key factor in building a successful career, since women may have more distractions from doing so than men (E3, Interview 3, ll.7).

In summary, the interviewees stress that leadership profits from diverse leadership styles. Gender should not be the segmentation variable here, but rather different perspectives, characteristics, and styles. Simultaneously, the interviewees acknowledge that even in their own experience, they were able to observe certain characteristics more often in women than in men, namely flexibility, empathy, and team-orientation. This can be helpful, since these characteristics are beneficial to overall success, yet biases may still be created.

3.2.2 Women in Leadership in Vietnam

In the second part of the interview, experts were asked about their views and personal experiences of the role of women in business in Vietnam, and about being a woman in a management position themselves.

Gender quotas were brought up by two experts. One expert found them to be an effective tool as a starting point to lower entry barriers for women and to incentivize diversity at the workplace. She stresses that, if used, they must be used as a temporary tool and would not fix gender

equality long term on their own (E1, Interview 1, ll. 108). She and E2 point out that one risk of quotas would be that people might think that women had not deserved their place in management. With reference to quotas, one expert mentioned that she found the topic of women in leadership positions to be more casual in Vietnam, compared to the Western world. Whereas in the Western world, female leadership is politicized, she finds that the opportunistic mindset in Vietnam contributes to a sense of equality among the genders. People will seek opportunities in Vietnam: if someone is skilled and can take advantage of these opportunities, their gender does not matter (E1, Interview 1, ll. 39). Following this, two experts believed that not overemphasizing the topic of being a woman in business but keeping things on a professional level would help gain respect as a leader and prevent one from being reduced to or discriminated against as a woman (E1, Interview 1, E2, Interview 2).

Culture and family play a vital role in influencing businesswomen in Vietnam. E1 said that "Vietnam is still a very traditional country. With very traditional views" (ll. 34). These traditional views may show in "…more traditional families, where they say […] the daughter does not have to be good at work, doesn't have to be good at study as well" (E2, Interview 2, ll. 28). She also states that there were matriarchal family structures (E2, Interview 2, ll. 26). These matriarchal family structures are also mentioned by E4, Vietnamese men have admitted to her that women were the bosses at home. This may empower women in other aspects of their life as well, including their career. This is especially so since company teams are often regarded as the second family in Vietnam (E4, Interview 4, ll.65). E2 shares the view that the dual responsibility is an issue which a lot of women stress. Women used to be pushed into believing that they had to be perfect at work and home. Now women are slowly breaking free from this belief. It also helps that Vietnamese men have started sharing responsibilities in the home more (E3, Interview 3, ll. 74).

E1 recounts that during her time in Vietnam she saw that "there were more females in leadership, up to the CEO" (ll. 35). She explains that with the opportunistic attitude in Vietnam, which may lead to a more level-playing field without biases. Another reason could be "historical[ly] […], Vietnam has been occupied and [at] war for the last century. So, males are […] more focused [on] these [war] aspects while females had to look for financial aspects. The males were [involved] in wars. So

maybe that's why they took on this leadership aspect. And […] after the war, they could obtain better positions." (ll. 42). Another external factor influencing women in Vietnam is the power of media. Recently, the media has empowered women by displaying a modern role of woman in society where women don't have to reach the high expectations of being perfect in both career and family life – and look good while doing so (E3, Interview 3, ll. 62).

Experts were also asked whether they found different treatment between men and women in daily business. E1 experienced no exclusion from topics during small talk in Vietnam, especially compared to Western countries (e.g., soccer) (E1, ll.76). E4 felt respected and accepted (ll. 69).

E4 felt that people in Vietnam respected her due to her being in a senior position at a young age. This would not always be the case in Western countries. She also observed more women in higher positions than in other countries. She did not experience that men and women were treated differently in the working environment. (E4, Interview 4, ll.95) When on a company outing, she wondered why the team would split into male and female groups. Her employees explained: " 'No, it's normal. We just have different topics. We talk about different things. So for us it's nothing special.', while I observed it as something special. And they do not see it as separation" (E4, Interview 4, ll. 165).

E2 worked in a management position, and often people would think the expert was in a subordinate role and not believe that she had a senior role (E2, Interview 2, ll. 13). As an interpreter, E3 faces bias in what fields women can work in. Male interpreters will usually get the job for technical translation jobs (E3, Interview 3, ll. 149).

The experts were asked why they thought women in Vietnam were so successful in their careers. E2 responded that women were successful in Vietnam because they were willing to work harder than men. They were used to it due to the dual responsibility of working and taking care of the family, while men enjoyed having fewer responsibilities. Unequally shared responsibilities at home may hold women back either by them having to decide between family and career, or by hiring managers preferring men over women, since they are considered to be more present in the workplace. In short, women are at risk at having fewer opportunities given to them than men (E2, Interview 2, ll. 129). E1 argues that women had to step up during countless wars in Vietnam and might be more

flexible at adapting to new situations, making them successful. Being adaptable and flexible is especially important, as leadership in Vietnam is very dynamic (E1, Interview 1, ll. 32). Looking at the younger generation, Gen Z is described as being "positively aggressive in showing their capabilities", they are able to win over their bosses and therefore gain respect in the company (E3, Interview 3, ll. 97). This predicts an even more positive development in equality.

The interviewees were then asked how women in Vietnam could be empowered more. E1 proposed female networks, in which women empower each other. At the same time, she expressed doubt about these networks being successful in Vietnam (E1, Interview 1, ll.101). Maternity leave and harmonizing family life with a career is another relevant topic (E1, Interview 1, ll. 87). E3 sees the government as a lever which could offer public initiatives that promote gender equality and raise awareness for the hardships of women among the general public (E3, Interview 3, ll. 107). E4 suggested empowering Vietnamese girls at university and encouraging them to take on challenges. Women may lack confidence, and this could be addressed in education – but it should be an inclusive approach, where men also get to participate, so that no separation occurs (E4, Interview 4, ll. 46).

In summary, the findings derived from the interviews conducted show a complex environment for women in Vietnam's business world:

- **Gender quotas**: A controversial tool to help reach gender equality in the workplace. One interviewee doubted their long-term effects in terms of credibility, another one saw them as temporarily necessary evil to quickly reach gender equality. However, the non-existent politicization of women at work in Vietnam seemed helpful for the matter.

- **Historical factors:** Vietnam is a war-torn country where women had to step up in the past. This consequential natural ability to take the lead may have remained until today, thus reducing gender biases.

- **Day to day business:** While the interviewees mostly don't see a difference in treatment of male vs. female employees in day-to-day business, one interviewee noticed that Vietnamese people still like to socialize mostly with the same gender as they feel more comfortable doing so.

- **Gender biases** persist when it comes to first impressions or male-dominated fields.

- **Unequally shared responsibilities** at home still distract women from focusing on their career. This is a double-edged sword, as one interviewee suggests. The high expectations may result in a higher resilience and flexibility in women, helping them with career advancements. Additionally, nowadays, men who take equal responsibilities at home are on the rise.

3.2.3 Advice by Women in Leadership

During the interviews, three of the four experts were asked about advice they would give to other women who had ambitions to lead in organizations. E1 advises to check in with one's gut feeling (E1, ll. 157) and use sparring partners for important decisions. She also mentions that overthinking should be avoided, and a hands-on method is highly valuable. The second expert stresses that women tend to be less confident when applying for jobs, compared to men. While men will apply for jobs where they do not fulfill all the criteria, women are more drawn to applying for jobs where they fulfill all requirements. This will inevitably lead to a gap. (E2, ll. 171). This point is also mentioned by E4 (E4, ll. 146). E2 therefore recommends women to be more courageous and confident. In addition, she also thinks it is important to know one's strengths and weaknesses and to build a career on that. Knowing when one is not suitable for a role and letting someone else do it is a trait that she finds helpful for one's career (ll.214).

E3 agrees with E2 that women need to understand their strengths and weaknesses in order to succeed. That lays the ground for believing in oneself (E3, ll. 161). Similar to E1, she finds a flexible and open mind helpful in today's dynamic business world. Furthermore, a flexible mindset enables one to learn from experiences. Another point she raises is the commitment to finish projects one has started and to always do one's best. With this mindset, one can learn valuable lessons.

The theme of believing in oneself is also advocated by E4. She stresses that, as a woman, it is important to not see oneself differently to men, especially in male-dominated industries (E4, ll. 177). Pushback

should not lead to discouragement. In her case, she uses pushback as a motivator to show her capabilities in the workplace, instead of showing negative emotions and risking an unprofessional image, which may harm her career (E4, ll. 190). Her third piece of advice is that there is no limit to the industries where women can work. Women should not shy away from working in male-dominated industries (E4, ll. 200). This aligns with the point of being more confident, which was mentioned by E2.

To summarize, the underlying themes of the collected advice by the interviewees trace back to knowing and therefore trusting oneself, to not shying away from opportunities, and to having a confident attitude when building a career. A flexible mindset is also mentioned more than once.

4. Discussion

The findings of the expert interviews show a wide range of perceptions of women in leadership in Vietnam. All experts stressed that placing emphasis on diversity over gender in management was important. As a consequence, some experts suggested that giving women special treatment would be 'othering' women in business. However, inclusive initiatives that promote (gender) equality were seen as helpful to improving the current situation. The complexity of Vietnamese culture is reflected in its influence towards the local business environment. While traditional family values place high expectations on women and may distract them from their careers, Vietnamese family structures exist where women are the head of the household. These household structures empower women and may encourage them to be more confident in their careers as well. Apart from traditional values, Vietnam has a fast-growing economy where an opportunistic mindset helps to pave the way for equality – qualification wins over gender.

The primary research findings reflect the existing literature. Vietnam is an emerging economy which has opened up during the 1980s with the đổi mới reforms. This has provided both men and women in Vietnam with new opportunities (Hue 2006). A governmental commitment towards efforts to lower the gender gap in business shows its fruits in above ASEAN average performance in terms of women in business (United Nations in Viet Nam 2021). More women than men attend tertiary education (UNESCAP 2018), alluding to a bright future for the fe-

male Vietnamese population. Female CEOs have found to be leading more profitable companies (Vo et al. 2021), making the issue of equal leadership a lucrative issue. Yet, barriers such as gender stereotypes, a Confucian society, as well as a gender pay gap remain (United Nations Viet Nam 2021; Gudykunst 2003; Hong Vo et al. 2021).

5. Implications

Vietnam is a country with a dynamic economy where women can benefit from an opportunistic mindset. While barriers in traditional family structures may remain, women who want to build a career are encouraged to do so by government initiatives and are seen as individuals that bring their unique own skillsets to businesses. The findings show that, despite the challenges of overcoming traditional cultural norms and the double burden of work and career, women in Vietnam can build a successful career if they are determined and confidently believe in their capabilities. Practitioners can benefit from these findings by being empowered to carve out a career and building infrastructures to lift women up (e.g. women networks). To offer equal opportunities in becoming leaders and maximizing Vietnam's labor force, the challenges that women face in becoming business leaders have to be addressed by reassessing structures that benefit patriarchal business practices.

This paper provides insights into women in business in Vietnam. Future scientific studies may use the findings from this paper to dive deeper into certain sub-topics that this paper covers. Specifically, the gender quota, efficacy of equality initiatives, and a comparison in attitudes of and towards women in business among different age groups are potential future research topics.[2]

Future studies may consider that the depiction of work relationships between women and men were contradictory when comparing literature to primary data. A quantitative analysis would be an option to explore this topic. Future studies also may examine the effect of addressing women in business in order to reach gender equality. In the interviews it was addressed that there should be initiatives that empower women. These were recommended to be inclusive (especially regarding gender).

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[2] In this book's chapter by Schöler et al., different expectations among different generations in Vietnam are addressed.

In this way, women will not fall into a special role. A new research topic could be the design of inclusive equality initiatives.

6. Limitations

This paper has some limitations. One would be that the literature research is limited to works that are written in English, while examining a topic that is localized in Vietnam. This leads to limited data access. Another limitation lies in the nature of the expert interviews. Since a selected number of experts were interviewed about their own personal observations and experiences, the insights drawn from these interviews are limited to their very own perspectives. A larger sample size might have given a broader view; however, the limitation of selected insights would remain even then. Consequently, this chapter does not yield universally applicable lessons. Instead, valuable individual perspectives are examined and processed.

7. Conclusion

The research question will be answered with the results from the investigation.

Why is Vietnam's female participation in senior leadership on a very promising trajectory? What challenges lie ahead?

Women in Vietnam still face gender-specific challenges in their career which often stem from traditional expectations and the dual responsibility of their career and role in the household. However, women in Vietnam are respected in business and can overcome these challenges by being determined and leveraging their capabilities. Being in a society that is opening up to a more modern mindset is going to diversify the dual responsibility. One big advantage is that, as an emerging economy, skills are valued highly, regardless of gender. This is evident in the relatively high number of women in management positions. Contradicting that, studies have shown that discrimination is still happening at the workplace. The prospects of women in Vietnam aiming for higher positions are promising, even though there are challenges ahead. Empowerment initiatives and an evolving society can help ambitious women to reach

their career goals. Challenges remain in harmonizing career and family life. Gender bias and a possible lack of confidence in women have to be tackled.

In conclusion, Vietnam has a highly complex culture and therefore there is no black and white answer as to why women are successful and able to reach leadership positions. The findings of this paper suggest that historical, cultural, and family factors play a major part. Within these factors, there are aspects that contradict one another. While historically, women are outnumbered by men in leadership positions, Vietnam's history has left women with no other choice than being empowered due to absent men, busy fighting wars. The patriarchal Confucianist culture that expects a perfect family and career by women has made them resilient. Having resilience is beneficial to building a career. Overall, the positive aspects outweigh the negatives, hence women are able to have successful careers in a society where they are respected for their capabilities.

In the context of SDG 5, which aims at gender equality, Vietnam's women in leadership portray how complex it is to achieve full equality. While there are aspects that can be highlighted positively, women in Vietnam still struggle with expectations that can hinder them from reaching their full professional potential. Women in Vietnam are aware of these factors, but they are flexible and pragmatic enough to position themselves as confident, bright, and capable: especially the modern generation of women. Pragmatic ambition and the growth mindset found in Vietnam provide a prosperous ground for gender equality in leadership roles, which, however, still has occasional flaws stemming from patriarchal structures.

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Part III

Environment

Take a Deep Breath! The Role of SDG Fulfilment for Air Pollution in EU and ASEAN Countries

Huynh Thi Ngoc Truong, Florian Horky and Chi Le Quoc

1. Introduction

The Sustainable Development Goals (SDGs), also known as the Global Goals, were developed, and adopted by the United Nations in September 2015 in the 2030 Agenda for Sustainable Development. The purposes of the Sustainable Development Goals are to eliminate poverty, safeguard the planet, and ensure that all individuals can live in peace and prosperity within the 15 years following 2015 (Pradhan et al. 2017). Therefore, the investigation of SDGs is crucial thanks to several unique points that can be determinant factors for countries adopting measures to meet the SDGs. Firstly, the SDGs have a historic dimension as they involve engagement by intergovernmental organizations and civil society to establish a sound pathway and concerted action for humankind. Secondly, investigating SDGs is universal that is in pursuance of turning the current state of the country into a sustainably developing country. Thirdly, the detailed 17 goals enable implementation by means of 169 particular targets and over 200 indicators. Finally, SDGs are blueprinted for a transformative governance structure (Osborn et al. 2015).

Studying the SDGs is a particularly pertinent topic in research. However, there is a gap between theory and reality. Although the SDGs are intended to address different national realities, capacities, and levels of development, the level of achievement is actually laid down in the sub-goals. For example, Goal 1.1. (No Poverty) is defined as people living on less than $1.25 a day. Peculiarly, such a "one size fits all" solution might

not work due to the marked differences in cultural, political, and economic factors among the countries in the world. Although the countries have implemented the SDGs' goals and targets, the cultural, political, and economic aspects must also be taken into account (Osborn et al. 2015). One of the most prominent concerns is the relationship between the SDGs and an improvement in air pollution which has rarely been studied directly. Specifically, there is little previous evidence of integrated information regarding air pollutants in particular countries. We target this issue and contribute to the literature by investigating and comparing the dynamics between the most important air pollutants and adoption of the SDGs for the EU and for ASEAN countries. We can indeed see different dynamics between the investigated regions, indicating underlying structures such as cultural, political, and economic variations as mentioned above.

The aim of the paper is to assess the role of SDGs for air pollutants. The samples are tested in two very heterogeneous regions namely the EU and ASEAN. Firstly, there are two key targets linking the SDGs and air pollution: SDG 3.9 (substantial reduction of health impacts from hazardous substances) and SDG 11.6 (reduction of adverse impacts of cities on people). Secondly, there are three main sources of air pollutants, which are sulphur dioxide from the energy sector including industry, transport, and domestic subsectors, nitrogen oxides from oil products utilized in vehicles and power generation, and the bulk of particular matter reaching the atmosphere from the consumption of biomass, kerosene, and coal in the construction industry (Rafaj et al. 2018). Thirdly, implementation of the SDGs has two obvious advantages: the SDG approach can avert an overly narrow focus on a single pollutant, which may not have similar prioritization everywhere. Moreover, the SDGs allow a potentially more methodical and effective integrated approach focusing on multiple pollutants (Elder & Zusman 2016).

This paper concentrates on quantitative research by using an extensive panel data set, correlation analysis, principal component analysis, and econometric fixed effects modelling. The paper is organized as follows. Section 2 contains the relevant literature, Section 3 delineates the analyzed data and methodology used, Section 4 shows the results of the analysis. Finally, section 5 will be discussed as a conclusion for the paper.

2. Literature Review

2.1 Implementation of SDGs Across Regions

Environmental economics is a crucial area of research in the scientific community as it plays a critical role in addressing the challenges of climate change, environmental pollution, and energy transition. This field of research is closely aligned with the United Nations Sustainable Development Goals (SDGs), which provide an interrelated framework to capture the multifaceted nature of several environment and social goals to be met for the future.

It is supposed that moving from the Millennium Development Goals to the Sustainable Development Goals changes the scenarios through a wider range of interlinked goals. The MDSs worked towards the goals only in developing countries, whereas the SDGs have conducted the investigation in both developing and developed countries (Allen et al. 2018a). The adoption of SDGs in different countries with distinct backgrounds is perceived as an important research topic. One previous study has shown that SDG agreement is non-binding and nations adopting the SDGs can pursue the goals while setting their own precedence and target values at national level. The implementation of SDGs is followed by the generic stages of the policy-planning cycle. Importantly, most countries have documented their implementation of the SDGs in voluntary national reviews which are submitted to the high-level political forum on sustainable development once a year (Allen et al. 2018b). Due to different national political and economic interests, prioritizing the goals can raise several issues relating to the integrity and coherence of SDGs. This can pose a dilemma for national policymakers and international institutions. However, no study has yet been conducted to investigate this gap (Forestier & Kim 2020). Another measurement used to monitor the progression towards sustainable development is to establish numerous single indicators. This assessment needs a benchmarking index to analyze the countries that have triggered the SDGs (Diaz-Sarachaga et al. 2018). While the above studies provide valuable information regarding the implementation of SDGs, in detail, it is essential to clarify the positive and negative interactions between economic activity and the SDGs. The nexus of governance approaches to the SDGs is used and then grasps the implications for promoting sustainable growth in the private sector and

monitoring the economic activities' SDGs. The limitation of this research is that there is a risk of bias, and the myriad of economic activities make the synthesis become enormous (van Zanten & van Tulder 2020).

In a nutshell, three important factors influencing the policy nexus the SDGs will be considered with regard to the implementation of SDGs across world regions. First and foremost, the cultural factor is the leading determinant of sustainable development in the adoption of SDGs across countries. This cultural disparity can be divided into two parts: the constituent interpretation includes common beliefs, social norms, and moral values that are the barriers to meeting the SDGs by the influence of individuals' perceptions and actions; and the functional interpretation comprises cultural production, activities which drive the development of sustainable goals thanks to the engagement in producing sustainable goods and services, generating income, and sustaining growth and employment (Zheng et al. 2021). Moreover, cultural influences can be the trigger for meeting SDGs. The links between culture, community engagement, coherence, and society's transformation to ensure sustainable development are now widely acknowledged. Sustainable transition has a cultural component in six specific areas. For instance, Goal 8 represents economic system whose cultural concept is to develop cultures of sharing and trust. Goals 12 and 2 deal with cultural concepts in terms of changing food production; and eating habits among cultures. Goal 7 shows the connection with a cultural aspect in sharing experiences of decentralized energy production and saving. Goals 11 and 17 can leverage culture to promote global citizenship and collaboration. Goal 14 and 15 have a role in biodiversity and also express how the cultural cement and nature relate in harmony. Goal 3 addresses developing human well-being and balancing natural resources and the environment (European Commission 2022).

Second, the political aspect of sustainable development is crucial to meeting the SDGs. The implementation of these goals can be impacted by governance issues and the complex demands of integrated, holistic, and consistent policymaking. This highlights the importance of a stable political environment in order to ensure the successful implementation of sustainable policies. However, different countries face unique political circumstances that may pose challenges to the implementation of SDGs. For instance, countries with weak governance systems may struggle to enforce regulations and monitor the progress of sustainable development

initiatives. In the ASEAN countries, while strong efforts have been made to implement SDG-related policies, their effectiveness is considered weak (Elder & Ellis 2022). On the other hand, countries with established democratic systems and robust governance structures may be better equipped to tackle these challenges. For the EU for example, it is found that stringent environmental policies are the main drivers of economic development (Vovk et al. 2021). Furthermore, green preferences can be spread via different transmission channes. As shown by Mutascu et al. (2023), however there might occur adverse preference effects in polluted and in clean environments. Therefore, it is vital that policy-makers understand the political context of their country and work together to overcome the challenges that may arise in the pursuit of a more sustainable future (Glass & Newig 2019). We can determine that there are five political effects of SDGs (Biermann et al. 2022): on global governance in terms of restrictions on transformative impact and central guidelines; on domestic politics in terms of the lack of assistance and participation by non-state actors; on domestic institutional integration and policy coherence with regard to barriers in administrative systems; on inclusiveness in respect of mismatch between rhetoric and action; on ecological integrity at global level in the sense that some nations tend to prioritize socioeconomic SDGs over environmental ones.

Finally, sustainable goals can cause several financial problems when it comes to the economic factor. Especially, the commitment to ensure the SDGs are met can mean some burdens for underdeveloped nations. The more conspicuous the lack of financial resources, the wider the gap in attaining sustainable goals in a timely manner (Filho et al. 2022). When it comes to the interaction and correlation of economic activity and environmental protection, an investigation using the environmental Kuznets curve methodology is useful to generate implications for monitoring the SDG indicators (Liu 2020). The Kuznets curve, first introduced by Simon Kuznets (1955), explores the relationship between economic development and income inequality. The Environmental Kuznets Curve (EKC), developed by Grossman & Krueger (1995), expands on this concept by examining the relationship between economic growth and environmental protection. The EKC follows an inverted U-shape, where initial economic growth results in decreased environmental quality, but as incomes increase, it leads to better environmental protection (Sinha & Sengupta 2018; Lawson et al. 2020; Liu 2020). However, this relation-

ship may vary between regions such as the European Union (EU) and the Association of Southeast Asian Nations (ASEAN). In the context of the United Nations Sustainable Development Goals (SDGs), it's important to consider the potential negative impacts of economic growth on ecological sustainability (Erdogan 2020). The SDGs call for economic growth to be balanced with environmental protection and sustainable development. Thus, the EKC must be understood in the context of the unique economic and environmental conditions in the EU and ASEAN regions; to inform sustainable policies and practices. Finally, not only do the SDGs influence each other, it is also important to consider that there are many economic coupling and decoupling effects that are politically/economically influenced. These occur especially in monetized markets such as the energy market (Horky et al. 2022).

2.2   SDGs and Air Pollution

Air pollution is a multifaceted construct, explicitly not to be confused with simple greenhouse gas emission. Air pollution refers to the presence of certain substances in the air that can be harmful to human health or the environment. The presence of these substances can be caused by a variety of sources, including industrial activity, transportation, and power generation. The effects of air pollution can include respiratory problems, heart disease, and other health issues. Greenhouse gas emissions, on the other hand, refer to the release of gases that trap heat in the Earth's atmosphere, leading to global warming and climate change. While air pollution and greenhouse gas emissions are related, they are not the same thing. Air pollution is mainly a local issue, affecting air quality in a particular area, while greenhouse gas emissions are a global issue, affecting the Earth's climate as a whole. While greenhouse gas emissions obviously have the larger environmental scope, air pollutants have a much more direct impact on people's immediate experience and health (Fayyazbakhsh et al. 2022; Longhurst et al. 2018).

The paper tries to shed light on the connection of air pollution with meeting the SDG. According to Longhurst et al. (2018), the impact of air pollution is regarded as a barrier to meeting the SDGs. Sustainable growth cannot coexist with air pollution, and its management is an essential component of the path toward sustainability, which should be

made clearer within the SDG framework. Nevertheless, the problems of air quality, air pollution and its management are not explicitly defined in the 17 goals that make up the SDG framework. Air pollution features in three particular targets: health (Goal 3), cities (Goal 11), and sustainable consumption and production (Goal 12). Lode et al. (2016) state that SDGs are an opportunity to address air pollution and they emphasize the significance of air pollution as a human health hazard. Moreover, SDGs 3, 7, and 11 are mentioned by the World Health Organization. As stated by the WHO, addressing air pollution via these goals can have several positive side effects on human health. Specifically, three air pollution-related indicators are under the WHO's purview: 3.9.1: mortality rate attributed to household and ambient air pollution; 11.6.2: annual mean levels of fine particulate matter in cities; 7.1.2: proportion of population with primary reliance on clean fuels and technologies for sustainable energy goal (World Health Organization 2016). Zhu et al. (2022) examine the trade-offs between SDG-related goals and the other goals. They find complex dynamics but conclude that the SDG-related sub-goals lead to an improvement of most other goals. In the similar vein, Rafaj et al. (2018) emphasizes that multiple goals can be enhanced when addressing air pollution through the lens of the SDGs. According to Longhurst et al. (2018), we can determine the connection of air pollution to the SDGs as follows:

Table 1: SDGs Relation to Air Pollution[1]

Goal	General Classification	Relation to Air Pollution
1	End poverty in all its forms everywhere	Poor people in underdeveloped nations are usually more prone to illness caused by air pollution and related health problems. Such issues can further increase poverty and inequality.
2	Zero Hunger	The risk to crops is reduced by efforts to reduce emission, to restrict exposure to harmful concentrations. Managing pollutant concentrations could foster potential inward investment.
3	Ensure healthy lives and promote well-being for all at all ages	With negative effects on the respiratory system, cardiovascular system, and growing evidence of a life-long health impact, air pollution poses a serious risk to human health. Physical activity

[1] The relation of air pollution to SDGs in this table is extracted from (Longhurst et al. 2018) and refined by the authors' considerations.

		may become less appealing due to air pollution. Efforts to minimize emissions will enhance health and reduce spending on health care related to pollution.
4	Quality Education	Young children's cognitive development can be impacted by air pollution. Food insecurity and poverty are two indirect effects of air pollution on schooling. Less learning time will be lost as a result of illness or school closures linked to poor air quality.
5	Achieve gender equality and empower all women and girls	In low- and middle-income nations women are especially vulnerable to indoor air pollution caused by cooking methods. Efforts to encourage cooking techniques' resulting in lower' emissions will enhance indoor air quality and have a positive impact on women's health and wellbeing.
6	Ensure access to water and sanitation for all	This goal is directly impacted by air pollution. When sanitation issues are addressed, purification and sewage works can reduce local bio-aerosol and odor emissions as well as indirect emissions from energy use. Reduced emissions have a positive effect on water quality.
7	Ensure access to affordable, reliable, sustainable, and modern energy	Although coal and wood are less expensive energy sources, they also produce significant amounts of air pollution. It is supposed that the renewable energy systems can help to reduce the air pollution.
8	Promote inclusive and sustainable economic growth, employment, and decent work for all	Investment in innovative technology can increase efficient work and prospects for sustainable growth. Air pollution causes sick days at work and has a negative influence on economic growth by reducing productivity.
9	Build resilient infrastructure, promote sustainable industrialization, and foster innovation	The three main sources of air pollution are transportation, power generation, and industrial pollutants. Polluted surroundings speed up the deterioration of mental and physical labor; as a result, programs for emissions reduction offer chances for cost savings in infrastructure and innovation, and new technology replacement creates prospects for new sustainable infrastructure developments.
10	Reduce inequality within and among countries	The distribution of air pollution and the effects of emissions are unequal; for example, the elderly and the underprivileged are particularly vulnerable. Air pollution further follows a Kuznets curve dynamic, similar to inequality, related to growth.

11	Make cities inclusive, safe, resilient, and sustainable	The external image of megacities' is negatively impacted by the effects of air pollution. The amount of pollutants that citizens are exposed to has an impact on death and illness rates. The percentage of the population suffering from sickness caused by air pollution will reduce as a result of attempts to make cities more livable coupled with emission reduction programs.
12	Ensure sustainable consumption and production patterns	Consumption-driven economies generate demand for industrial production, which can result in emissions that worsen the problem of air pollution. Responsible consumption in homes and businesses can lower the demand for goods and services, which in turn lowers emissions.
13	Take urgent action to combat climate change and its impacts	Burning fossil fuels in industry, business, transportation, agriculture, and homes contributes significantly to climate change, which affects on human health, food security, access to fresh water, and the marine environment.
14	Conserve and sustainably use the oceans, seas, and marine resources	Acidification and eutrophication caused by releases from fuel burning, pollution from road runoff, and agricultural pollutants endanger marine and freshwater life.
15	Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss	Fuel combustion and other sources of emissions have a direct impact on vegetation through ambient concentrations, dry and wet deposition pathways, and other emission sources. Some gases will be absorbed by vegetation, and this can act as an efficient barrier to airborne particle migration.
16	End poverty in all its forms everywhere	Reduced availability to essential resources like food and fresh water as a result of air pollution's role in climate instability may cause resource conflict on a local and on a global level. Strong state environmental institutions and engagement are needed for air quality management programs to ensure that environmental justice is a policy aim and that efficient regulatory systems are created and put into place to improve air quality.
17	Revitalize the global partnership for sustainable development	Policy gaps and a lack of involvement are caused by a lack of partnerships addressing air pollution and climate action at local, national, and international levels. Air pollution as an issue among the SDGs is not directly addressed and therefore might be neglected or not tackled by the achievement of the SDGs.

Source: Own table.

2.3 Focus on ASEAN and EU

In the second batch of literature, this paper will illustrate the regional contexts of ASEAN and EU towards the SDGs. In the context of EU, according to the report of Eurostat (Eurostat 2022), EU has continued to make strong progress towards the goals on reducing poverty and social exclusion (Goal 1), health and well-being (Goal 3), gender equality (Goal 5), clean and affordable energy (Goal 7), the economy and the labor market (Goal 8), innovation and infrastructure (Goal 9), life below water (Goal 14), and peace, justice, and strong institutions (Goal 16). Because of mainly concentrating on air pollution, we will mention the SDGs related to this field. As to Goal 3, regarding external health factors, the proportion of individuals who have experienced a number of years of life lost as a result of exposure to air pollution by fine particulate matter has decreased recently. Regarding Goal 7, the EU was able to meet its goal thanks to a notable decrease in energy use. The reduction in energy consumption positively affected progress in energy supply, therefore, the growth in the share of renewable energies and the minor decrease in the EU's reliance on energy imports from non-EU nations are both visibly seen. Relating to Goal 11, the number of years of life lost owing to exposure to air pollution by fine particulate matter has reduced, though the respective 2030 target may be challenging to meet. Concerning Goal 12, in 2020, new passenger cars' average CO_2 emissions efficiency has increased, although more improvement is still needed to reach EU standards. Positively, since 2014, the gross value added in the area of environmental goods and services has increased significantly. In order to create a toxic-free environment, the Zero Pollution Action Plan which was published in May 2021, calls for air pollution to be decreased to levels that are no longer considered detrimental to human health.

According to Holzhacker & Agussalim (2019), ASEAN countries have made the significant progress towards the goals on cutting extreme poverty (Goal 1), eradicating tuberculosis and other diseases (Goal 3), improving school enrolment (Goal 4), protecting areas with high biodiversity (Goal 15), and provision of safe drinking water (SDG 6). In the meantime, there are some negative issues of infant and maternal mortality (Goal 3), cohort survival (Goal 4), deforestation (Goal 15), and carbon dioxide emissions (Goal 13). In the context of ASEAN, as to Goal 3, exposure to indoor and outdoor air pollution results in one of the highest

fatality rates in the ASEAN. With 2.1 million diagnoses in 2018, ambient air pollution is a factor that raises the risk of developing lung cancer, accounting for around 11.6% of the burden of cancer incidence. Via hypercapnia, an increase in CO_2 concentration can have a variety of negative effects on health (Taghizadeh-Hesary 2020). Relating to Goal 7, although the region has experienced only a slight improvement, efforts to develop renewable energy sources are needed. From 2016 to 2020, the percentage of renewable energy in overall final energy consumption was essentially stable, rising from 7.47 to 8.46 percent (ASEANstats 2022). Regarding Goal 11, traffic, industry, electricity generating, garbage burning, and home fuel combustion all contribute to ambient air pollution. Exposure to fine particulate matter is linked to mortality because it increases people's risk of heart disease and stroke. The three-year average of ASEAN's metropolitan areas' annual particulate matter exposure from 2017 to 2019 was 31.9 (micrograms per cubic metre). With respect to Goal 12, food loss and waste have significant environmental effects. These losses happen throughout farming operations, as well as during transit, storage, processing, and wholesale. Eight to ten percent of the world's greenhouse gas emissions are caused by food that ends up in landfills. In 2020, 15.1 percent of food was lost in ASEAN (United Nations 2022).

The main theme of the literature is how air pollution can be tackled through the lens of the SDGs. Contrary, we want to shed light on how meeting the SDGs is connected to increasing or decreasing air pollution. We assume this to be an important step, as air pollution itself is not directly tackled by the SDGs and some complex dynamics can be assumed.

3. Data & Methodology

The present analysis uses data from 2000 to 2019 covering 37 countries. Our country sample consists of countries from two culturally and politically very different regions of the world: the 27 EU countries and 10 ASEAN countries. A list of countries used can be found in Table A.1 in the Appendix. This country selection enables us to compare dynamics related to SDGs and air pollution in politically, culturally, and economically diverse environments. Therefore, we can assess the practicability of

the "one size fits all solution" created with the adoption of the SDGs. Our independent variables of main interest are the degree of achievement of the SDGs in each country. The 17 SDGs are in turn divided into a total of 169 sub-goals. Unfortunately, not all targets have sufficient data quality and quantity. Therefore, we use an index of target achievement for the individual SDGs here.[2] This index is calculated based on the sub-targets defined by the UN. This allows us to evaluate the target achievement of the individual countries. As additional variables, we use data on GDP (in current USD, in natural logarithms for our estimations), unemployment and inflation.[3] GDP and unemployment serve as controls for economic activity that is consider crucial for proactively enabling policies. Inflation is a control for fiscal policy and economic stability, i.e. it captures people's perception of economic activity. The descriptive statistics are presented in Table 2.

[2] The indices are retrieved from sdg-tracker.org (Roser & Ortiz-Ospina 2018). These indices are calculated by using officially available data from the UN and the platform "Our World in Data".
[3] This data is retrieved from the World Bank (World Bank Group 2023).

Table 2: Descriptive Statistics for our Data Sample[4]

	Nox	SO2	CO	OC	BC	NH
n	740.00	740.00	740.00	740.00	740.00	740.00
mean	20.48	15.28	64.50	2.53	0.85	9.82
sd	12.62	20.05	33.91	2.07	0.63	5.41
median	18.42	7.62	56.55	2.03	0.69	8.74
min	3.85	0.65	10.58	0.09	0.14	1.63
max	116.31	130.12	166.97	11.02	4.07	40.55
range	112.46	129.46	156.39	10.93	3.93	38.92
skewness	3.20	2.84	0.94	1.76	2.77	2.80
kurtosis	17.36	9.30	0.49	3.11	9.36	10.28
	ln(GDP)	Unemployment	Inflation	PC1	PC2	
n	740	740.00	740.00	740.00	740.00	
mean	25.56	7.16	3.14	0.00	0.00	
sd	1.65	4.71	4.65	3.09	1.29	
median	25.85	6.53	2.25	-0.54	0.10	
min	21.27	0.14	-4.48	-4.75	-3.71	

Source: Own table.

Our empirical approach follows a two-step procedure. In the first step, we investigate our data by using Spearman rank correlation for our variables of interest, especially the SDG goal indices and the air pollution variables. The Spearman correlation coefficient, also known as the rank

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[4] The Air pollutants are given in kg/capita, GDP is the natural logarithm of the 2000 fixed GDP in USD, Unemployment and inflation are given in percentage values. PC1 and PC2 are the first principal components of the SDG indices, an explanation of this methodological approach is given in the following section. The descriptive statistics for the SDG indices can be found in Table A2 in the Appendix.

correlation coefficient, is a non-parametric measure of the strength and direction of association between two variables. It is used to test for monotonic correlation, which is a relationship where the variables tend to increase or decrease together, but not necessarily in a linear fashion. The use of the Spearman correlation is motivated by several advantages it offers over other correlation methods, such as the commonly known Pearson correlation coefficient. Firstly, the Spearman correlation coefficient is a non-parametric measure, and thus it does not assume specific distribution of the data. This makes it an appropriate choice for taking a first look at macroeconomic data, which often exhibits non-normality and heteroscedasticity. Secondly, the Spearman correlation coefficient is robust to outliers and can be used to analyze ordinal or interval data. Thirdly, it tests for monotonic correlation and does not require the assumption of linearity, which is often not met in macroeconomic data. Therefore, the Spearman correlation is a useful tool for exploratory data analysis especially in the area of environmental relationships (Gauthier 2001; Wu et al. 2018).

The Spearman correlation is defined as follows:

$$r_s = \frac{cov(R(X), R(Y))}{\sigma_{R(X)} \sigma_{R(Y)}}$$

where the raw scores x_i and y_i are transformed into ranks. As we have similar values and not only distinct integer values, fractional ranks are computationally applied[5].

In the second step of our analysis, we conduct our core estimation by applying a panel fixed effects model to our data. The panel fixed effects model is a commonly used econometric method for analyzing panel data, which consists of observations of multiple units over time (e.g., in our case: countries & years). The use of this model is motivated by its ability to control for unobserved heterogeneity among the units of the panel, which is an important concern when analyzing macroeconomic data. Additionally, it allows for the estimation of the effect of an independent variable on a dependent variable while controlling for other time-invariant variables that may be correlated with both the independent and dependent variable. The panel fixed effects model is also able to control

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[5] We use the "ggcorrplot" package in R to calculate the Spearman rank correlation and to draw the presented plots.

for any omitted variable bias which is commonly present in cross-sectional studies. The model is specified as:

$$y_{i,t} = \alpha + \sum_{k=1}^{K} \beta_k X_{i,t} + \sum_{m=1}^{M} \beta_m Z_{i,t} + \theta + \tau + \varepsilon_{i,t},$$

where X is a vector of our main, interested-in independent variables, Z is a vector of control variables (GDP, Unemployment, Inflation), θ denotes the country-fixed effects and τ the time-fixed effects. A special feature of our analysis is the construction of our independent variables (X) as principal components of the SDG Goal Indices, resulting in a principal component regression (PCR).

The basic idea behind PCA is to find a new set of orthogonal variables, i.e. principal components, that can explain as much of the variation in the original variables as possible without being correlated. These principal components are linear combinations of the original variables and are ranked in order of their importance in explaining the variation in the data. The first principal component explains the most variance, the second principal component explains the second most variance, and so on. The main motivation for using PCR is the ability to handle collinearity, which is widely present in our SDG Indices data. Collinearity occurs when two or more independent variables are highly correlated with each other, leading to unstable and unreliable parameter estimates in standard regression. With the PCR we address this problem by extracting a smaller number of uncorrelated principal components from the original variables. In our analysis we use the first two principal components which account for 66% of the whole variance in our SDG indices data.

No direct effects of the individual goals can be identified from the PCR parameters. Therefore, in the third step of our analysis, we have to transform the resulting parameter vector back again to fit the SDG Goal index values. To do this, the corresponding parameter value β_k is multiplied by the loadings of the corresponding principal components $L_{j,k}$ and summed over the number of principal components used:

$$\hat{\beta}_j = \sum_{k=1}^{K} \beta_k L_{j,k}$$

So, $\hat{\beta}_j$ is an estimate of the parameter of the respective goal j, given the shrinkage properties of the PCR.

For all applied methodologies, we investigate our data sample as a whole and in regional sample splits, regarding the EU and the ASEAN countries. This sample split allows us to uncover possible different dynamics in these regions.
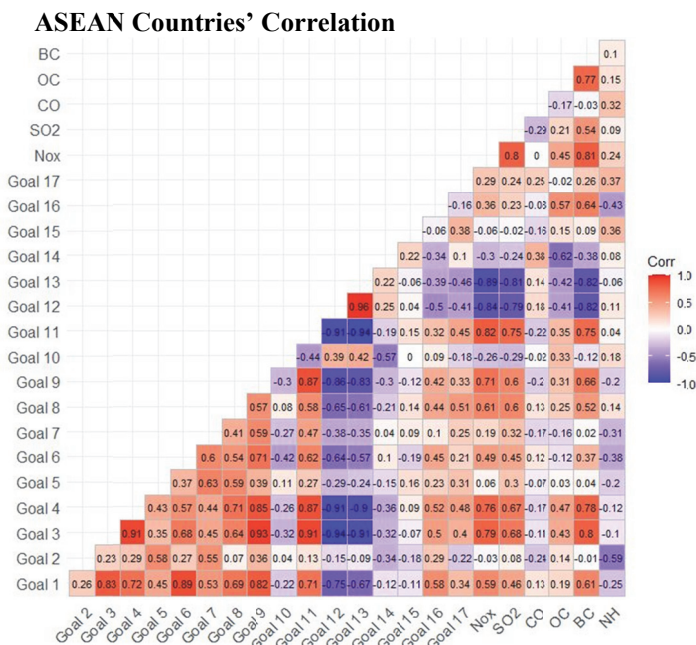
4. Results

First, we show the results of the Spearman correlation analysis in Figure 1. The upper plots show the correlation in the EU and ASEAN countries, the lower plot shows the correlation for the entire country sample.

As a general characteristic of the data, it can be seen that most of the SDGs are strongly positively correlated with each other. The exceptions are Goals 12, 13 and 14 (Responsible Consumption, Climate Action, Life below Water), which are negatively correlated or not correlated with the other goals. This is in line with previous findings in the literature. Especially the negative correlation of Goal 12 can be traced back to the paradigm of focusing on economic growth to generate welfare, without considering sustainability aspects (Pradhan et al. 2017). As one would reasonably expect, the SDGs in the full sample are mostly negatively correlated with air pollutants. This shows that, in principle, a certain level of achievement of the SDGs reduces air pollution.

If we now consider the plots for the sub-samples, we see that there are partly major differences between the EU sample and the ASEAN sample. The results show that SDG 10 (Reducing Inequalities) is negatively correlated with the other SDGs in ASEAN countries, while being positively correlated in the EU. This may be caused by different growth dynamics in the EU and ASEAN countries. In particular, if we consider the Kuznets curve theory (Kuznets 1955), it seems logical that inequality initially increases with stronger economic growth before this effect weakens. This example initially shows that different dynamics regarding meeting the SDGscan occur at different stages of development. Such different dynamics become particularly clear when examining the different correlations between the SDGs and "growth-related" air pollution. Nox, SO2 and BC are positively correlated with most of the goals in ASEAN countries and significantly less correlated with the SDGs in EU countries.

These three air pollutants are produced primarily as a result of burning fossil fuels, such as coal and oil, that contain sulphur as well as during the smelting of certain minerals, such as copper and zinc. Especially in emerging economies the power generation and industry sectors are the main contributors of Nox, SO2 and BC emissions. Additionally, the ASEAN countries in general have rapidly expanding industrial sectors, which further accelerate the issue of air pollution if not targeted comprehensively by policy makers. On the other hand, it must be stated that analysis of the correlations suggests a certain prioritization of the SDGs. Economic growth, general prosperity and zero hunger are dependent on cheap and widely available energy.

Figure 1: Spearman Correlation Across the SDG Indices and Air Pollution[6]

ASEAN Countries' Correlation

[6] The Figure depicts the Spearman correlation coefficients across the different SDGs and the air pollutants we investigate. We present the results for the full sample as well as for the EU and ASEAN countries.

EU Countries' Correlation

Full country samples' correlation

Source: Own illustration.

In the EU countries there is politically a strong focus on reducing air pollution, i.e. growth and economic opportunities are always weighted against their effect on air pollution, especially in bigger cities. This focus can be drawn and justified due to exceptionally high levels of economic development. Nevertheless, it must be mentioned that Goal 8 (Economic Growth) is also positively correlated with most air pollutants, except SO2, in the EU.

Furthermore, we see a negative correlation of Goals 14 and 15 with the other SDGs in the ASEAN countries, while these goals exhibit no or slightly positive correlations in the EU. These two goals target biodiversity on land and below water. Especially Goal 14 affects the ASEAN countries, due to their location by the sea, at first sight more than most European countries. Goal 15 also tends to be associated with tropical countries rather than EU countries. Last but not least, industrial development is often conducted at the expense of biodiversity due to the need for space and energy: a mechanism that could also be reflected in these correlations.

In the second step, we run the principal components regression. For this, we first perform the principal components analysis of the SDGs and then extract the loadings. For our PCR we use the first two principal components, as these already explain 66.1% of the variance. The representation of the PCA can be found in the appendix in Figure A1, the loadings of the first two PCs in Table A1. The largest differences in the composition of the PCs occur in Goals 5 to 8 (broadly growth/energy-related Goals) and Goals 14 & 15 (biodiversity), i.e. these goals are the distinguishing factors in the PCs. PC1 captures the negative connection of the goals, while PC2 reflects a positive component with growth and biodiversity-related Goals. Table 3 contains the results of the PCR.

When analysing the results, it is important to consider the negative signs of the parameters. For the EU sample we see significant parameters of PC1 for Nox, BC, and NH, indicating that a stronger achievement of the targets in most Goals leads to an increased emission of these air pollutants. For OC, we see a negative, significant parameter value for PC2, indicating that growth and biodiversity related goals are associated with decreasing OC emissions.

For the ASEAN countries we can see significant parameters of PC1 for all air pollutants, except OC. Noteworthy, compared to the EU sample are the strong significant parameters for SO2 and CO, indicating that

meeting SDGs is closely linked to emissions of these air pollutants. Another interesting result can be seen for BC as both PC1 and PC2 exhibit significant parameter values. Overall, for BC in ASEAN countries, PC2 shows the stronger parameter, indicating that growth and biodiversity-related goals are correlated with reduced emissions of BC, which is contrary to the EU results.

In Table A4 in the Appendix, we show the back-transformed parameters for the individual SDGs. The results broadly confirm what is already apparent from the regressions. In addition to the results, however, one can clearly see the regional difference, especially for Goal 15, which has a negative parameter value in the ASEAN countries and is thus associated with lower air pollution.

In summary, our analysis reveals four key differences in the dynamics between the EU and ASEAN countries. First, Goal 10 is negatively correlated with the other SDGs in ASEAN countries, while it is positively correlated in the EU. Second, we see a big difference in the dynamics of the goals on air pollution. In particular, the regression shows that the growth-related goals contribute to a strong increase in SO2 and CO emissions in ASEAN countries. In the EU, the SDG parameters for these air pollutants are insignificant. Third, we see different dynamics for the biodiversity-related SDGs 14 and 15. While these have a negative effect on air pollution in ASEAN countries, the effect is not so clear in the EU. This is particularly evident for Goal 14 and the air pollutants SO2 and CO. Fourth, there are slight indications that meeting of growth-related goals in ASEAN countries is not accompanied by an increase in BC emissions as is the case in the EU.

Table 3: Results of the Principal Components Regression

| | Full Sample | | | | | |
	Nox	SO2	CO	OC	BC	NH
Ln(GDP)	3.308	-4.382	12.392[*]	-0.212	0.117	0.317
	(3.435)	(8.249)	(7.169)	(0.234)	(0.075)	(0.601)
Unemployment	-0.265[**]	-0.038	0.318	-0.038[***]	-0.013[***]	-0.105[**]
	(0.113)	(0.401)	(0.306)	(0.012)	(0.003)	(0.049)
Inflation	-0.038	0.001	-0.045	-0.01	-0.001	-0.007
	(0.062)	(0.171)	(0.244)	(0.009)	(0.002)	(0.022)

PC1	-7.089**	-9.210*	-11.484*	-0.227	-0.086	-0.467
	(3.083)	(5.342)	(6.923)	(0.190)	(0.059)	(0.326)
PC2	-1.471	-8.276**	-9.122**	-0.181	-0.062*	-0.731**
	(1.219)	(3.343)	(4.169)	(0.155)	(0.036)	(0.350)
Country & Time	Yes	Yes	Yes	Yes	Yes	Yes
Observations	740	740	740	740	740	740
Adjusted R2	0.498	0.328	0.472	0.05	0.351	0.095
F Statistic	33.050***	17.544***	30.076***	4.116***	19.166***	5.717***

	EU Countries					
	Nox	SO2	CO	OC	BC	NH
Ln(GDP)	-6.475	-16.234	2.632	0.996*	0.126	2.259
	(10.85)	(12.274)	(13.149)	(0.578)	(0.208)	(1.838)
Unemployment	-0.339*	-0.848**	0.1	0.018	-0.01	-0.013
	(0.184)	(0.379)	(0.339)	(0.028)	(0.006)	(0.070
Inflation	-0.254	0.063	-0.951**	0.003	-0.004	0.011
	(0.171)	(0.511)	(0.399)	(0.015)	(0.004)	(0.055)
PC1	-12.184*	5.912	-8.391	-0.965	-0.225*	-2.041***
	(6.594)	(5.126)	(5.947)	(0.615)	(0.132)	(0.574)
PC2	0.172	-3.388	-4.172	-0.508*	-0.038	-0.877**
	(1.494)	(3.294)	(3.846)	(0.274)	(0.052)	(0.341)
Country & Time	Yes	Yes	Yes	Yes	Yes	Yes
Observations	540	540	540	540	540	540
Adjusted R2	0.578	0.451	0.674	0.267	0.49	0.258
F Statistic	32.882***	20.522***	48.490***	10.272***	23.673***	9.872***

	ASEAN Countries					
	Nox	SO2	CO	OC	BC	NH
Ln(GDP)	1.392	-8.612	-25.256	0.071	-0.097	-1.710**
	(2.798)	(9.922)	(16.373)	(0.345)	(0.082)	(0.704)
Unemployment	-1.476***	2.186	-2.787*	-0.172	-0.005	0.337**
	(0.449)	(2.037)	(1.612)	(0.105)	(0.017)	(0.137)

Inflation	-0.029	-0.24	-0.182	-0.005	-0.001	-0.030[*]
	(0.035)	(0.175)	(0.228)	(0.005)	(0.001)	(0.018)
PC1	-4.066[**]	-15.788[*]	-17.227[**]	-0.053	-0.050[*]	-0.359[**]
	(1.957)	(9.000)	(7.796)	(0.154)	(0.030)	(0.158)
PC2	-3.773	-9.638	-9.119	-0.296[**]	-0.141[**]	-0.007
	(2.728)	(7.077)	(6.491)	(0.140)	(0.059)	(0.485)
Country & Time	Yes	Yes	Yes	Yes	Yes	Yes
Observations	200	200	200	200	200	200
Adjusted R2	0.379	0.265	0.26	0.045	0.075	0.336
F Statistic	6.445[***]	4.367[***]	4.287[***]	1.764[**]	2.048[***]	5.580[***]

Source: Own table[7].

5. Discussion and Conclusion

This study analyzes the correlation between the Sustainable Development Goal (SDG) indices and air pollution in 37 countries with varying political, cultural, and economic characteristics, using data from UN sources, "Our World in Data", and the World Bank. While most research focuses on greenhouse gas emissions, we contribute to knowledge on sustainable development goals by explicitly targeting the gap concerning air pollution as an effect that directly affects people and their health. We use data from the SDG Tracker, i.e. an index capturing the UN-defined subgoals and measuring the extent to which these are met. An important point of our analysis that can be further discussed, but that also opens up opportunities for further research, is that we refer to official figures and ultimately to a calculated index. There is no qualitative assessment of this measurement.

Several findings can be deducted from our analysis. First, the results show that in ASEAN countries, Goal 10 (Reduced Inequalities) has a negative correlation with most other SDGs while in the EU it shows a broadly positive correlation. Two main mechanisms can be responsible

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[7] The table contains the fixed-effects regression. *, **, *** denote significance at the 10%, 5% and 1% level respectively. Country-clustered standard errors are presented in parentheses.

for this. On the one hand, ASEAN countries have experienced a strong surge in economic development, which can be accompanied by growing social inequality. On the other hand, EU countries, which paid more attention on reducing inequality, achieved better performance on Goal 10 (Reduced Inequalities).

The article also finds that air pollution, particularly SO2 and CO emissions, is positively connected to most SDGs in ASEAN while the trend in the EU is not clear. This could be due to the rapid economic development in ASEAN nations as well, which has led to environmental issues such as severe air pollution and greenhouse gas emissions. SO2 and CO in particular are air pollutants that arise in industrial production and in the generation of energy from fossil fuels. Particularly cheap and accessible energy is crucial for fast economic growth and prosperity in emerging countries such as most of the ASEAN nations. On the other hand, the EU's National Emissions Reduction Commitments Directive aims to reduce main air pollutants to protect health and the environment. Not to be forgotten, however, are potential spillover effects. EU countries are increasingly turning into service societies, industrial production is being outsourced via global supply chains. It is therefore quite conceivable that at least some of the air pollutants can be indirectly traced back to outsourced EU production.

Third, the analysis shows, the impact of the biodiversity related Goals 14 (Life Below Water) and 15 (Life on Land) for the ASEAN countries. These goals have a negative impact on air pollution, while these dynamics are not that pronounced in the EU. This might indicate a more consistent approach to these goals in ASEAN countries. On the other hand, the ASEAN countries, as tropical countries with large areas of ocean, also have different requirements and perspectives for these goals.

Furthermore, our analysis shows slight evidence that growth-related SDGs are not associated with an increase in black carbon in ASEAN countries. Black carbon arises from incomplete combustion of fossil fuels, however strong industrial filtering options are available. It is encouraging to see that ASEAN countries, unlike Western countries, no longer cause massive BC emissions in the earlier stages of economic growth.

The results of this analysis indicate the influence of political goal prioritization and highlight differences in prioritization between EU and ASEAN countries. The results suggest that there is a focus on economic

growth and prosperity in ASEAN countries. A pivotal prioritisation explains the dynamics, especially for air pollutants. In the EU, on the other hand, emissions and social goals are promoted relatively strongly. The EU Climate & Energy Framework sets targets such as 32% renewable energy share and 32.5% improvement in energy efficiency by 2030 (European Commission 2023). These targets are prioritised alongside economic growth. One policy implication is that balanced goal prioritisation is important. The SDGs have the potential to have a contrary effect, especially with regard to air pollution, if individual goals are overprioritised. It is essential that policy-makers take into account the political context of their country and develop strategies to overcome the challenges that may arise. Collaboration between government agencies, civil society organizations, and the private sector is also critical in ensuring that the implementation of sustainable development goals is effective and consistent.

However, as we live in a globalized world, spillover effects have to be considered as well. The EU is strongly shifting towards a digital, service-based economic system. The raw materials necessary for industry are imported via global supply chains, i.e. meeting several SDGs in the EU might be driven by outsourcing specifically negative aspects. On the other hand, the ASEAN countries as growing economies might be dependent on global supply chains to sell products (think of the textile industry) to generate value. Therefore, positive spillovers like transfer of technology and educational partnerships should be promoted by countries that have already reached a certain level of development. This could also promote a rebalancing of SDGs in growing countries and help gain an understanding of problems and efforts that other societies are facing.

Finally, the societal factor is a critical component in the successful implementation of sustainable development goals. In order to effectively address these goals, it is crucial to consider and account for cultural differences in different regions and countries. Despite the fact that none of the 17 SDGs is solely focused on culture, cultural considerations are evident throughout the targets of these goals. Each country has unique cultural characteristics that must be taken into account when implementing measures to achieve these goals. To ensure that sustainable development efforts are effective and inclusive, it is important to redefine measures to accommodate cultural differences. This includes leveraging cultural similarities among countries based on factors such as geography and lan-

guage. By taking a culturally sensitive approach, it should be possible to overcome cultural barriers and promote sustainable development in a way that is respectful of diverse communities. Additionally, understanding and considering cultural differences can also provide valuable insights into the various ways in which people can contribute to sustainable development efforts. This can lead to more effective and efficient solutions, as well as increased public support and engagement, which are crucial to the success of sustainable development initiatives.

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Appendix

Table A1: Overview of the Country Sample

	Countries
EU	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Germany, Denmark, Spain, Estonia, Finland, France, Greece, Croatia, Hungary, Ireland, Italy, Lithuania, Latvia, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Sweden
ASEAN	Brunei Darussalam, Cambodia, Laos, Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam

Table A2: Descriptive Statistics for the SDG Indices

	Goal 1	Goal 2	Goal 3
vars	1.00	2.00	3.00
n	740.00	740.00	740.00
mean	91.18	65.76	80.06
sd	17.69	7.34	14.41
median	98.98	66.35	84.86
min	34.12	39.79	29.57
max	100.00	78.39	95.74
range	65.88	38.60	66.16
skew	-2.10	-0.88	-1.49
kurtosis	3.02	1.10	1.68

	Goal 8	Goal 9	Goal 10
vars	8.00	9.00	10.00
n	740.00	740.00	740.00
mean	75.01	50.56	79.41
sd	8.36	27.11	16.61
median	75.31	50.96	81.23
min	52.16	2.77	27.17
max	89.92	97.32	100.00
range	37.76	94.55	72.83
skew	-0.62	-0.07	-0.85
kurtosis	-0.03	-1.19	0.59

	Goal 15	Goal 16	Goal 17
vars	15.00	16.00	17.00
n	740.00	740.00	740.00
mean	70.66	76.55	58.55
sd	17.02	10.67	11.23
median	73.85	77.96	59.54
min	34.67	45.84	32.84
max	97.89	94.16	89.59
range	63.22	48.32	56.75
skew	-0.43	-0.53	0.26
kurtosis	-0.80	-0.21	0.12

Note: The SDGs are measured in an index composed of the available data for the respective sub-goals. The indices are retrieved from sdg-tracker.org. They can range from 0 to 100 with 100 meaning that the goal, as defined by the UN, is fully achieved.

Figure A1: Principal Components Plot for the first two PCs.
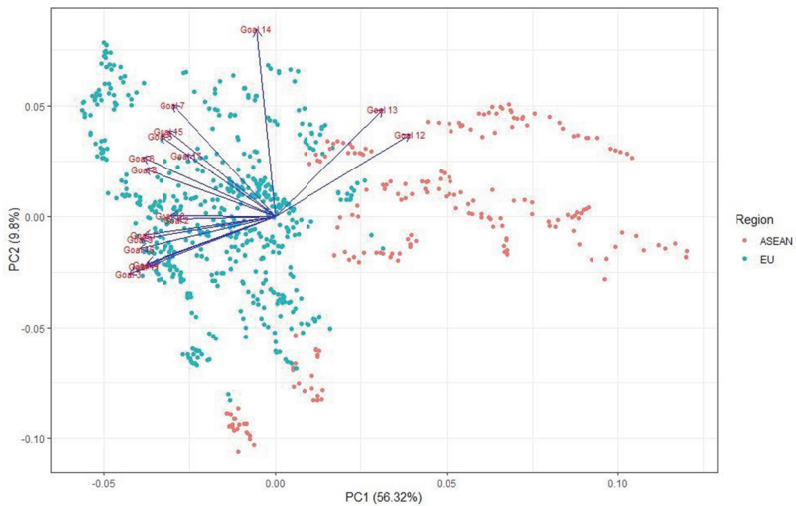
Note: The loadings plot shows the relationship between the PCs and the original variables. Furthermore, the PC Values grouped by regional subsample are included in this plot.

Table A3: Loadings for the first two PCs

	PC1	PC2	Difference
Goal 1	-0.271	-0.057	0.214
Goal 2	-0.202	-0.007	0.194
Goal 3	-0.301	-0.179	0.122
Goal 4	-0.266	-0.148	0.118
Goal 5	-0.235	0.257	**0.492**
Goal 6	-0.273	0.189	**0.462**
Goal 7	-0.210	0.357	**0.567**
Goal 8	-0.268	0.152	**0.421**
Goal 9	-0.277	-0.069	0.208
Goal 10	-0.214	0.005	0.219
Goal 11	-0.268	-0.154	0.114
Goal 12	0.277	0.262	0.015
Goal 13	0.220	0.342	0.122
Goal 14	-0.038	0.594	**0.632**
Goal 15	-0.217	0.273	**0.490**
Goal 16	-0.278	-0.101	0.177
Goal 17	-0.181	0.196	0.378

Note: The difference is bold for all values >0.4, indicating a fundamental difference in the composition of the PCs.

Table A4: Back transformed Parameters for the Individual SDGs

	EU Countries					
	Nox	**SO2**	**CO**	**OC**	**BC**	**NH**
Goal 1	**3.292**	-1.409	2.512	**0.290**	**0.063**	**0.603**
Goal 2	**2.460**	-1.171	1.724	**0.198**	**0.046**	**0.418**
Goal 3	**3.637**	-1.173	3.272	**0.381**	**0.075**	**0.771**
Goal 4	**3.215**	-1.071	2.849	**0.332**	**0.065**	**0.673**
Goal 5	**2.907**	-2.260	0.900	**0.096**	**0.043**	**0.254**
Goal 6	**3.359**	-2.254	1.502	**0.167**	**0.054**	**0.391**
Goal 7	**2.620**	-2.451	0.273	**0.021**	**0.034**	**0.116**
Goal 8	**3.291**	-2.099	1.615	**0.181**	**0.055**	**0.414**
Goal 9	**3.363**	-1.404	2.612	**0.302**	**0.065**	**0.626**
Goal 10	**2.608**	-1.282	1.775	**0.204**	**0.048**	**0.432**
Goal 11	**3.239**	-1.063	2.891	**0.337**	**0.066**	**0.682**

Goal 12	**-3.330**	0.750	-3.417	**-0.400**	**-0.072**	**-0.795**
Goal 13	**-2.622**	0.142	-3.273	**-0.386**	**-0.062**	**-0.749**
Goal 14	**0.565**	-2.237	-2.159	**-0.265**	**-0.014**	**-0.443**
Goal 15	**2.691**	-2.208	0.682	**0.071**	**0.038**	**0.203**
Goal 16	**3.370**	-1.301	2.754	**0.320**	**0.066**	**0.656**
Goal 17	**2.239**	-1.734	0.701	**0.075**	**0.033**	**0.198**

ASEAN Countries

	Nox	SO2	CO	OC	BC	NH
Goal 1	**1.317**	**4.828**	**5.188**	**0.031**	**0.022**	**0.098**
Goal 2	**0.848**	**3.257**	**3.544**	**0.013**	**0.011**	**0.073**
Goal 3	**1.899**	**6.477**	**6.818**	**0.069**	**0.040**	**0.109**
Goal 4	**1.640**	**5.626**	**5.932**	**0.058**	**0.034**	**0.097**
Goal 5	**-0.014**	**1.233**	**1.705**	**-0.064**	**-0.024**	**0.083**
Goal 6	**0.397**	**2.489**	**2.979**	**-0.041**	**-0.013**	**0.097**
Goal 7	**-0.493**	**-0.125**	**0.362**	**-0.095**	**-0.040**	**0.073**
Goal 8	**0.516**	**2.766**	**3.231**	**-0.031**	**-0.008**	**0.095**
Goal 9	**1.387**	**5.038**	**5.401**	**0.035**	**0.024**	**0.100**
Goal 10	**0.851**	**3.330**	**3.641**	**0.010**	**0.010**	**0.077**
Goal 11	**1.671**	**5.715**	**6.021**	**0.060**	**0.035**	**0.097**
Goal 12	-2.115	-6.898	-7.161	-0.092	-0.051	-0.101
Goal 13	-2.185	-6.770	-6.909	-0.113	-0.059	-0.081
Goal 14	-2.087	-5.125	-4.762	-0.174	-0.082	0.009
Goal 15	-0.148	0.795	1.249	-0.069	-0.028	0.076
Goal 16	**1.511**	**5.363**	**5.710**	**0.045**	**0.028**	**0.101**
Goal 17	-0.004	0.969	1.331	-0.048	-0.019	0.064

Note: The back transformed values are bold if at least one of the principal components shows a significant value. However, for interpretation purposes an evaluation of the significance of the PCs in the respective regressions is necessary.

The Impact of Road Transportation on Air Quality in Vietnam

Raven Rudnik and Diana Zervas

1. Introduction

It is highly probable that anyone who has ever travelled to Vietnam will need to adapt to manoeuvring through the busy streets unless they originate from an area that also has exceptionally congested traffic. The roads are inundated with a vast number of motorcycles that appear to be approaching from all directions, often side-by-side and cutting into the queue, all on a single path. In larger cities such as Ho Chi Minh City, there are swarms of motorcycles on the roads that are seemingly impossible to accommodate, yet the traffic flows surprisingly smoothly most of the time. They play such a vital role in the daily life of the Vietnamese that some might say they aren't only a vehicle for transportation but also a part of their culture.

The popularity of motorcycles in Vietnam has changed the perception of national symbols, with motorcycles now representing status and freedom, taking the place of Ho Chi Minh as a unifying national symbol (Freire 2009: 67). This reflects broader societal changes in Vietnam, with a shift towards consumerism and individualism. The growing importance of motorcycles in Vietnamese culture is a significant cultural and social phenomenon, reflecting the country's ongoing struggles with modernity. Motorcycles have become an essential item of consumption since the renovation policy in 1986, and have been appropriated in social practices, including as a place of intimacy (Freire 2009: 67).

Even though riding a motorcycle is an essential part of daily life for many Vietnamese people, there are also negative consequences. In addition to traffic injuries, in some areas, people are wearing masks to protect

themselves from air pollution. This is not only a concern for human health, but it also has an impact on the environment, global warming, and the economic welfare of Vietnam. Road traffic plays a vital role in causing air pollution, but there are alternatives to mobility, such as public transport, e-mobility or cycling, that can be used instead to improve air quality.

The 2030 Agenda for Sustainable Development, adopted by all UN Member States in 2015, aims to achieve a better and more sustainable future through 17 Sustainable Development Goals (SDGs). The SDGs require action from all countries to address various issues, such as "poverty, inequality, climate change, environmental degradation, peace and justice" (United Nations 2020).

As air pollution also has a negative effect on these issues, it is also in the interests of the United Nations to take immediate action in bettering air quality. Cities are of great importance for sustainable development: SDG 11, which aims for Sustainable Cities and Communities, focuses on making "cities and human settlements inclusive, safe, resilient and sustainable" and "sustainable transport" which includes battling air pollution, as the Sustainable Development Goals Report 2022 addresses that 99% of the world's urban population breathes polluted air. The SDGS of particular relevance to air pollution due to traffic are SDG target 3.9.1, which calls for a "substantial reduction in deaths and illnesses from air pollution" and SDG target 11.6.2, which aims to reduce the environmental impact of cities by improving air quality (WHO 2023).

Other SDGs such as number 7 (Affordable and Clean Energy) or 13 (Climate Action), 10 (Reducing Inequalities) are also related to tackling the dangers arising from the current state of road traffic and air pollution. To meet the SDGs, different stakeholders need to work together, which is why SDG number 17 (Partnerships for the Goals) is also of great importance for most sustainability goals, especially if they concern a global issue such as air pollution. That's why the 2030 Agenda Partnership Accelerator, an initiative that "aims to significantly help accelerate and scale up effective partnerships in support of the 2030 Agenda for Sustainable Development", is working on a guidebook to "build high impact multi-stakeholder partnerships for the Sustainable Development Goals" (Stibbe et al. 2020). Vietnam is a good example of making use of transcultural cooperation, as will be presented later.

The UN is supporting Vietnam and its partners in meeting all the 17 sustainable development goals, including those related to air pollution. In order to analyze air quality, the UN Environment Programme conducted research in 2015 on Vietnam's national-level policies which are relevant to air quality as a "response to Resolution 7 of the first UN Environment Assembly" (UN environment programme 2015). Vietnam has implemented numerous changes and initiatives to improve road transportation and, subsequently, air quality, that all contribute to those and many other SDGS and which will be examined in the following paper. To gain a better understanding of the topic it starts with an introduction to the causes and effects of air pollution in general, as it is a worldwide problem that needs to be tackled cross-culturally. Afterwards it focuses on the current situation of pollution in Vietnam to then present the efforts being made to deal with this dangerous issue.

2. Causes of Air Pollution

Air pollution is composed of substances such as chemicals or particles that exist in the air and can appear in diverse forms such as gases, solid particles, or liquid droplets (National Geographic Education 2022).

Air pollution is caused by both natural and human-made sources that introduce contaminants into the Earth's atmosphere. Anthropogenic sources, including emissions from factories, cars, planes, and aerosols, are responsible for most of the air pollution, while natural sources, such as smoke from wildfires or ash from volcanoes, also contribute to it. Urban areas are more susceptible to air pollution, especially when emissions from multiple sources concentrate. Smog, a cloud-like formation that makes the air murky, is a type of air pollution typically observed in large cities. Indoor air pollution, which can be equally dangerous, can occur due to various reasons, such as burning substances like kerosene, wood, or coal for heating, naturally occurring radon gas, toxic mould, and hazardous construction materials. Air pollution is an issue in both developed and developing countries (National Geographic Education 2022).

For instance, some of the world's most polluted cities, such as Los Angeles, Karachi, New Delhi, Beijing, Lima, and Cairo, are in both developed and developing nations (National Geographic Education

2022). Looking at Vietnamese cities, Hanoi is ranked amongst the top 15 most polluted cities in Southeast Asia (IQAir 2019). According to the United Nations Environment Programme (UNEP), urban areas in Africa and Asia face the most acute air pollution problems. In low- and middle-income countries, 98 percent of cities with more than 100,000 inhabitants fail to meet the air quality guidelines set by the World Health Organization (WHO) (United Nations 2016).

These failures in meeting air quality guidelines bring manifold negative consequences. The following discussion addresses some of these consequences, focusing in particular on the impact of air pollution on human beings, on the environment, global warming, and welfare.

3. Effects of Air Pollution

3.1 Effects: Humans

Exposure to air pollution can cause short-term and long-term health effects, which can affect several different systems and organs (Castanas & Kampa 2008).

Short-term effects are temporary and include illnesses such as bronchitis and discomfort such as irritation to the nose, throat, eyes, or skin. Long-term effects can last for years, even a whole lifetime, and can be fatal. These effects include heart disease, lung cancer, respiratory diseases, and damage to other organs. Children, older adults, and those with weaker immune systems are more sensitive to pollution, and those with conditions such as asthma, heart disease, and lung disease can have their conditions worsened by exposure. (National Geographic Education 2022)

Furthermore, exposure to air pollution, whether it be short-term or long-term, has been linked to premature mortality and a decrease in life expectancy (Castanas & Kampa 2008). Worldwide, approximately 2.5 million people die every year due to the risks from outdoor or indoor air pollution (National Geographic Education 2022).

Air pollution also affects human behavior. For example, it has a negative impact on the productivity of agricultural workers, but also on less physically demanding jobs such as in communication centers. There are also studies showing that high levels of stress hormones are also associated with fine particulate matter, which can also lead to behavioral changes, such as impatience (Almetwally et al. 2020: 2825).

In Vietnam the effects of air pollution on human health have been a significant problem, leading to over 60,000 deaths every year. Air pollution risks are primarily experienced by people living in poverty due to social, economic, and geographical factors. Studies in Vietnam have shown that poor adults and children are more exposed to unhealthy particle matter, which can result in increased hospitalizations due to respiratory infections. The Poverty-Environment Partnership has also found that those in poverty are more susceptible to infections, incur higher costs for environmental health services, and suffer income loss and job insecurity when they fall ill (Lee 2022).

3.2   Effects: Environment

The world's first control laws for air pollution were motivated by concern for human health. The effects of air pollution are not limited to humans, animals, and plants but can also harm entire ecosystems. Hazy air pollution can obscure shapes, colors, and muffle sounds. Air pollution particles can contaminate bodies of water and soil, killing crops and trees. Exposure to air pollution can also cause health problems in animals, including birth defects, diseases, and lower reproductive rates (National Geographic Education 2022).

Air pollution also causes acid rain, which is precipitation containing toxic amounts of nitric and sulphuric acids that can acidify water and soil environments, damage trees, plantations, buildings, and outdoor sculptures. Ozone, which occurs in the ground and in the upper levels of the Earth's atmosphere, is protective in the stratosphere but harmful to human health as a pollutant in the lower atmosphere. Although the "greenhouse effect" is intended to maintain the Earth's temperature equilibrium, anthropogenic activities are generating such significant quantities of greenhouse gases that they lead to global warming, which, in turn, adversely affects human health, animals, forests, wildlife, agriculture, and water environments (Manisalidis et al. 2020: 9).

Airborne toxic pollutants harm wildlife, causing health problems, reproductive failure, and birth defects. Eutrophication, caused by excessive nutrients such as nitrogen, leads to the blooming of aquatic algae, causing a disequilibrium in fish diversity and deaths. However, the main threat to our ecosystems, air, water, soil, and living organisms arises from lead and other metals (Manisalidis et al. 2020:10).

3.3   Effects: Global Warming

Global warming is an environmental issue caused by natural and human-made air pollution that results in rising air and ocean temperatures worldwide (National Geographic Education 2022). This is partly caused by increased concentrations of greenhouse gases in the atmosphere, which trap heat energy and cause the earth's temperature to rise. Carbon dioxide, released from burning fossil fuels such as coal, gasoline, and natural gas, is the largest contributor to global warming. Other greenhouse gases such as methane, nitrous oxide, and fluorinated gases are emitted by natural and artificial sources, including agriculture, industrial factories, and the burning of fossil fuels. Several countries have taken measures to limit greenhouse gas emissions to combat global warming, including the Kyoto Protocol, which was signed by 183 countries. However, the United States has not signed this treaty, which some analysts believe will make the treaty ineffective as they won't achieve their environmental aim with the US not being included in the protocol (ibid.). However, the success of the Protocol can be judged relative to a variety of aims and purposes, including legal, environmental, and political (Müller 2023).

3.4   Effects: Welfare

The economy of Vietnam is also affected by environmental pollution, as stated by the World Bank. According to its estimates, Vietnam's annual GDP is reduced by 5% due to the impact of air pollution. To tackle these challenges comprehensively, the Reducing Pollution project aims to involve and seek the opinions of ordinary Vietnamese citizens who are exposed to the harmful effects of air pollution on a daily basis (Lee 2022).

There are several reasons why air pollution harms countries' economies, one of them being the degrading of the functioning of natural ecosystem which, for example, has an impact on the agriculture sector by reducing growth in crop fields. Another reason is that with labor becoming more global, air pollution is "harming economic competitiveness and the ability of growing cities to attract top talent" (World Bank & Institute for Health Metrics and Evaluation 2016: 5). For example, a survey by the

American Chamber of Commerce in Hong Kong showed that "around one-third of employers said they were having a harder time recruiting overseas candidates because of concerns about air quality." (Pak 2013 (as cited by World Bank & Institute for Health Metrics and Evaluation 2016: 5).

Another reason for welfare loss is premature mortality. A report by the World Bank takes two approaches to value those costs: Firstly, the standard approach in high income-countries, a "welfare-based approach that monetizes the increased fatality risk from air pollution according to individuals' willingness to pay (WTP)" (World Bank & Institute for Health Metrics and Evaluation 2016: 47).

The welfare-based approach is better suited for assessing the complete economic implications of premature mortality as it accounts for the loss of various aspects that individuals hold dear besides their earnings. These include their quality of life, free time, physical well-being, and mere existence. This value is indicated by the WTP, which represents the additional sacrifices that people are willing to make to lower their risk of death (ibid.: 48).

Secondly, they used "an income-based approach that equates the financial cost of premature mortality with the present value of forgone lifetime earnings" (ibid.: 47). It can be helpful to measure costs within the extended boundaries of national accounts such as adjusted net savings (ANS), which measure "the change in the value of a nation's assets, including manufactured capital as well as natural and human capital" (see Hamilton and Clemens 1999; World Bank 2005, 2011 (as cited by World Bank & Institute for Health Metrics and Evaluation 2016: 47)). However, the income-based approach is often criticized for not taking the losses of people outside the labor force into account (World Bank & Institute for Health Metrics and Evaluation 2016: 48).

The income-based approach is useful for financial analysis and evaluating pollution costs in national accounts, such as the World Bank's adjusted net savings (ANS) measure. This measure assesses a country's asset value, including natural and human capital. Positive savings indicate an investment in future well-being, while premature mortality due to pollution represents a depletion of a nation's human capital. The income-based approach values this depletion based on the expected loss of earnings over the asset's lifetime. However, this approach also raises questions about how to value unpaid work in the economy, such as subsist-

ence farming and domestic activities. According to several studies, premature mortality is by far the biggest reasoning for welfare loss (ibid.: 47f).

4. How is Air Pollution Measured?

To measure air quality, there are specific monitors that have sensors which detect specific pollutants. Databanks process the readings from those air quality monitors usually from the government, crowd-sourced or satellite-derived. While some monitors have lasers to scan particulate matter density per cubic meter of air, others rely on satellite imaging to measure energy reflected or emitted by the Earth. Quality differs depending on the set up and monitoring, which is why the data in the database might be weighted differently depending on the reliability of the monitors (UN environment programme 2022).

IQ AiR is one of the technology partners of the United Nations Environmental Program, UN Habitat, and Greenpeace and delivers historical, real-time, and forecast air quality data (IQAir 2023). The IQAir annual World Air Quality Report covers global air quality based on data from over 6,000 cities in 117 countries. The data is collected through a real-time online air quality monitoring platform and uses PM2.5, fine particulate matter concentration ($\mu g/m^3$), as the standard metric for measuring air pollution. There are all kinds of pollutants in different sizes, but fine particulate matter is especially dangerous for human health. Data visualization is based on the WHO annual air quality guideline levels and interim targets for PM2.5. The report aims to inspire collective action to improve air quality and create healthier communities (IQAir 2022).

Air Quality monitoring is not a legal requirement in 37 percent of countries according to a report from the United Nations Environment Programme (UNEP) in 2021. Experts are concerned that the monitoring isn't rigorous enough in many countries and the UN's Technology Policy Director Alexandre Caldas even warns that air quality monitoring and transparent access to data is critical, as "governments and countries can identify air pollution hotspots and take targeted action to protect and improve human and environmental well-being and our future" (UN Environment Programme 2022).

5. Current Situation with Air Pollution in Vietnam

Vietnam has severe air pollution, ranking 36th among 118 countries with the highest levels of pollution in 2021. Hanoi and Ho Chi Minh City, the two largest cities in the country, are now among the top 15 most polluted cities in Southeast Asia, with fine particulate matter (PM2.5) being a major concern. Hanoi had only eight days in 2019 when PM2.5 levels were below the national standard, while Ho Chi Minh City had only 36 days, leaving over ten million residents exposed to heavily polluted air for the rest of the year. The primary sources of urban air pollution are transportation, industrial activities, construction, agriculture, handicraft production, and poor waste management practices, as per the Ministry of Natural Resources and the Environment (MONRE). Vietnam passed a National Action Plan in 2016 to control and reduce air pollution, including regulations on new vehicle emission standards, better traffic control, dust management measures for construction sites and transporting trucks, enhanced monitoring of industrial emissions, and bans on charcoal stove use in cities. However, the country requires more robust and long-term policies to control and minimize pollution effectively (International Trade Administration 2022).

6. Relationship between Traffic Congestion and Air Pollution in Vietnam

As described in the previous section, air pollution is a serious issue for today's society. This section focuses on describing the reality of Vietnamese overcrowded cities building on the example of the capital – Hanoi – as well as Ho Chi Minh City (HCMC), both of which are known for their heavy traffic congestion.

One of the biggest issues concerning air pollution in Vietnam comes from traffic congestion. The transportation sector plays a vital role in economic growth and human welfare, but it is also a significant source of greenhouse gas emissions and other forms of pollution that harm the environment and human health. The sector's emissions are on the rise due to increasing transportation activity worldwide, largely fuelled by fossil fuels. That's why the UN Environment Programme is working to promote low-carbon mobility to reduce pollution and create jobs, improve infrastructure, and stimulate local economies. It is collaborating

with various global transport programs through public-private partnerships to address issues such as fuel economy, small particulate pollution, and infrastructure development (UN Environment Programme 2021).

The impacts of traffic congestion include: severe air pollution, energy waste, economic loss, higher logistics costs (Nguyen & Kajita 2018). In 2016, despite the number of country reported fatalities being 8,417, the WHO estimated the number to be three times higher, at 24,970. This makes 26.4 fatalities per 100,000 people. The estimated amount of serious injuries in the same year, amounted to 374,550. Together fatalities and serious injuries in 2016 cost the country $18,201 million, or as much as 8.9% of its GDP (World Bank & Global World Safety Facility (2023).

Looking strictly at HCMC, the causes of traffic congestion include inadequate urban development. When compared to the ideal ratio of at least 23%, Ho Chi Minh City's land use for traffic is just 13%. There are 2.26 kilometers of roads per square kilometer, which is less than in other developing cities like Bangkok and Taipei. The total number of kilometers of roads is approximately 4,700 (Saigon News 2018).
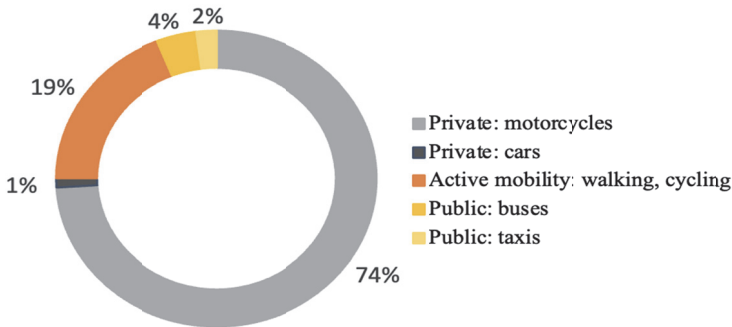
Ho Chi Minh City

Population: 8,147,000

City area: 2096 km²

Density: 3888ppl/km²

Figure 1: Share of Particular Means of Transport in Ho Chi Minh City

Source: Huu and Ngoc (2021: 11).

A crucial part of road transportation that cannot be ignored is public transport. As can be seen on the graph, the share of public transport equals only 4% (Huu & Ngoc 2021: 11) compared to 74% for private transportation. The latter category is made up almost exclusively of motorcycles, which can be seen in the graph below. Additionally, HCMC also has the most limited public transport (including buses, taxis, and shared mobility) among all the cities listed. Public transport accounts for only about 9% of passenger trips. Unsurprisingly this city as well as Hanoi had the highest rates of motorcycle ownership among the world's major cities in 2010 equating to 15% and 8.5% respectively. At the same time, only one-third of all vehicles registered in Vietnam in 2012 were cars (Huu & Ngoc 2021: 10).

Moreover, HCMC is home to around 10 million people who live and work there. The quantity of vehicles is also considerable, with 6.2 million motorcycles, over 600,000 cars, and 2764 buses and trucks. Also, daily commuter traffic in the metropolis involves around 1 million automobiles. More than 11,000 and 15,000 are taxis and hired cars respectively. Nevertheless, there is very little ground available for traffic. More than 4000 km of roads existed in 2016 with a road density of 1.98 km/km2. There were no taxi stands and just 30 hectares of bus terminals in the city as of May 15, 2016. Less than 1% of urban building sites have parking lots. The bus system is inefficient in HCMC as well. The residential, commercial, and industrial zones in HCMC are dispersed, which may be a result of unclear planning. This has an impact on how public transportation is organized because it is challenging to connect the city's various areas and thus meet mobility needs (Huu & Ngoc 2021: 7-8).

In recent years, HCMC has made significant investments in buses, including infrastructure improvements, waiting areas, and regulations to stimulate new auto loan interest. Yet, the number of bus passengers has tended to decline over time (Huu & Ngoc 2021: 11).

The biggest obstacle to making public transport reliable is the extensive use of motorcycles. Vietnam has developed into a major market for motorcycles as well as a base for their manufacturing over the past 20 years. With 3.7 million motorcycles produced annually as of 2017, Vietnam ranks fourth in the world behind China, India, and Indonesia. The reason for this is mostly a number of appealing qualities that motorcycles possess. The cost of acquiring and riding them is lower than that of cars. Additionally, they are also more flexible – a person riding a mo-

torcycle can maneuver through traffic or narrow Vietnamese streets and get to their destination way faster than by using other means of transport. The size of motorcycles also makes them space efficient. They can be parked almost everywhere, both in the city center and at home. Despite these positive qualities, the number of motorcycles on Vietnamese streets poses a danger to many parties including all road-users. They make it difficult for pedestrians to cross the road, slow down bigger vehicles making their usage less efficient. To solve this issue, after its debut in Hanoi, the project "Strengthening public transport in tandem with controlling motor vehicles in HCMC" was announced in August. In accordance with this project, HCMC may limit the use of motorcycles in a few major districts and eventually outlaw them by 2030. However, the proposal of limiting motorcycle use may not be practical given the low percentage of public transport in large cities. To make the change possible, people need to switch from motorcycles to buses. Now, however, buses are not reliable enough since they get stuck in traffic between the high number of motorcycles. This situation is therefore a vicious circle, which will be hard to emerge from (Huu & Ngoc 2021: 7-8).

7. Sustainable Development Goals and Their Impact on Vietnam

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to end poverty, hunger, AIDS, and discrimination against women and girls, as well as to protect the planet. Most importantly, however, they were made to ensure that by 2030 all people, regardless of their background, race, or sex, could enjoy peace and prosperity (United Nations Development Program 2023).

There are multiple SDGs related to transportation. Firstly, there is goal number 7: Affordable and Clean Energy (United Nations Development Program 2023). Coal makes up the majority of the energy mix in Vietnam since it is both readily available and inexpensive. Coal provided almost half of Vietnam's energy needs in 2020, with hydropower 30%, natural gas 14%, and non-hydroelectric renewables following with 5% (Chipman Koty 2022). Without ensuring universal access to affordable, reliable, and modern energy, there is little chance that the quality of air will improve, since it will be polluted by gasoline powered engines and

CO_2 from coal burning. Secondly, goal number 11: Sustainable Cities and Communities. Building resilient societies and economies, safe, affordable housing, and career and business possibilities are all necessary components of sustainable city development. Investments in public transportation, the development of green public areas, and enhanced urban planning are all part of it. This goal includes specifically "target 11.6.2, which aims to reduce the environmental impact of cities by improving air quality" (WHO 2023) Finally, there is goal number 13: Climate Action. Vietnam is experiencing climate change and will be severely negatively affected in the coming decades. According to 'Nationally Determined Contribution' a document published by The Socialist Republic of Vietnam:

> "Climate extremes were recorded with higher intensity and frequency. Between 1958 and 2018, the annual average temperature of the whole country increased by about 0.89C, an equivalent of 0.15°C/decade" (Socialist Republic of Vietnam 2022:12)

The scenarios vary, but the annual average temperature of the whole country is predicted to increase by 1.2 – 2.3°C by mid-century and 1.6 – 4.2°C by the end of the century, the north of the country being the most affected. Climate change will also cause extreme weather. Already, compared to 1958 number of hot days and droughts as well as typhoons increased. Cold weather also got hotter as the number of cold and freezing cold days decreased (Socialist Republic of Vietnam 2022:12). The change will also be seen in the amount of rainfall. Compared to the base period between 1986 and 2005, the average one-day maximum rainfall is predicted to rise from 10% up to 70%. Moreover, as rainfall increases so will sea levels, which might rise by 73 cm by the end of the century (Socialist Republic of Vietnam 2022:12).

There are two more goals which, even though not directly related, will improve with the improvement of transportation. The primary one is goal number 3: Good Health and Well-being (United Nations Development Program 2023). According to the World Health Organization, in 2019, 99% of people on Earth lived in areas where the WHO's recommended air quality criteria were not being met. In the same year, it was projected that ambient (outside) air pollution in urban and rural regions caused 4.2 million premature deaths annually; this mortality is attributable to expo-

sure to fine particulate matter, which causes malignancies, cardiovascular and respiratory diseases, and other illnesses. Only by investment in green transportation, along with a shift in energy sources, will Vietnam be able to improve its air quality (World Health Organization 2022). The secondary goal not directly related to transportation, but highly influenced by it is Sustainable Development Goal 10: Reducing Inequalities. According to the World Bank, compared to other countries, Vietnam has achieved rapid growth with only modest increases in income inequality. However, inequality in Vietnam still exists, reflecting the substantial differences in economic conditions by geography and ethnic group, as well as between the wealthiest people and the rest of the population. A huge issue is inequality of opportunity. Vietnamese children coming from impoverished families, particularly those from ethnic minorities, have fewer opportunities than wealthy children. This can be illustrated by the fact that just 13 percent of Hmong and Dao children attend upper secondary school, compared to 65 percent of Kinh and Hoa. Improving public transport can help improve their mobility and make them able to attend school, especially for those that live in a rural area, have a longer distance to school and can't afford a car (World Bank 2014). Finally, goal 17: Partnerships for the Goals which is aiming to revitalize the global partnership for sustainable development and strengthen it. Especially important are Target 17.G: Enhance the Global Partnership for Sustainable Development and Target 17.6: Knowledge Sharing and Cooperation for Access to Science, Technology, and innovation. Both of those are crucial to make transportation more sustainable and increase the mobility. To do that, they aim to increase multi-stakeholder partnerships, mobilize them to cooperate and share knowledge, expertise, technology, and financial resources (Untied Nations 2020). An example of these partnerships can be cooperation between the U.S. Agency for International Development (USAID) and Vietnamese Ministry of Natural Resources and Environment (MONRE) aiming to address multiple sources of environmental pollution or a joint venture between the German Federal Ministry for Economic Cooperation and Development, the Vietnamese Ministry of Transport and the European Union aiming to enhance the ecosystem for the development of green transportation and e-mobility in Hue City.

8. What Efforts Have Been Made to Make Transportation More Environmentally Friendly?

Owing to the many calls for action, as well as growing public awareness concerning the environment, Vietnam's government was forced to release National Action Plans for improving air quality, water conservation, and plastic waste pollution (Winrock 2022).

The first National Action Plan, mentioned briefly in the previous section, came into effect on May 10, 2017 as per Decision 633/QD-TTg. The plan included 17 Sustainable Development Goals and their corresponding 115 specific targets that the country has to implement by 2030 (United Nations Vietnam 2017). The plan was revised in April 2022, as Decision No 450/QD–TTg was implemented. The new version was enhanced with a vision for 2050 ensuring that the environment is restored and the right to living in a clean and safe environment is fulfilled. The aim is to develop a society in harmony with nature and a circular economy, with the goal of being carbon neutral by 2050. The Vietnamese government has made promoting renewable energy a high priority. The significance of this sector was stressed in Decision 450 as the primary engine of the circular economy. Due to its favourable geographic conditions for the development of both wind and solar energy, Vietnam has a competitive advantage when it comes to green energy. Vietnam was one of the top 10 nations worldwide in terms of solar capacity in 2020. Given that 8.6 percent of its land area is suitable for the development of wind farms, Vietnam has a sizable potential for wind energy. Another aspect that the Decision 450 underlined was air quality in metropolitan areas. Decision 450 intends to reduce the use of private transportation, particularly internal combustion engine (ICE) cars, while expediting the development and modernization of mass passenger transportation (MRT) systems. In order to improve air quality in urban areas, the government is also focusing on expanding urban green space and creating greening programs for cities. The decision also emphasizes how critical it is to advance electric vehicle technology and put the roadmap for getting rid of fossil fuel-powered cars into practice. Here, the potential for electric vehicle (EV) investment can be observed as Vietnam transitions to more environmentally friendly transportation (Chipman Koty 2022).

At the UN Climate Change Conference (COP26) in Glasgow in 2021, Prime Minister Pham Minh Chinh declared the nation's determination to

phase out coal power generation by the 2040s and achieve net-zero carbon emissions by 2050. Vietnam most recently announced a 43.5 percent emissions reduction target by 2030, sector-specific emissions targets for 2030 and 2050, and qualitative recommendations for reaching these goals. Only 10 percent of total greenhouse gases emissions come from transportation, compared to about 30 percent from the power sector, a further 30 percent are from industry (McKinsey 2022). However, transportation remains a crucial factor in changing people's attitudes towards pollution and its impact on the environment. After all, nothing would change the image of cities like Hanoi or Ho Chi Minh as much as a lack of traffic or reduction in the number of motorcycles. In order to make this change happen, the prime minister has promoted the use of electric vehicles (EVs), the development of EV charging stations, and the electrification of public transportation. Several changes have been implemented. Fees for EV registrations have been lowered by the ministry of finance. Hanoi and other cities have also discussed outlawing two- and three-wheel ICE vehicles, and some neighbourhoods have already been made pedestrian-only on certain days. High-speed rail is another project the Ministry of Transportation is pursuing, which may lower the number of domestic flights (McKinsey 2022).

Discussing e-mobility would not be complete without mentioning one more initiative. Starting last year, on March 23, 2022, a one-year project called 'Catalyzing a Sustainable Shift towards E-Mobility by Enhancing the Ecosystem for E-Mobility and Green Transportation Development at national level and in Hue City' came into effect. This project was implemented by the Vietnam Ministry of Transport with the German Federal Ministry for Economic Cooperation and Development, as well as the European Union, as contributing partners. Enhancing the ecosystem for the development of green transportation and e-mobility as part of Vietnam's COVID-19 green recovery in a chosen city, namely Hue City, and sharing the findings of this work at the national level to contribute to the planning process, including the national environmentally friendly program, are two ways to support the reduction of GHG emissions (United Nations Vietnam 2023).

Apart from the above-mentioned Action Plans, multiple transportation projects have been implemented. Starting with the oldest and most significant one, one must firstly describe the Vietnamese metro.

Based on two studies from 1998 and 2004, funded respectively by a British and Japanese Official Development Aid (ODA) grant, in 2007 a comprehensive transportation plan was launched. This provided for a total network length of 109 km, including six MRT lines and three additional lines to be used as monorail or tramways (Musil & Simon 2015). Five years later, on December 12, 20132012 the construction of the metro began. Metro Line No. 1 consists of 14 stations. A total of 2.6 km of it is underground compared to 17.1 km above ground (Duong & Nguyen 2015).

According to the HCM City Management Authority for Urban Railways (MAUR), it is expected that, by March this year, all 11 flyover stations of the Bến Thành-Suối Tiên metro will be completed. Currently, about 600-700 workers are finishing construction, installing, and finishing the station elevators, including the metal frames, ticket offices, and glass balustrades at the main entrances of the stations (Vietnam Net 2023). The entire metro lines are about 19.7km in length. There are three underground stations, including Bến Thành, HCM City Opera House, Ba Son, and 11 flyover stations, including Văng Thánh, Tân Cảng, Thảo Điền, An Phú, Rạch Chiếc, Phước Long, Bình Thái, Thủ Đức, High-tech Zone, HCM City National University, and Suối Tiên Terminal. All 17 trains have 147 seats and a capacity of 930 passengers. They can run at speeds of up to 80 km/h underground, reaching as much as 110 km/h on the elevated section. (Vietnam Net 2023). What is so special about this project is the fact that it is a multinational cooperation. The anticipated investment of more than VN43.7 trillion (US$1.89 billion) is paid for by Japanese ODA and Vietnamese counterpart funds (Vietnam Net 2023). Furthermore, the metro line is just a beginning. The line is the initial component of a comprehensive plan for mass transit improvements intended to reduce chronic congestion in the 10-million-person city. In the future, another eight metro, monorail, and tramway projects will be built, costing roughly $13 billion (Rogers 2022).

Besides the metro project, many other projects relate to many different aspects of pollution, not just air pollution. Some were launched last year and will continue to transform Vietnam, into a more environmentally friendly country. The most recent one, from November 15th, 2022, called Reducing Pollution, is a cooperation project between the U.S. Agency for International Development (USAID), and the Vietnamese Ministry of Natural Resources and Environment (MONRE). USAID has been collab-

orating closely with Vietnam over the past five years to promote group action by local actors, such as the Vietnamese government, private sector, local organizations, and citizens, in order to increase knowledge of the causes and effects of environmental pollution as well as practical strategies for reducing it. In January 2022, USAID and MONRE formalized their partnership on addressing the complex challenges of climate change and environmental pollution through the signing of their first ever Memorandum of Understanding (USAID 2022).

According to Aler Grubbs, director of USAID, using Vietnamese-led collective action and 11.3 million dollars, USAID aims to raise awareness and promote action to reduce environmental pollution and support the country in achieving its climate change goals. The project will address multiple sources of environmental pollution, including air pollution from not only transportation but also open burning, plastic waste management, including medical waste, and pollution in craft villages. On top of that, a Transparent Environmental Data Disclosure Platform will be developed. Using a collective impact strategy, local networks and organizations in Vietnam will be put first. The emphasis will be on boosting their ability to work together to address environmental issues. Also, the project will assess the effects on the environment at the national and international levels, with a focus on energy transition, plastic pollution, improving recycling and garbage reuse, and educating the public about ways to lessen environmental damage in the future. If successful, the project will prove clear connections between environmental benefits and other social benefits, including public health, employment, and sustainable economic growth (Vietnam Plus 2022).

The table below illustrates some of the efforts made to make transport more sustainable.

Table 1: Efforts Made to Make Transport More Sustainable

Project Name	Date	Description	Actors
National Action Plan	Implemented on May 10, 2017 (Decision 633/QD-TT) Revised in April 2022, as Decision No 450/QD–TTg	The plan included 17 Sustainable Development Goals and their corresponding 115 specific targets that the country has to implement by 2030	Vietnamese Government
Catalyzing a Sustainable Shift towards E-Mobility by Enhancing the Ecosystem for E-Mobility and Green Transportation Development at national level and in Hue City	From March 23, 2022 till March 23, 2023	Enhancing the ecosystem for the development of green transportation and e-mobility as part of Vietnam's COVID-19 green recovery in Hue City	Vietnam Ministry of Transport German Federal Ministry for Economic Cooperation and Development European Union
HCMC Metro line	From 2012	Building first metro line – initial component of a comprehensive plan for mass transit improvements intended to reduce chronic congestion	Japanese ODA and Vietnamese counterpart funds
Reducing Pollution	November 15th, 2022	Addressing multiple sources of environmental pollution Developing Transparent Environmental Data Disclosure Platform Helping local networks and organizations in Vietnam	U.S. Agency for International Development (USAID) Vietnamese Ministry of Natural Resources and Environment (MONRE)

Source: Own elaboration.

9. Conclusions

Busy streets inundated with a vast number of motorcycles that appear to be approaching from all directions seem to be an inherent characteristic of large Vietnamese cities. The motorcycle, characteristic of Vietnamese traffic, is symbolic of the reforms and economic changes since 1986. It is "a liberal, libertine and libertarian symbol" that breaks social constraints, an object that conveys new values such as pleasure and hedonism, a place of intimacy that must be visible for social marking and part of the lifestyle of the young urban generation (Freire 2009: 84). This is the same young urban generation that will strongly face the environmental changes and the other effects of air pollution. However, as the awareness of the public has grown, so has the pressure on the government to fight the negative side of constant city congestion, namely, air pollution. There are many efforts undertaken by the Vietnamese government to tackle this problem. The first one, an enormous project paid for by Japanese ODA and Vietnamese counterpart funds, is the construction of brand-new metro lines in Hanoi and Ho Chi Minh City. After a decade of construction, they will start operating in 2023, allowing people to switch to not only a more environmentally friendly, but also safer and faster, mode of transport. The second one, called Reducing Pollution, is a cooperation project between the U.S. Agency for International Development (USAID), and the Vietnamese Ministry of Natural Resources and Environment (MONRE), started on November 15th, 2022. Finally, the third initiative, a one-year project which started on March 23, 2022, is called: 'Catalyzing a Sustainable Shift towards E-Mobility by Enhancing the Ecosystem for E-Mobility and Green Transportation Development at national level and in Hue City'. It was implemented by the Vietnam Ministry of Transport with the German Federal Ministry for Economic Cooperation and Development, as well as the European Union, as contributing partners. Its aim was enhancing the ecosystem for the development of green transportation and e-mobility as part of Vietnam's COVID-19 green recovery in Hue City and sharing the findings of this work at national level to be able to construct similar projects in various other cities.

All those projects would not be possible without The National Action Plan, which aims to develop a society in harmony with nature and a circular economy, with the goal of being carbon neutral by 2050. This plan,

which came into effect on May 10, 2017, includes 17 Sustainable Development Goals and their corresponding 115 specific targets that the country must implement by 2030. Its revised version including Decision No 450/QD–TTg, with a vision for 2050 underlines ensuring that the environment is restored and the right to living in a clean and safe environment is fulfilled. To do that, Decision 450 intends to reduce the use of private transportation, particularly internal combustion engine (ICE) cars, while expediting the development and modernization of mass passenger transportation (MRT) systems.

In conclusion, as can be seen, multiple actors have contributed to the efforts to make transportation more environmentally friendly and contribute to improving air quality and the lives of Vietnamese citizens. The most promising of these is the metro, which will help big cities like Hanoi and Ho Chi Minh bring much needed change to their cities. For now, there is only one metro line in HCMC, built with the help of Japanese ODA and Vietnamese counterpart funds, but with time, the whole network will be built. This project, along with all the others, shows that transcultural cooperation is needed to gain different perspectives to tackle the challenges of those complex economical and societal developments (Wieland 2019). As we have shown, multiple partnerships and the cooperation of various stakeholders are required to tackle air pollution in Vietnam. To meet the SDGs, the current traffic situation needs to change, not only in Vietnam but everywhere. In the future, the motorcycle may no longer be the only symbol of freedom, but new symbols will emerge, be they of climate protection, innovation, or health, but also of freedom.

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Environmental Issues in the Mekong Delta: An Exploratory Study of Local Awareness, Responsibilities, and Action

Vivien Dinh, Patryk Kurc and Nguyen Hoang Yen

1. Introduction

Southeast Asia has been developing rapidly in recent years. And, as the income of an ordinary citizen has increased, the standard of living conditions has improved as well. Vietnam's GDP growth is estimated to reach 5.8% in 2023 (Fox 2023). On the other hand, the region is facing severe environmental threats. The impact of climate change has become visible. Deforestation of the coastline, chemical contamination, plastic and water pollution and salinization pose serious dangers to the population of the Mekong Delta Region (MDR), an area crucial for Vietnam's economy. However, little has been done to prepare the local population on fundamental climate and environmental changes in the MDR, which pose a risk for the people and the economy. As sufficient research about the environmental threats in the MDR has been undertaken, there is a lack of research into people's actions and awareness concerning environmental threats in the MDR. Knowledge about people's awareness is important to introduce appropriate measures and concepts for the future development of the MDR. The level of awareness will be checked with the theory of reasoned action. Another aspect that is explored is that of responsibilities for environmental measures and action. Here, the relationship between locals and stakeholders is revealed to be relevant, also with reference to Luhmann's system theory.

Various methods were used for this exploratory study. Interviews among the local population of the MDR and experts in the topic were conducted, a research trip to the MDR for fieldwork was undertaken and existing literature and data were summarised. It allows a wider perspective about the environmental issue to be obtained.

Under the topic of SDGs in Southeast Asia, this research deals with SDG number 13: Taking urgent action against climate change, which is attempted through research into the locals' awareness and stakeholders' cultures and views. The research also deals with goal number 14: Life below water and 15: Life on land, because the research aims to take a step forward in emphasizing the importance of environmental and people protection measures by describing the current situation concerning the awareness and attitudes about environmental threats and their effect on the MDR among locals and stakeholders.

2. Literature Review

The aim of this literature review is to collect relevant data and statistics regarding contamination, most notably water and plastic pollution. It helped the authors to realize that, while there is a significant number of academic papers on environmental issues, there is very little specifically on local people's awareness as well as on responsibilities. The papers for the literature review were collected from the following database: ProQuest, EBSCO Host, JSTOR, etc. Several academic journals were compared.

2.1 Climate Change, Pollution and Awareness: Status Quo in the Mekong Delta Region

2.1.1 Current Environmental Situation Due to Climate Change in the Mekong Delta Region

Due to the rise in sea levels caused by climate change, the Mekong delta is facing a salinity intrusion. With a sea level rise of 30 cm, "approximately 30,000 ha of agricultural area will be affected" (Vu et al. 2018) by salinization. This will be one of the most crucial challenges for coastal water management. Furthermore, the MDR is increasingly facing in-

creased temperatures and changes in regional rainfall, which affect agriculture. Additionally, the possibility of the appearance of hurricanes and storms make the region vulnerable (Vu et al. 2018). As Vietnam has a rice-based agricultural economy, which is mostly dependent on the MDR, extensive economic losses are inevitable as a result of climate change (Vu et al. 2018).

2.1.2 Current Environmental Pollution Situation in the Mekong Delta Region

The pollution of the water by germs, bacteria and plastic has high environmental, nutritional and health consequences such as fish dying, parasites, vector-borne diseases, or dengue fever (Ha et al. 2021). As measured by satellite image, it is certain that the Mekong's surface water is heavily polluted and can only be used for water transportation. The water cannot be used for domestic purposes or irrigation (Ha et al. 2021). However, little initiative has been undertaken to prevent health risks from the polluted water or to reduce the plastic pollution inside and outside the river.

2.1.3 Plastic Pollution Crisis in the Mekong Delta Region

Plastic pollution in the Mekong Delta Region is a pressing issue that demands immediate attention. Tourist hotspots such as Can Tho, Cai Be, and Chau Doc (tourist cities in the MDR) are particularly affected, with plastic pollution levels increasing at an alarming rate, as documented by Truong and Vu (2019). The SEA circular Project (2020) identified plastic bags as the largest contributor to plastic waste in the region. This is primarily due to the prevailing habits of residents who favor the convenience and affordability of plastic bags over eco-friendly alternatives, as reported by MRC (2022).

Compounding the issue is the scarcity of companies that prioritize the production of eco-friendly products. This scarcity stems from a lack of demand, as a significant portion of the population still prefers plastic bags (MRC 2022). Additionally, the production costs associated with

eco-friendly alternatives are considerably higher. Consequently, the availability of eco-friendly options remains limited in the market.

One of the significant contributors to plastic pollution in the Mekong Delta Region is the unlawful disposal of plastic waste into water sources (rivers, lakes, etc.). The inadequate state of recycling technology and waste management exacerbates this problem. The MRC (2022) highlights that the Solid Waste Management (SWM) charge per household in Vietnam is relatively low compared to the costs of establishing and maintaining an efficient waste collection system. Consequently, recycling facilities are small in scale, and most of the technology and infrastructure used is outdated and poorly maintained. Moreover, tracking and controlling recycling activities prove challenging due to the involvement of informal recyclers, such as citizens and unlicensed organizations, who employ outdated technology and infrastructure, as outlined by MRC (2022).

2.1.4 The Awareness of the Mekong Delta's Population

In 2005, the SANSED study made the first observations about the behavior of locals in the Mekong Delta. Already, waste was a problem in this area and the spread of wild landfills is mentioned. Although the local population used garbage for land reclamation, garbage was also incinerated or illegally dumped. Concerning awareness, the study (SANSED 2005) came to the conclusion that locals are aware of environmental pollution, especially of water pollution, but people show less inclination to solve these problems. Locals feel that responsibility lies with the government and demand governmental solutions for waste disposal and water management because of their low standard of living and low financial opportunities. Furthermore, the local population faces more severe personal financial problems, as well as a lack of educational training opportunities (SANSED: 40). Household income and level of education are relevant components for awareness and knowledge (Truc et al., 2012). Because many farmers have limited education, around 50% have had only five years of schooling (Truc et al. 2012), they lack the necessary knowledge to adopt environmentally friendly practices. This information gap, highlighted in a study conducted through the interdisciplinary international project about wastewater recycling related problems

named SANSED (2005: 44), might be one of the reasons why environmentally friendly behaviors are not implemented. Little research in English has been done about the local population's awareness of the environmental threats so far, which makes it challenging for non-Vietnamese speakers to find valid information, this is why there are fewer sources in this section. The awareness of the threats among the local population does exist, but it appeared that stronger action was not undertaken due to financial and living standards reasons among the locals. They themselves consider the government to be responsible for acting, which relates to the paternalistic view of the state in East and Southeast Asian countries (SANSED: 2005).

2.1.5 The Awareness of Stakeholders and Relevant Actors

A study found that climate change education for stakeholders and authorities is essential to tackle environmental issues in the Mekong Delta (Huynh & Piracha 2019). The most severe problem lies in the culture. Most leaders are over 55 years old and live in a closed communication culture where the attitude prevails that it is better not to get into trouble (Huynh & Piracha 2019). Some findings argue that it is the youth that is more concerned about their future and thus about environmental issues too (Wood 2022). Such higher engagement of younger generations can be exemplified by demonstrations and movements such as Fridays for Future. Another issue that stakeholders with a basic climate- and environmentally friendly attitude faced when they wanted to act is that they do not know where to start (Huynh & Piracha 201: 102). Another study writes that it seems that "drivers of environmental sustainability" (Dugan et al. 2010) do not have enough traction to influence investigations in dam constructions. These cases specifically show that people are overburdened in implementing eco-friendly measures and thinking. Apart from that, there is a lack of traction concerning measures or investigations or a lack of power against companies and stakeholders. Huynh and Piracha (2019) revealed that private businesses are less aware about climate change than state-owned businesses: "Some private businesses assume that climate change cannot impact their income" (Huynh & Piracha: 103). Scientists estimate the level of awareness of stakeholders in the Mekong Delta is at an upper medium level.

3. Theoretical Background

3.1 Theory of Reasoned Action

The theory of reasoned action (TRA) states that the individual is mostly influenced by his close social environment in his beliefs and attitudes ("normative social influence places pressure on an individual to comply with the group's social norms" (SANSED 2005: 3). One only intends to perform a certain behavior when it is evaluated positively (Fishbein & Ajzen 1980).

Figure 1: Theory of Reasoned Action
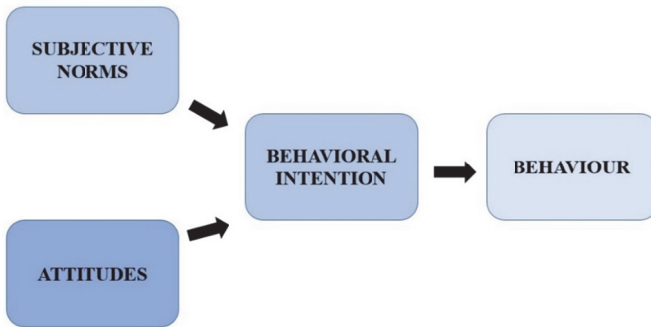
Source: Own illustration.

As for the empirical application of TRA in the field of climate change, the rise of the global youth's climate movement may have influenced young people in several countries. Movements usually need a leader, someone recognisable and able to receive mass support. According to the World's Press Freedom Index, freedom of speech in the Socialist Republic of Vietnam is limited (Reporters Without Borders 2022) which very likely has a large impact on social activism and action. Samuel Huntington considers Vietnam to be a part of Sino-Confucian civilization (Huntington 1996). The position of government is viewed differently than, for example, in Europe – it has most notably a paternalistic role, which means that the government should be responsible for and protective of its people. The above factors are crucial in deciding whether Vietnamese

youth takes action or not, but also within Vietnamese society in the MDR in general. Additionally, Vietnamese society may demand that the authorities educate them and provide the necessary resources.

3.2 Luhmann's System Theory

As solving environmental issues and protecting people from the consequences of climate change and environmental pollution are both topics that need action. Luhmann emphasized the importance of communication as a tool which connects people as well as different systems, for example, society, government, departments, companies, and stakeholders (Luhmann 2008). Systems are always understood in the difference between the system and its environment (Luhmann 1997: 598).

The graphic of Luhmann's system theory for the case of the environmental issue in the MDR (Figure 2) shows each system: politics, local society, culture and the economy with its own subsystems such as departments, political institutions in hierarchies, different generations and social groups, various cultural institutions and companies in different economic sectors as well as lobbyists and executives. These different systems are connected with communication strings. Each system is separated, but connected to ones another through the communication ropes as well as lying in the one environment of the system of mekong delta's society. Luhmann emphasized the importance of the space between environment and system, defined by communication (Luhmann 1997). All these systems and the environment which contains them all are included in one system (large dashed circle) (Luhmann 2005). This represents all actors and actor-related structures in the MDR that are increasingly facing environmental threats, partly caused by themselves. These environmental threats are increasingly diving into the system of actors in the MDR and influencing each specific system as well as its environment in the whole of the Mekong Delta's society. As environmental threats are circumstances in the environment of each system that consequently affect all these systems, problems can only be solved through deep consciousness about environmental threats, taking responsibility and through trustful relationships when it comes to action (Luhmann 2002; 2008).

Figure 2: Luhmann's System Theory in the Case of Mekong Delta's Society and Environmental Threats
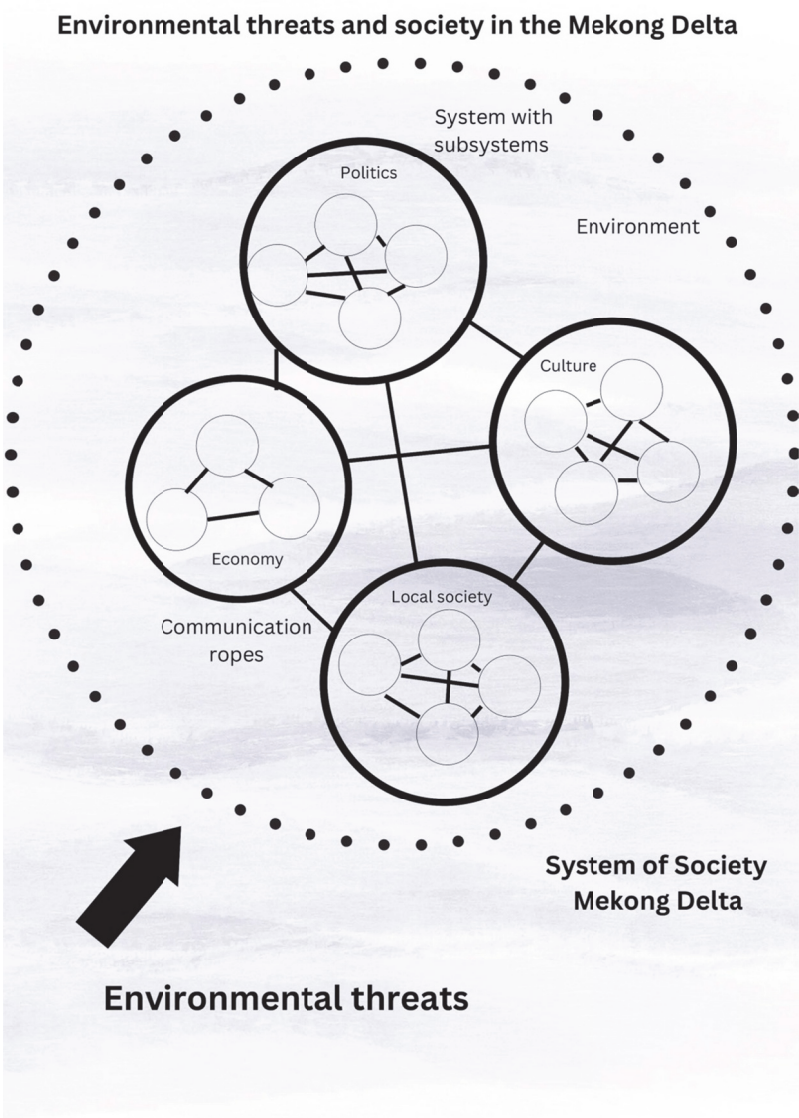
Source: Own illutration.

Luhmann goes on to explain that taking action only makes sense if there is appropriate fundamental knowledge about circumstances and consequences. Concerning environmental threats, Luhmann (2008) calls the dealing with environmental threats through deep information processing in the system (in this case the system of the Mekong Delta region' population) 'system rationality' – the most rational thing the system can do.

With this theoretical background the research aims to describe the environmental threats to create consciousness about this issue, which is increasingly influencing social systems in the MDR. This focus on the awareness among the local population, attitudes and responsibilities concerning measures and action creates a deeper insight into the current state of the social atmosphere concerning environmental threats in order to evaluate "what kind of theory remains possible" under given social and structural circumstances in this case (Luhmann 2002). Thus, these findings might be essential for future awareness and developments in the MDR.

3.3 Methodological Approach

Interviews and observations (summarized by photos and notes) were carried out to gain as deep an insight as possible into the environmental awareness of the local population and into the views of different stakeholders.

A survey on a social media channel (Facebook) was also published online, but with very few responses. Interviews with experts in Vietnamese authorities were refused by the authorities.

By using these qualitative descriptive methods, it was possible to create deeper insight into the current state of pollution in the Mekong Delta as well as into the sensitive area of awareness and responsibilities concerning climate, environment, and civil protection.

3.4 Data Collection Methods

3.4.1 Survey

The survey was carried out on a social media channel (Facebook). All questions are in multiple-choice format, and the participants are MDR

residents. The questionnaire examines participants' awareness of water and plastic pollution in the Mekong Delta as well as their understanding of the consequences now and in the future.

However, there was no response from the locals regarding our survey. People were reluctant to participate because our topic was unappealing compared to other topics on social media. Besides, there are also many problems, such as the political nature of our research and the time it takes to complete the "long survey" (7 minutes), which has no award or benefit.

3.4.2 Interviews

Interviews were conducted directly, face-to-face, with 8 locals. The interviews were in structured form with 10 predetermined questions and one open question to collect data that was not mentioned during the structured interview part. The interviews lasted 25 minutes. The entire process was recorded as an audio file and a transcription file.

The second interview was done with one person and was not recorded with audio but transcribed in a transcription file.

Questions for people from a local department were also prepared. However, to date, no one has agreed to take part in an interview.

3.4.3 Observation

The three-day field trip to Ca Mau, a city in the Mekong Delta, provided researchers with opportunities to observe the pollution status as well as the water quality in the Mekong River to support the existing literature about the pollution and to record the current level of pollution as well as infrastructure and people's behavior. Many photos of the pollution and notes about the locals' reasoning on this issue were taken, as well as photos of people's behavior.

Furthermore, one of our researchers made a trip to the region of Sa Dec and made the same observations about the environment, locals' neighborhoods and households.

4. Results

4.1 Observations in the Mekong Delta Region

For the purpose of our limited fieldwork in the MDR, observations were made on a research trip in August 2022. Two of four researchers spent two days in Rach Xep and Can Tho, the region's largest cities. One researcher spent four days in Sa Dec. The observations were the main goal of the trip.

The MDR's population is strongly dependent on aquaculture (80% of the population are employed in agriculture) (Zaręba 2015). The observation also aims to grasp the socio-economic aspects of the everyday lives of the local people. A visit to Cai Rang Floating Market in the city of Can Tho was undertaken, which has rapidly developed in recent years. It is a place where boat trade is still popular among the local community. It is possible to buy fish, fruit, herbs and spices and many other products. The observations showed that barter trade is still used in this area. The role of the river is therefore essential not only as a source of food but also as the heart of the trade. Nevertheless, the neighbourhood looks genuinely poor. Without a proper waste disposal system, a lot of garbage is left around, most notably plastic.

Figure 3: Locals bartering in the Cai Rang Floating Market, Can Tho

Source: Picture by Patryk Kurc.

The situation is even worse in the rural areas we visited. Rubbish is visible as there is no waste system. That means that even if the local people are aware of the negative impact of discarded rubbish, there is no place to collect it. If left at the coastline, it may pollute the water in the river and, as a consequence, destroy the river's eco-system. As a result, it is dangerous to people's health. In Figure 9, a man is bathing in the river which may also contribute to illness. Bathing in the river mostly concerns the poorest in the Mekong delta who do not have access to an appropriate shower. Furthermore, children are bathing and playing in the Mekong river. A significant amount of rubbish in rural areas is burnt by locals themselves or thrown into the water.

Figure 4: Pollution at the Riverbank

Source: Picture by Vivien Dinh.

Figures 5: Rural Area in the Mekong Delta:
Pollution at the Riverbank and Poor Infrastructure

Source: Picture by Vivien Dinh.

Figure 6: Rural Area in the Mekong Delta: Waste from a Local is Regularly Thrown from the Bridge into the Water

Source: Picture by Vivien Dinh.

Figure 7: Waste Burnt by a Local

Source: Picture by Vivien Dinh.

Figures 8: Waste Bins for Waste in Front of the Houses

Source: Picture by Vivien Dinh.

Figure 9: Waste Management in the Town of Sa Dec:
Sometimes There Are Professional Bins

Source: Picture by Vivien Dinh.

The observations in the town of Sa Dec showed a working waste management. People in cities are using it. The two different observations about the handling of waste show the difference between rural and urban areas in the Mekong delta.

Figure 10: Women From the Waste Management Collecting the Waste.

Sources: Pictures by Vivien Dinh.

Figures 11: Man Bathes in the River.

Source: Picture by Patryk Kurc.

Figure 12: Wastewater Pipe

Source: Pictures by Patryk Kurc.

While speaking to with locals, it emerged that a massive change in irregular rainy seasons in the MDR had been observed and that this influenced agriculture. However, from these conversations with the local population, it appears that the people of the region are still not sufficiently aware of the threats and are not able to make necessary changes concerning environmentally friendly measures in their system. It could be argued that education could be an effective solution to raise awareness. Although education is an important step in raising awareness among the local population, the development and implementation of waste systems remains the responsibility of the government. Solutions would require the involvement of various stakeholders (civil society, policy makers, education centers, etc.) and would therefore be relational (Wieland 2022).

4.2 Interviews

After the field research and observation of the local situation regarding pollution and awareness, interviews were conducted with nine members of the local population. The aim of the interviews was to complement the data from the observations with the views of the locals on the topic (data triangulation).

First, the interviewees perceive the Mekong River as dirty (Translator 1: l. 56). They focus on waste from factories and households in general, while talking about many types of waste (Interviewee 3: ll. 79 ff.).

Concerning responsibility for dealing with waste and for environmental measures to tackle it, the locals see two actors as being responsible: the locals themselves and the government. The citizens are aware of some non-governmental organizations which encourage action to protect the environment, but they usually do not pay attention to them and do not perceive them as useful (compar. Group interview: ll. 214 ff.). In addition, the locals are very passive regarding the waste problem and measures to tackle it. This means that they reject responsibility for measures and do not see implementing waste management projects or environmental measures as their responsibility. However, it turns out that the locals do feel themselves as responsible for the contaminated MDR (Interviewee 3: l. 72). But with regard to environmental protection measures, this opinion quickly changes: "This is the government's

problem" (Interviewee 4: l. 96). Besides, the citizens also made some suggestions for the government; for example: "the government has to impose strict order" (Interviewee 4: l. 107) and "should go and collect the trash" (Interviewee 6, l. 125). On the other hand, some believe that the government should be more responsible and "guide the citizens" (Interviewee 4: l. 265).

It is noticeable that the locals expect leadership from the government, while they themselves argue that they are "normal people […] and cannot say much" (Translator 1: l. 102). The locals perceive their possibilities of self-efficacy as low. From the Theory of Reasoned Action, consequently, they are not willing to propose many measures or projects to solve the waste problem by themselves since the component of subjective norms is not fulfilled, or more specifically, the perceived self-efficacy feeling of the interviewees as well as, probably, that of the people from the department is low.

Hierarchies in the Vietnamese political system are also a great barrier for issues concerning the local population and departments. As one interviewee said: "When the local department wants to improve the situation, they must ask the higher-ups first. They cannot do anything without permission. They must write an invitation letter and wait for 2 or 3 weeks for the higher-ups to arrange the schedule. […] they need the higher-ups' permission. Only when the higher-ups agree, can they do something." (Translator 2: ll. 314 ff.).

Furthermore, there is a significant quality gap between the waste management systems in rural and urban areas. In rural areas, there are two ways to dispose of waste: "throw it into the river" (Interviewee 4: l. 123) or burn it (Interviewee 6, l. 165). Both options have severe long-term health consequences for Mekong Delta's (rural) population. In contrast, towns, and cities in this region (Sa Dec in this study) have a proper waste management system where garbage trucks collect the waste bins every day (Interviewee 3: ll. 199 ff.).

Additionally, there are environmental organizations that make efforts to improve the waste management system, such as the "women's union" (Interviewee x (unknown): l. 150) and the Water Supply Association (Translator 1, ll. 214 ff.). According to the interviewees, the only real action that has been taken is by a group of engineers.

"People [were] ready to pay […] for refuse collection, but they (themselves) gave the reason that they have no money […] that's why this

project [was] stopped" (Translator 1: ll. 228 ff.). Poverty is a real issue, particularly in the rural areas of the Mekong Delta (Translator 1: ll. 234 f.), and it obstructs any environmental actions that have been contemplated. This poverty tends to make the local population powerless to step in.

Other issues that hinder projects and waste management are corruption and limited infrastructure. On the one hand, the roads are too narrow for garbage trucks (Interviewee 6: l. 263), and most of them are dirt roads. On the other hand, corruption is a major issue in Vietnamese departments and politics: "People refuse to go (to regional political information rounds). Because they must bring gifts and money if they do. They are 'doomed' if there is no gift." (Interviewee 4: ll. 281 f.). As a result, if someone wants to participate in local politics and actively support local issues, they will have to waste lots of money.

These circumstances have serious consequences for the relationship between government and local society in the Mekong Delta. "People are pissed off" (l. 289) by government's money-focused metrics. A large split in the relationship between the locals and the government is created, now it is strongly believed that "the persons in government are all wealthy. Only citizens experience poverty." (l. 300). Citizens are deeply frustrated by their government and lose faith in them (ll. 312 f.): "The department/government does not keep its promise" (Translator 1: l. 287).

Irrespective of whether these statements are true or not, they say a lot about the views and opinions of the local people in the Mekong Delta towards the Vietnamese state and its policies. The consequence of this is deep mistrust in this relationship. The population feels abandoned by politicians and, at the same time, has little financial means to do something on their own. It also seems that they are far too preoccupied with their livelihoods. The mistrust was also felt by the interviewer herself, when the translator made clear that the interviewer's intention is not related to the authorities, but merely to find out more about the real situation in the Mekong Delta and, especially, about the opinions of its population (Translator 1: ll. 302 ff.).

Additionally, freedom of speech is not widespread in Vietnam. People are forced to not be too critical of the government and its policies; here is one typical quote: "This is because I'm drunk right now. Otherwise, I would not answer that much." (Interviewee 4: l. 306). It should be noted that the interview took place in the afternoon at a social round in a small

house, on an arm of the Mekong. There was also beer and typical lunchtime snacks. The intention behind this sociable atmosphere is to build a relationship of trust with the interviewees to obtain the most truthful answers possible. The interviewer was aware in advance that it would not be easy to get truthful answers due to the difficult situation regarding freedom of speech in Vietnam. It is important to mention, however, that all participants agreed to the interview in advance (ref. Informed Consent Templates) and were not forced to talk. Some told the interviewer afterwards that they did not speak out in the interview because they were afraid of possible negative consequences from the Vietnamese state; one of these people was working for the local authorities.

The second interview with a person who was 18 years old gives some insight into the perception, and especially the pollution awareness, among the younger generation in the Mekong Delta. It is notable that the interviewee seems more informed about global environmental pollution than the older generations, who are always focusing on the Vietnamese state and the Mekong Delta in their arguments. This interviewee expresses his opinion: "Environmental pollution is a difficult problem to solve all over the world, so in order to protect the environment, there must be cooperation and awareness of each person.". Like young people all around the world, this young person from the Mekong Delta also thinks globally and focuses on the human aspect of environmental problems. On the question as to whether economic growth or environmental protection is more important, he is of the opinion that "environmental protection should still come first. […] The people living nearby will find it exceedingly difficult to live […] if the marine environment is polluted".

In summary, it is evident that the waste management problem in rural areas in the Mekong Delta is much more complex than it first seems. People have nearly no options concerning the disposal of their waste in an environmentally friendly and medically healthy manner. They are ignored by local politics. Measures are always tied to financial commitment, which the local population can rarely afford. Because of the higher corruption (Tromme 2016), which is experienced by the locals themselves (interview) and other barriers such as a lack of infrastructure, it seems that solving the waste management problem in rural areas, and therefore solving one environmental issue in this region, is hindered by the poor, mistrustful relationship between the people in rural, peripheral

areas of the Mekong Delta and the departments and government. The younger generation, which includes the world in arguments concerning the environmental pollution issue, sees the relevance of cooperation and awareness and therefore shows higher knowledge about the global relevance of the topic.

5. Discussion

Analysis of the data collected from the interviews and observations shows that many of the points raised from the interviews coincide with the data from studies like SANSED (2005), Huynh & Piracha (2019), Ha et al. (2021), etc. Locals are generally aware of the water pollution and of pollution in general but show less inclination to do anything about these problems. It reveals that different reasons such as low standard of living and low financial opportunities are relevant here. Furthermore, private households in the Mekong Delta, especially in rural areas, often face more severe financial problems meaning that caring about the environment could be perceived as another burden. However, education is a key factor to raise awareness for Mekong Delta pollution as the 18-year-old person interviewed shared their knowledge about environmental pollution around the world as well as the health diseases it can cause. It may mean that younger generations have more access to knowledge about the environment and are more open-minded. Furthermore, education could at least decrease the chance that locals will contract serious diseases.

But while it is important to educate the local (young) population, it is equally as important to educate and to involve other stakeholders (besides the local population) and authorities in the process (Huynh & Piracha 2019). Stakeholders such as companies, local departments, environmental organizations and authorities have much more influence on environmental sustainable development and protection measures than the local population, but seem to do not show the needed traction (Dugan et al. 2010) which is specifically important for "action" that first of all refers "to an individual human being and not to a process that links different human beings" (Luhmann 2002: 183). Concerning processes, a closed communication culture in businesses (public or private) is a great problem in the MDR and prevents proactive behavior against serious environmental issues especially in the areas of business and institutions

(Huynh & Piracha 2019). Additionally, hierarchies in the political system as well as corruption (Tromme 2016) in Vietnam have a severe influence on the feeling of self-efficacy of the population in the Mekong Delta. Furthermore, as Vietnam is a country with a historical communist influence, where paternalistic thinking structures are widespread, a trustful relationship between authorities and people could be a future behavioral solution. The severe environmental issues, as well as the water and plastic pollution, in the Mekong Delta, can only be improved by cooperation between authorities, businesses, people and non-governmental organizations. This approach was also already shown in Luhmann's system theory as well as in the text: Ecological communication by Niklas Luhmann (1989) and confirms the theory.

As well as the poor financial situation of the population in the Mekong Delta, the government and authorities are relevant and more responsible, especially for investing money for environmental measures such as installing widespread waste management systems in the Mekong Delta or improving infrastructure. These measures could also have a continuing impact on the local population in providing jobs, for example. Environmental education about the long-term environmental consequences facing the Mekong Delta in the future is extremely important for the authorities and people in influential and powerful positions to force them to introduce environmentally friendly projects and measures in their daily work. Educating the local society is important to create acceptance for measures as well as awareness and a feeling of self-efficacy in introducing projects, perhaps also by themselves.

Besides the financial side concerning environmental measures, there must be a spotlight on the relationship between state and people. Corruption and restricted freedom of speech are only two components which create deep long-term mistrust, which is not helpful in the face of the predicted severe environmental threats facing the Mekong Delta. The waste issue, which was focused on in this study, is only one aspect of the severe environmental issues in this region which are going to have a massive influence on the local population as well as on the economy in the Mekong Delta in the future (Trung & Degenhardt 2021).

Relying on the system theory of Luhmann, hierarchies, differences between peripheral areas and towns, as well as the financial component and the difficulty surrounding freedom of speech are all topics taking place in the environment between the different systems (politics, locals,

culture, and economy). Looking at the system of society in the MDR without including environmental threats coming from the outside, it is evident that strong differences define this society. This is to be interpreted as not particularly surprising while "in Confucian cultures [Vietnam, like other East Asian nations, is strongly influenced by Chinese Confucian], differences in power are treated as a 'natural' feature of social relationships" (Truong et al. 2016: 81). Consequently, Vietnam scores 'high' on power distance in Hofstede's cultural dimensions (Truong et al. 2016; Hofstede & Bond 1984). The component of corruption, mistrust, and difficulties in communication especially between the social peripheries (poor people with less social prestige) and authorities are the negative results of the power distance. This makes it very difficult for each system and their interaction to reach a stage of consciousness, taking responsibility for and maintaining trustful relationships (Luhmann 2002; 2008) to competently deal with environmental threats to ensure the future existence of society in the MDR.

The research topic, which initially focused on the awareness of the local population to evaluate their potential for tackling water and plastic pollution, ends up in a complex cultural and relational question between the social systems in the whole system of the Mekong Delta's population who are facing essential environmental threats.

What is certain is that there must be a deep cultural change focused on environmental threats in this region. While Huynh & Piracha (2019) as well as this study show that the younger generation seems to represent global thinking as well as a more open-minded communication culture in business, this development could happen.

6. Conclusion

Our research among the Mekong Delta's population supports the existing literature about environmental pollution in the Mekong Delta, corruption in Vietnam and the awareness of the population. The necessity of environmental education is emphasized in the literature review and in our research. Our research into the issue of the water and plastic pollution and waste management system in the Mekong Delta reveals that the responsibility for introducing a waste management system in rural areas lies with the local departments, but is also limited by the lack of infra-

structure, which shows that the pollution issue in the Mekong Delta is much more complex than it initially seems, especially concerning the long-term development of this topic.

Concerning the issue of waste management, the research reveals the critical role of the relationship between the people and authorities in shaping the future of waste management in the Mekong Delta. Given the poverty prevalent in the area, the financial responsibility for implementing necessary measures and ensuring their effectiveness rests with the state. This highlights the need for accountability and reliability from the authorities in their efforts to address environmental challenges in the region.

Finally, the research shows much more than simply the attitude of the people when facing water and plastic pollution. It reveals theoretical tendencies from the expression of social norms, attitudes, and behaviour (Theory of Reasoned Action). With the help of Luhmann's system theory, the strong difference, also called high power distance in the sense of Hofstede's cultural dimensions (Hofstede & Bond 1984), between social systems in the whole of the Mekong Delta society is revealed. This difference leads to corruption, mistrust, and difficulties in communication. Research shows that this trait mostly characterizes the relationship between the locals and authorities. A stage of consciousness, taking responsibility and maintaining trustful relationships to be able to deal more competently with environmental threats, is difficult to achieve under these cultural circumstances. Therefore, the need for a cultural turn becomes essential. The younger generation in the MDR is showing first signs of such a development.

It must be mentioned that education for locals as well as stakeholders and authorities is essential to raise awareness of the environmental threats in the MDR. This could be done, for example, by organizations, the government, or associations or by the local society itself. Furthermore, the role of social media and the internet as an information source for people needs to be scientifically examined.

Furthermore, it has been revealed that people with a special traction are needed to introduce new measures and projects. Education can be one component driving such a development, but this area of research is also one which needs to be illuminated for the MDR.

Finally, a change in culture concerning hierarchies and differences which lead to mistrust, corruption, and difficulties in the communication

between social areas or more specific social systems is essential to face the massive environmental threat influencing more or less directly every area of society in the MDR. The younger generation is already showing first indications of this change. Finally, this change is the most rational one for the future of society in the MDR. A first approach for a cultural change in economics into a relational approach with well-defined cooperation, fewer transaction costs and, consequently, low hierarchies substituted by functional differentiation with the aim to function for the whole system of society in the MDR (Luhmann 2008) is shown in Joseph Wieland's relational economics (2022). Furthermore, research into specific relations between social systems in the MDR with a focus on their mutual attitudes, subjective norms, and behaviour in the sense of the Theory of Reasoned Action is needed to generate basic information and evaluate specific approaches for future cultural developments to reach a stage of consciousness, trustful relationships, and action to deal with environmental threats.

7. *Limitations*

Although this study, conducted through fieldwork in the MDR, offers some genuine insights into climate change, pollution, and awareness in the MDR through the lens of local people and researcher observation, the study is not without limitations. Some of these limitations are discussed below.

7.1 *Limited Number of Participants*

Originally, more than 50 individuals were expected to take part in the research, but only nine completed the survey. This is why the survey was not considered. To overcome the shortcomings of the survey, future studies could offer incentives such as awards or prizes to attract more participants. Additionally, surveys and interviews could be posted on more academic websites such as school or university websites, which may attract a more relevant audience. The study, consisting of the interviews and observations, only represents a low number of people from the MDR.

7.2 Limited Geographical and Hierarchical Distribution

The interviews and observations (photographs and notes) are geographically limited to two locations in the MDR (Cai Rang floating market, rural area near Sa Dec). Hence, the geographical component needs to be broadened. Future studies could tour the entire MDR to gain access to information from many locations and contacts from professors who have links with local departments to increase their accuracy.

7.3 One-Side Perspective

The survey respondents were all local people, and the research team did not engage with local departments. As a result, the study's perspectives are mainly one-sided and may not offer a complete view of the situation.

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Part IV

Management and Governance

Public-Private Partnerships for Sustainable Development: A Comparative Case Study in the Vietnamese and German Healthcare Sector

Zino Manuel Roos, Lilian Susanne Isabell Evertz, Anh Nguyễn Trần Phương

1. Introduction

In Southeast Asia, as countries have transformed from isolated, centrally planned to market-oriented, integrated economies, the demand for investment in modern infrastructure and public services to achieve the Sustainable Development Goals (SDGs) is greater than ever. In this context, Vietnam is especially under pressure. Macrolevel trends, such as demographic shifts in the population, a growing middle-class, urbanization, social change and the pandemic shed light on the country's need for qualitative public services and more reliable infrastructure (Le et al. 2020; Teo et al. 2019). In the sectors of energy, telecommunication, transport, water, and healthcare alone, Vietnam needs to invest way over 550 billion euro (Global Infrastructure Investment Hub 2023; Le et al. 2020). Debt reduction and budgetary deficits constrain Vietnam's fiscal capacities to meet this demand; and since effective public services and infrastructure are critical for the welfare of society, economic prosperity, and environmental protection (Pinz et al. 2018; Wang et al. 2020; Yuan et al. 2018), the prevailing investment gaps significantly affect sustainable development in Southeast Asia.

In search for new investment and cross-sector expertise, the Vietnamese government has turned to public-private partnerships (PPPs). PPPs are defined as long-term contractual and cooperative partnerships between the public and private sector. In this arrangement, the public partner transfers the design, finance, building and operation of public facilities to the private partner, aiming to achieve long-term objectives that create economic and public value (Bjärstig 2017; Wang et al. 2019). To integrate PPPs into public service and infrastructure provision, Vietnam developed a comprehensive legal framework which manages the legal provisions of PPP projects. In Vietnam, PPPs were first introduced in 1997 through Decree 78/1997/NĐ-CP, which focused on attracting investment through Build-Transfer, Build-Operate-Transfer and Build-Transfer-Operate PPP contracts. Gradually, the Vietnamese government refined its legal basis for PPPs, which underwent major changes in 2015 (Decree 30/2015/NĐ-CP), 2018 (Decree 63/2018/NĐ-CP), and 2019 (Decree 69/2019/NĐ-CP) to close legal gaps and increase certainty for foreign investors. The regulatory developments culminated in 2021 in the PPP Law (Decree 38/2021/NĐ-CP). Today, the law unifies the existing legal framework and aims to enhance the stability and effectiveness of PPPs with respect to the country's infrastructure bottleneck and ambitious goals for better public services (Le et al. 2020).

The strong regulatory and political momentum of PPPs in Vietnam ties in with global calls to use them as drivers for sustainable development in Southeast Asia. As part of the United Nation's (UN) 2030 Agenda, SDG 17.17 explicitly encourages all countries to promote PPPs (United Nations 2015). By emphasizing their ability to provide economic and public value, the UN strategically aligns the potentials of PPPs with the requirements to achieve all SDGs (Berrone et al. 2019; Pinz et al. 2018; Wang & Ma 2021; Yuan et al. 2018). Despite this acknowledgement, the way PPPs can contribute to the 2030 Agenda is also the subject of debate. Specifically, there is a lack of understanding of whether and how PPPs can embrace the idea of sustainable development consciously and account for economic, social, and environmental criteria in their institutional design and operation (Cheng et al. 2021; Pattberg et al. 2012; Wang & Ma 2021). This research gap is critical, considering the fact that sustainability-oriented PPPs are key for Vietnam and other countries to provide public services and infrastructure that do not com-

promise the ability of future generations to meet their own needs (United Nations 2015).

Against this background, the chapter puts the sustainability-orientation of PPPs at the heart of analysis. In order to offer Vietnam ideas how the sustainability potential of PPPs can be harnessed, it does so from a comparative perspective with Germany. Germany was one of the pioneer countries in integrating PPPs into infrastructure and public service delivery, having realized its first projects in the transportation sector around the turn of the millennium (Essig & Batran 2005). Within a short time, Germany expanded PPPs successfully to other areas, especially after cross-sector cooperation was boosted under the PPP Acceleration Act in 2005. As PPPs became a more critical part of the public service and infrastructure landscape, the German government has made refinements to improve their effectiveness and efficiency. For example, standard contract templates and clear guidelines for the procurement and implementation of PPP projects were developed. Further, governing institutions, such as the PPP Task Force or PPP commissions, were established to advise, provide public information, and ensure common standards. Today, the sustainability contribution of PPPs in Germany is becoming increasingly important, although it remains understudied (Spraul & Thaler 2020). The strong historical development and track record of PPPs in Germany make the country a central figure in PPP adoption compared to Vietnam (Le et al. 2020; Bayliss & van Waeyenberge 2018), hence an in-depth comparison between the countries is essential to derive insights and best practices that can help Southeast Asia to use PPPs in the context of sustainable development more effectively.

Building on the strength of comparative analysis and the outlined research gap, the paper seeks to answer the following question: To what extent are Vietnamese and German PPPs oriented towards sustainability, and how can this orientation be systematically assessed? To answer this question, the conceptual framework of sustainability-oriented PPPs developed by Cheng et al. (2021) is empirically tested. The framework emphasizes PPPs as hybrid governance instruments to achieve the SDGs in the context of globalization and financialization. It divides PPPs according to their degree of sustainability-orientation into three phases (PPP 1.0, PPP 2.0, PPP 3.0). The framework is tested using four case studies of PPPs in the German and Vietnamese healthcare sectors. The healthcare sector provides an ideal locus of analysis since Vietnam must

meet substantial investment demand for the expansion of medical infrastructure and services, but also take account of the particularly strict economic, social, and environmental requirements in this sector (Le et al. 2020; Teo et al. 2019). Further, the comparison between the German and Vietnamese healthcare sectors also allows the framework to be tested and optimized in two fundamentally different economic, institutional, and political contexts, which ultimately provides a more nuanced theoretical and macrolevel understanding of how PPPs can consciously embed the idea of sustainable development.

The chapter contributes to research in three ways: First, it provides conceptual and empirical insights on the sustainability-orientation of German and Vietnamese healthcare PPPs. Second, as the framework was previously developed and tested only in China, the chapter contributes to its verification, generalizability and proposes important options for refinement, which could allow the framework to become a tool in practice and policymaking. Finally, the chapter derives practical implications on how some of the sustainability-related challenges of PPPs could be overcome to leverage their impact in the context of the 2030 Agenda. Since PPPs have been used in Germany for decades and are now experiencing an increasing interest in developing countries like Vietnam (Bayliss & van Waeyenberge 2018; Essig & Batran 2005), the comparative insights can help to facilitate the sustainable application of PPPs in Southeast Asia.

The remainder of the chapter is structured as follows. In the next section, a literature review on PPPs and sustainable development is presented and the framework of sustainability-oriented PPPs is explained. After this, the research methodology is described. The last section presents the empirical findings which are then critically discussed and followed by a potential optimization of the framework.

2. Conceptual and Theoretical Foundations

2.1 Literature Review

PPPs are not a new institutional phenomenon but are used by developing and developed states around the world. They were first promoted as hybrid governance instruments under the influence of neoliberalism and

New Public Management in the 1980s (Alonso et al. 2015). Given the belief that private sector organizations are more effective and efficient than government ones, PPPs attracted attention as hybrid entities which can achieve policy objectives in the public interest without compromising on economic returns (Pattberg et al. 2012). Their hybridity, as it is argued, brings together the best of the public and private sectors: the expected orientation of government towards equity and social cohesion (Alonso et al. 2015), and the presumed innovation, dynamism, and efficiency of the private firm (Osborne & Gaebler 1992).

Of course, PPPs are also the subject of criticism. Among other things, scholars and practitioners alike have associated PPPs with the tendency to suffer from conflicts of interest (Omobowale et al. 2010), asymmetric power relations (Chen & Hubbard 2012), external and internal competition among the partners (Greve & Graeme 2009), and accountability issues (Forrer et al. 2010). Despite their contested role, PPPs have been predominantly used in areas which are in the general interest of society and require substantial public investment and high levels of technical expertise. For instance, governments have relied on PPPs to provide healthcare infrastructure and medical services (Le et al. 2020), to supply transport, energy and water in cities and rural areas (Vagliasindi 2013), or to build facilities for schooling and offer educational services (Verger & Moschetti 2016).

Although PPPs usually operate in sectors which are crucial for citizens' welfare and the condition of economy, society, and environment, they have been traditionally analyzed from an economic perspective and not from the viewpoint of sustainable development (Cheng et al. 2021; Hodge & Greve 2018; Pattberg et al. 2012; Wang & Ma 2021). Recent policy developments in the United States, the United Kingdom, and China have changed this (Wang & Ma 2021), and the introduction of the 2030 Agenda by the UN led in particular to a shift of interest in PPPs. As part of the 2030 Agenda, 17 SDGs and 169 subobjectives provide countries with guidelines for development in accordance with the three dimensions of economic, social, and environmental sustainability. To successfully develop along these dimensions, SDG 17.17 explicitly demands that countries encourage and promote PPPs on a national and international level (United Nations 2015).

The changing interest in PPPs makes their relationship to sustainable development increasingly important, and studies have examined it in dif-

ferent regions, such as Europe (Bjärstig 2017), Africa (Pattberg et al. 2012), and China (Cheng et al. 2021), and in different sectors, such as transport (Dowling & Kent 2015), tourism (Cheng et al. 2018) and healthcare (Moro-Visconti et al. 2017). In general, the current state of literature on PPPs and sustainable development shows three tendencies (Cheng et al. 2021; Pinz et al. 2018; Wang & Ma 2021): First, most studies focus on the application and management of PPPs for sustainable development from a practical perspective, examining their performance, risk, level of social responsibility and other critical factors (e.g., Liu et al. 2014; Osei-Kyei & Chan 2015). Second, most studies cover a specific dimension of sustainability when analyzing PPPs, predominantly the social dimension, and thus do not account for sustainable development comprehensively in line with the UN's definition (e.g., Suchman et al. 2018; Yuan et al. 2020). Third, systematic and conceptual explorations of how PPPs' institutional design and operation is oriented towards sustainability are scarce (Cheng et al. 2021; Spraul & Thaler 2020), with no study analyzing this issue in the relevant context of Southeast Asia, but also not in Germany. These research gaps critically limit the theoretical and macrolevel understanding about which role PPPs engage to navigate sustainable development in Southeast Asia successfully. Further, they make it unclear which sustainability criteria PPPs should internalize, and how those criteria can be operationalized and monitored to achieve the SDGs on the ground (Marx 2019). A comparative, framework-based investigation of the sustainability-orientation of PPPs yields much potential to address these research gaps, for which the German and Vietnamese healthcare sectors serve as ideal loci of analysis.

2.2 Conceptual Framework of Sustainability-Oriented PPPs

To evaluate the sustainability-orientation of PPPs, this chapter draws on the sustainability-oriented PPP framework developed by Cheng et al. (2021). The framework categorizes PPPs according to their degree of sustainability-orientation on four dimensions into three phases: PPP 1.0, PPP 2.0, and PPP 3.0. The primary goal of a PPP 1.0 is to raise capital and finance gaps in the infrastructure and public service context. PPP 2.0 aims to improve efficiency and the quality of infrastructure and public services by harnessing the professional knowledge of the private sector.

PPP 3.0 embraces sustainable development as a whole and aims to create public and economic value, also through a comprehensive evaluation of economy, society, and the environment. All three phases coexist and can develop in both directions, they are not linear or unidirectional. The sustainability-orientation of a PPP is reflected on four dimensions: the PPP's driving force, its involved subjects, its process assessment, and its provided objects. The framework is illustrated in Figure 1.

In PPP 1.0, the main driving force is to address a finance gap that the public partner cannot cover on its own. The involved subjects in PPP 1.0 are the government and the private enterprise, which, being the object of a PPP 1.0, aim to establish economic infrastructure and public services that provide consistent and steady revenue through user fees, such as toll roads, the supply of water or energy, and others. The assessment method and process evaluation of PPP 1.0 centers on economic aspects only, primarily using cost-benefit analysis and the Value-for-Money (VfM) evaluation.

In PPP 2.0, the primary driving force is the promotion of efficiency. In line with PPP 1.0, the government and private enterprise are involved in this phase. Building on PPP 1.0, PPP 2.0 provides both economic and social infrastructure and public services as its object, for instance in the context of education, healthcare, and other areas which are heavily funded by the government and are relevant for society. The assessment method and process of PPP 2.0, which primarily adopt VfM evaluation, still focus only on economic aspects at project level.

In contrast to PPP 1.0 and 2.0, PPP 3.0 understands sustainable development as its primary driving force, and not just parts of it, if at all. Along with the government and private sectors, the general public and non-governmental organizations are also involved, which can influence the strategy and operation of the PPP. This reflects PPP 3.0's emphasis on collaborative governance among the partners and on sharing of project achievements with wider society. The object of PPP 3.0 aims to establish environmental infrastructure and public services on top of economic and social objects, for instance pollution management systems or wastewater treatment. The assessment method and process of PPP 3.0 aims to capture sustainable development as a whole by evaluating organizational impacts on economy, society and environment beyond project level. PPP 3.0 adopts a comprehensive economy-society-environment evaluation model to achieve sustainable development on the ground.

The sustainability-oriented PPP framework serves as a conceptual and cognitive response to the traditional economic analysis of PPPs. It provides a new perspective by understanding PPPs as hybrid governance instruments to drive sustainable development, as SDG 17.17 demands. The framework, which was developed and so far only tested in China, provides a useful basis to analyze the sustainability-orientation of PPPs in the German and Vietnamese healthcare sectors.

Figure 1: Sustainability-Oriented PPP Framework of Cheng et al. (2021)

- Driving Force: Financing Gap
- Subject: Government and Enterprise
- Process: Economic Evaluation
- Object: Economic Infrastructure

- Driving Force: Efficiency Promotion
- Subject: Government and Enterprise
- Process: Economic Evaluation
- Object: Social Infrastructure

PPP 1.0 → PPP 2.0

PPP 3.0
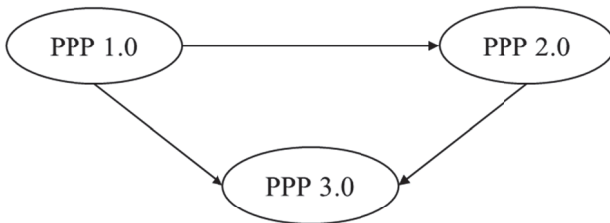
- Driving Force: Sustainable Development
- Subject: Government, Enterprise and Public
- Process: Comprehensive Evaluation of Economy, Society and Environment
- Object: Environmental Infrastructure

Source: Own illustration based on Cheng et al. (2021).

2.3 Research Method

Testing the conceptual framework is a complex undertaking (Cheng et al. 2021). Quantitative analysis is difficult to conduct due to a lack of data on PPPs. Because of this case studies are particularly attractive to understand more about the sustainability-orientation of PPPs. Case studies provide substantial and detailed empirical insights which can help to understand the micro processes of PPPs (Andon 2012; Chung 2016; Eisenhardt 1989). It is argued the method allows for in-depth analysis of

details and key issues that are often left out by other approaches (Steijn et al. 2011).

Using the case study method, the chapter tests the framework on PPPs in the German and Vietnamese healthcare sectors. This empirical context is especially beneficial for the chapter's objective. As previously stated, in Germany PPPs have been established in infrastructure and public service provision for over two decades and PPP development is, in general, more progressive than in Vietnam (Bayliss & van Waeyenberge 2018; Essig & Batran 2005; Spraul & Thaler 2020). Further, Germany is a developed country and is underpinned by the principles of parliamentary democracy and social market economy, whereas Vietnam is still developing, and national politics is dominated by a single party. The countries' different economic, institutional, and political environments allow the framework to be tested comprehensively and enable one to deduce more qualitative recommendations for the sustainability-oriented use of PPPs (Esser & Vliegenthart 2017). Also, the empirical focus on PPPs in the healthcare sector is promising. Among other things, Vietnamese hospitals often face chronic overcrowding, operate with outdated or inadequate technology, and suffer from a shortage of medical staff (Le et al. 2020; Teo et al. 2019). The investment demand in the healthcare sector to expand medical services and infrastructure by far exceeds Vietnam's fiscal capacities, hence the application of healthcare PPPs is becoming increasingly attractive to the government (Le et al. 2020), which makes empirical insights into this sector especially relevant.

Against this background, the chapter analyzes four healthcare PPPs, one in Germany and three in Vietnam. The cases were selected by the availability of information and by the most-similar selection technique, as this allows a better comparison of the cases which benefits the generalizability of the findings (Seawright & Gerring 2008; Lamont 2015). In this sense, all cases operate in the healthcare sector, all of them were subjects of early PPP developments in their respective country and all cases involve the construction of new medical infrastructure among other services. To collect the data, a mixed-method approach was applied.

To assess the sustainability-orientation of the German PPP, which must remain anonymous, a semi-structured expert interview was conducted. The interviewed expert, now serving as an executive director of a subsidiary of the public hospital which commissioned the German PPP project, was responsible for managing the PPP in all relevant phases

(design, implementation, operation). Further, the expert was involved in various other PPP projects during his career. Thus, the interviewee cannot only draw on case-specific knowledge but also possesses an overarching understanding of the challenges, benefits, and peculiarities of PPPs in the context of healthcare and sustainable development. The interview allowed information on the PPP to be collected to test the framework while giving the expert room to elaborate on other sustainability-related aspects of PPPs (Low 2013). The main interview questions focused on the framework-related aspects of the PPP, on the benefits and challenges of PPPs, and how PPPs' design and application could be improved regarding their contribution to sustainable development. The interview was conducted online via Zoom on December 9, 2022, and lasted over one hour. For the analysis and coding of the interview MAXQDA Analytic Pro 2022, Release 22.4.0 was used (Low 2013). Codes were defined for each dimension of the framework, that is driving force, subject, process, and object. Additionally, codes regarding the challenges, benefits and criticism of the PPP project and PPPs in general were set. Summa summarum, the analysis included 28 different codes, which are listed in Table 1. Ultimately, the data from the interview was supplemented with additional information from policy documents and official websites describing the German PPP.

Regarding the three Vietnamese cases, data was fully obtained from publicly available sources (websites, policy documents, articles, studies). An interview partner for the cases was not available, which also illustrates the fact that PPPs in Vietnam are often criticized and as a result of this information is not always shared (Le et al. 2020; Teo et al. 2019). The following PPPs were analyzed: The Ca Mau Hospital in Cau Mau province, the Gia An 115 Hospital in Ho Chi Minh City, and the upgrading and operation of commune medical stations in district 3, also in Ho Chi Minh City. The data was analyzed and categorized into the four dimensions of the framework in the way the interview was structured (Isoaho et al. 2021), which allows the quality and comparability of the findings to be enhanced (McKeown 2005).

Table 1: Table of Codes Used for Interview and Text Analysis

Category	Topics	Code Color
Framework Dimensions	Driving Force: Financing Gap; Efficiency Promotion; Sustainable Development	Yellow
	Subject: Government and Enterprise; Government, Enterprise, and Public	Green
	Process: Economic Evaluation; Comprehensive Evaluation of Economy, Society, and Environment	Blue
	Object: Economic Infrastructure; Social Infrastructure; Environmental Infrastructure	Red
Additional Information on Project and PPPs in General	Conflicts of Interest and External Intervention; Difference in Power Relations and Dependency; Lack of Experience and Data; Benefits of PPPs; Criticism of PPPs	Purple
Personal Attitude of Expert on PPPs and Sustainable Development (Interview Only)	Criticism of the Public Sector; Importance of Sustainability; Attitude towards the PPP Project; Positive Attitude; Negative Attitude	Brown

Source: Own table.

Regarding the three Vietnamese cases, data was fully obtained from publicly available sources (websites, policy documents, articles, studies). An interview partner for the cases was not available, which also illustrates the fact that PPPs in Vietnam are often criticized and as a result of this information is not always shared (Le et al. 2020; Teo et al. 2019). The following PPPs were analyzed: The Ca Mau Hospital in Cau Mau province, the Gia An 115 Hospital in Ho Chi Minh City, and the upgrading and operation of commune medical stations in district 3, also in Ho Chi Minh City. The data was analyzed and categorized into the four dimensions of the framework in the way the interview was structured (Isoaho et al. 2021), which allows the quality and comparability of the findings to be enhanced (McKeown 2005).

Before the findings are presented, the methodological limitations of this research design should be stressed. Even though the case study method allows the four PPPs to be analyzed in unexplored contexts and from a systematical comparative perspective, universal conclusions on the sustainability-orientation of PPPs cannot be drawn. However, the qualitative insights this analysis can provide are key for more quantitative research to follow. Gathering evidence on the framework and the sustainability-orientation of PPPs in general from large-scale investigations in different countries and sectors of Southeast Asia can further contribute to its level of detail and sophistication, which would allow the framework to become a useful tool in Southeast Asian policymaking.

3. Empirical Findings

3.1 German Case Study

For the German case, which must remain anonymous, a PPP project commissioned by a public university hospital in Western Germany was chosen. The PPP, which still exists, is responsible for providing a new medical center for the hospital and offer technical support services to maintain the building. The new medical center aims to centralize individual clinics and diagnostic areas of the hospital complex. Further, it should eliminate duplicate structures, simplify work processes, and reduce space for the public hospital, which also lowers costs for logistics, cleaning, maintenance, and energy. The project was first discussed in 2005 in the context of a general project assessment which scrutinized the suitability of a PPP for the hospital's operations. The contracts were signed in 2010 and, after a 30-month period of implementation, the PPP was put into operation in 2014. The contract period of the PPP is 25 years with an extension option of five years. The PPP project has an investment volume of 115 million euro and was one of the first PPPs implemented in the German healthcare sector.

3.1.1 Sustainability-Orientation of the PPP

Driving Force

The main driving force of the German PPP is to close a finance gap the public hospital cannot cover on its own, which corresponds to PPP phase 1.0. The respective code "Financing Gap" occurred 21 times in the interview analysis. In addition to this, promoting efficiency was also a goal of the project. The respective code "Efficiency Promotion" occurred 6 times and illustrates characteristics of a PPP 2.0. The interview partner stated many times that sustainable development alone was never in the project's focus. The driving force can be summarized by the quote: "The main trigger [of the PPP] was actually the financing. And for the board of directors at that time, it was also this breaking of an administrative encrustation". The PPP was implemented to find new ways of financing the medical center while benefiting from an increase in efficiency through the involvement of an experienced private partner. Thus, the driving force of the German PPP is in the transition from PPP 1.0 to 2.0.

Subject

The sustainability-orientation of a PPP also depends on the subjects involved. In the German case, the hospital is the public partner and an international private enterprise, specializing in the planning, construction, and operation of healthcare facilities, serves as the private partner. Additionally, external consultants were involved in the PPP to improve its design and support its implementation. The funding for the project was provided by a German federal state. The private enterprise of the PPP was responsible for the construction and maintenance of the new medical building. If needed, the private enterprise could commission additional private firms or consultants to meet its responsibilities. The public hospital was responsible for setting up medical equipment and offering medical services to the patients. In the project, tasks between the partners were strictly separated. As the interviewee notes: "At that time we had a simple rule of thumb, which was: Everything that the private sector plans, it also builds and operates. (...) Everything that is 'loose' comes from us. Everything that is 'fixed' comes from the private sector. Everything that is 'old' is ours. Everything that is 'new', even if it applies

to us, is with the private". The code "Government and Enterprise" was the only used code with a frequency of ten. Other stakeholders, such as the public and nongovernmental organizations, are not involved in the PPP project. Thus, the subject dimension of the German PPP refers to a PPP 1.0/2.0.

Process

According to the framework, the process of a PPP can be evaluated differently, ranging from a mere economic assessment to a comprehensive evaluation of economy, society, and environment. In the German PPP, the process is only evaluated on the basis of economic criteria. Interview statements which referred to the code "Economic Evaluation" were recorded three times. The expert highlighted on many occasions that only "financial considerations" were made in the PPP and that other aspects, such as social or environmental implications, were not considered. However, the interviewee notes environmental criteria regarding the construction of the medical building were initially discussed in the PPP, but not taken into consideration due to legal requirements and a lack of data on the medical center's energy consumption. The interviewee stresses that during the PPP's planning phase, sustainability criteria were not as present in public discourse as today. This is also reflected in the fact that the 2030 Agenda and its SDGs had not been published at the time the German PPP was designed and implemented. However, even though today sustainability demands are more ambitious and public pressure stronger, the PPP has not made any adjustments to its process evaluation. Thus, in line with the framework, the process dimension of the German PPP shows characteristics of PPP 1.0/2.0.

Object

A PPP can provide economic, social, and environmental infrastructure and public services. The German PPP puts both economic and social infrastructure and public services at its core. In this sense, the code "Economic Infrastructure" is mentioned once in the interview, whereas the code "Social Infrastructure" is mentioned five times. The German PPP

generates money mainly by providing the medical center and maintenance services, two objects which also aim to offer better medical treatment and improve patients' welfare. Thus, the object dimension of the German PPP shows characteristics of a PPP 2.0.

Additional Findings

As the interview was a rich source of information, additional findings were collected beyond the framework-related aspects. The interviewee gave further insights into the challenges and benefits of PPPs to foster sustainable development, based on the profound experience the expert was able to acquire during his career on the long-term use of PPPs in Germany. Also, possible solutions to overcome these challenges and harness PPPs' sustainability potentials were addressed. Specifically, the interviewee emphasizes three distinctive issues which can limit PPPs' impact on sustainable development:

1. *Conflicts of Interest and External Intervention:* According to the interviewee, conflicts of interest between the stakeholders and intervention from third parties are common issues in PPPs. Specifically, overcoming the discrepancy in the goals of the public and private partner can be challenging. As the interviewee notes: "There is no common goal in the project, but rather both have their goals and if they are not congruent, this leads to quite an exhausting divergence". Also, headwinds from third parties, such as unions, which question the legitimacy of PPPs may interfere with the successful operation of PPPs.

2. *Difference in Power Relations and Dependency:* By referring to the German PPP case, the interviewee sees differences of power relations among the partners as a specific challenge of PPPs. In the German case, the federal state, serving as the overarching credit provider of the PPP, had the biggest influence on project decision-making. Different positions of power could also be observed on the levels of the project partners. The enterprise as the project's private partner was more experienced in the planning, construction, and maintenance of healthcare facilities than the public hospital. That created a strong dependency of the public partner on the services and advice of the enterprise. As the expert states: "The public [partner] can't line up its

own people so well [at all] and keep them constant or oppose them in such a way that it would be on an equal footing [with the private partner], it is always at a disadvantage".

3. *Lack of Experience and Data:* Finally, the interviewee notes PPPs, especially when being in an early phase of development, can face many challenges due to a lack of experience and data. The German case was one of the first PPPs in the German healthcare sector, consequently labelled as a "pilot-project". The interviewee notes that, in this context, it was particularly difficult to assess whether the PPP could serve the public hospital's needs and to understand how these needs could be integrated into the operation of the PPP. As for the PPP's contribution to environmental protection, a lack of data was a big problem. The interviewee stresses hardly any information that would have been needed to operate sustainably was available, and if it was, often legal restrictions made it impossible for the PPP to utilize them.

The interview partner also reflects on solutions how to overcome some of the challenges and harness the sustainability potential of PPPs better. Specifically, two elements are important to make PPPs more just, effective, and sustainability-oriented:

1. *Clear Line of Responsibilities:* According to the interview partner, conflicts of interest, asymmetric power relations and the like can be addressed by strictly separating the responsibilities between the subjects involved. In particular, a clear line of responsibilities should allow the private partner to fully utilize its skills and sector-specific, technical knowledge in the PPP, whereas the public partner should be able to focus on human-related aspects, such as patient treatment and care.

2. *Proactive Role of Public Partner:* Further, the expert notes various challenges can be overcome if the public partner has a more proactive role in PPP constellations. As the interviewee emphasizes, often the public partner and its workforce undermine the PPP's effectiveness due to legal constraints and risk aversion. Since this impairs partner dependency and prevents the PPP from seizing sustainability opportunities on an equal footing, it is essential to relax regulations and reduce bureaucracy for the public partner. To realize this in practice,

the public hospital of the German PPP formed a subsidary under private law. The subsidiary, which can be used in PPPs to represent the public partner, increases the public hospital's flexibility in cross-sector collaboration by overcoming public sector limitations.

3.2 Vietnamese Case Studies

3.2.1 Case Description

In addition to the German PPP, three Vietnamese cases were considered, namely the Ca Mau Hospital in Ca Mau province, the Gia An 115 Hospital in Ho Chi Minh City, and the upgrading and operation of commune medical stations in district 3, also in Ho Chi Minh City. All projects include the construction of new medical facilities, two of the PPPs are also responsible for providing medical services, for instance to reduce overcrowding at public hospitals and improve the quality of medical examination and treatment for patients. The Ca Mau Hospital was opened in 2014, relying on a Build-Operate-Transfer contract with the public partner. The PPP has an investment volume of 1.5 million euro (Le et al. 2020). The Gia An 115 Hospital, owned by the Hoa Lam Group, was the first PPP hospital in Vietnam. It collaborates with the People 115 Hospital in Ho Chi Minh City and opened in 2018 with an investment volume of 58.6 million euro (Gia An 115 Hospital 2021). The upgrading and operation of commune medical stations in district 3 of Ho Chi Minh City was approved in 2017 and relies on a Build-Operate-Transfer contract. The PPP began in 2017 with an overall investment volume of 4.6 million euro (Ho Chi Minh City Department of Planning and Architecture 2017; Thắng 2017).

3.2.2 Sustainability-Orientation of the PPP

Driving Force

The primary driving force of the Ca Mau Hospital is to close a finance gap and increase efficiency in the healthcare sector of Ca Mau province. Its major aim is to reduce overcrowding at provincial public hospitals by providing investments the province cannot provide on its own to build additional medical capacities (Le et al. 2020). The documents analyzed

do not indicate that sustainable development was consciously considered in this PPP as a driving force. In conclusion, the Ca Mau Hospital represents a PPP that is transitioning from phase 1.0 to phase 2.0 in terms of driving force.

The key driving force of the Gia An 115 Hospital is to promote efficiency. The main ambition behind this project was to solve the overload of public hospitals in Ho Chi Minh City and to provide additional healthcare capacity and expanded healthcare services for the region on the gateway to the Mekong Delta. Further, private sector experience was to help the hospital achieve international accreditation, boost medical tourism and specialize in chosen areas, such anaesthesiology, cardiology, or ophthalmology (Gia An 115 Hospital 2021; VNExpress 2018). However, no information is available regarding the project's motivation to foster sustainable development. As a result, the Gia An 115 Hospital represents a PPP 2.0 in terms of driving force.

The upgrading and operation of commune medical stations in district 3 of Ho Chi Minh City aims to close both a finance gap and promote efficiency. The project was implemented to ensure that health stations in district 3 of Ho Chi Minh City can continue to perform their functions under regulatory constraints. Further, they should reduce overcrowding of hospitals at national and city level, and reduce costs, for instance, with respect to operations and maintenance. While additional private sector investment should provide funding, it should also improve efficiency with regard to better primary medical examinations and treatments at communal level, for instance, in the context of family medicine (Ho Chi Minh City Department of Planning and Architecture 2017; Ministry of Health 2017). In conclusion, the upgrading and operation of commune medical stations in district 3 represents a PPP transitioning from phase 1.0 to phase 2.0 in terms of driving force.

Subject

In the Ca Mau Hospital, a private enterprise and a public hospital are the subjects involved. The local private investor, which is anonymous, is responsible for the operation and building of a new 200-bed hospital and for taking over the associated risks that come along with this, for instance, in the context of construction, finance, and management. Ca

Mau General Hospital serves as the public partner in the PPP. It mobilizes its medical team for the Cau Mau Hospital and provides clinical services, bearing the risks associated with medical examinations and treatments. No other agents are involved in the PPP (Le et al. 2020; Thai 2018). Thus, in accordance with the framework, the subject dimension of the Ca Mau Hospital relates to a PPP 1.0/2.0.

The Gia An 115 Hospital is as PPP formed between the People Hospital 115, the public partner, and the Hoa Lam Group, the private partner and owner of the Gia An 115 Hospital. The private partner is responsible for providing investment for the construction of a hospital building and the provision of medical equipment. The People Hospital 115 and its staff are responsible for managing the hospital, specifically all patient-related processes. Thus, like the German PPP, the responsibilities of the partners are clearly divided (Gia An 115 Hospital 2021; Than Nien 2018). As no other agents are involved in the project, the Gia An 115 Hospital can be classified as PPP 1.0/2.0 in terms of subject.

In the upgrading and operation of commune medical stations in district 3, Ho Chi Minh City, Viet Anh Medical Joint Stock Company is involved as the private partner and the ward medical station, belonging to the city, is the public partner. In addition to being the project's investor, the private enterprise is responsible for maintaining and upgrading the medical station and providing the medical equipment. The private partner oversees medical examination and treatment, but also recruitment, payroll, and other staff-related aspects (Ho Chi Minh City Department of Planning and Architecture 2017). Since only a public and private partner are involved in the PPP, the project's subject can be classified as PPP 1.0/2.0.

Process

The analysis of the three PPPs could not reveal which type of process evaluation the projects use. As can be deduced from the results on the other dimensions, all Vietnamese PPPs have a strong economic component at their core, which is also part of their main driving force. This makes an economic evaluation of the PPPs highly likely. However, in the documents available it was not explicitly mentioned that a comprehensive analysis of economy, society and environment is used by the PPPs.

Since such an evaluation method would be generally considered a positive attribute of a PPP and is likely to be communicated (Cheng et al. 2021; Le et al. 2020), it can be expected the selected cases only focused on economic criteria at project level when assessing their processes. However, given that there is no clear evidence, a conclusion on the dimension process for the PPPs cannot be drawn.

Object

The Ca Mau Hospital provides both economic and social infrastructure, as would be expected of a PPP in the healthcare sector. The PPP collects user fees directly from patients or health insurance companies. The public and private partner collaborate specifically on a profit-sharing basis, thus the economic component of the infrastructure and services they provide is essential. No environmental infrastructure and public services are offered by the PPP (Le et al. 2020). It can be concluded the object of the Ca Mau Hospital is a PPP 1.0 and 2.0.

Similar to the Ca Mau Hospital, the Gia An 115 Hospital also provides economic and social infrastructure. While its medical services and infrastructure contribute to citizens' welfare in Ho Chi Minh City and Mekong Delta, economic value, too, is generated through user fee collection, which explicitly should allow the hospital to maintain quality, invest in new health services and recover investment capital. Environmental infrastructure and public services are not provided by the PPP (Gia An 115 Hospital 2021; Sức Khỏe và Đời Sống 2022). Therefore, it can be concluded that Gia An 115 Hospital is a PPP 1.0 and 2.0 in terms of object.

The object of the upgrading and operation of commune medical stations in district 3, Ho Chi Minh City, is similar to the other cases. Also, economic, and social, but no environmental infrastructure and public services are provided. As the PPP's object aims to install medical service stations at grassroots level against user fees, so patients from less densely populated areas or districts can be treated adequately, both economic and social aspects are relevant in the PPP (Le et al. 2020; Ho Chi Minh City Department of Planning and Architecture 2017). Thus, the PPP can be classified as PPP 1.0 and 2.0 in terms of object.

3.3 Discussion

Based on the literature review and the current regulatory and political momentum of PPPs in Vietnam, this chapter identified a need to under-stand the sustainability-orientation of PPPs in the Southeast Asian, but also in the German context better. Consequently, the sustainability-oriented PPP framework of Cheng et al. (2021) was tested on four PPPs in the German and Vietnamese healthcare sector. The empirical findings on the framework have implications for theory and practice.
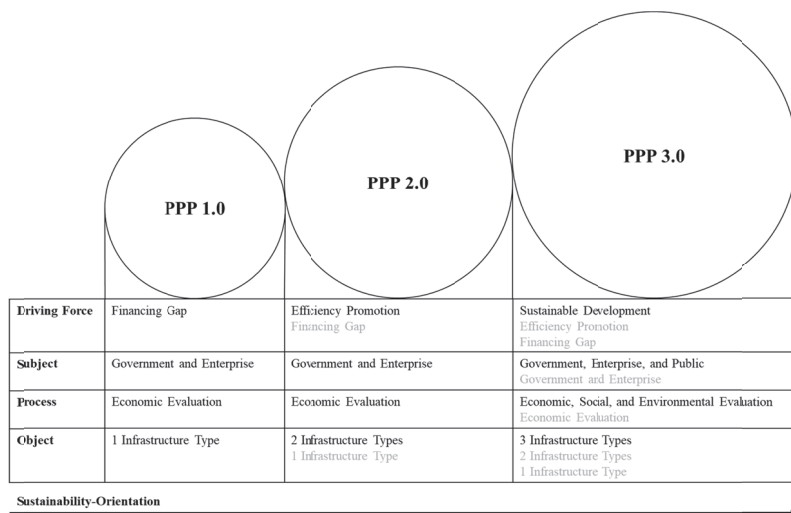
The case study analysis indicates the selected PPPs are, to the largest extent, in the phase of PPP 1.0 and 2.0, which shows sustainable devel-opment is not at their core. In line with the framework, the three phases of PPP are not linear and intersect with each other. In this sense, the German PPP seems to be in phase 1.0 and 2.0. It aims to cover both a finance gap and promote efficiency (driving force), further it provides economic and social infrastructure and services (object). However, its processes are only evaluated on an economic basis (process), and addi-tional agents, such as the public or non-governmental organizations, are not integrated in decision-making and institutional design of the PPP (subject). The findings on the Vietnamese cases are similar. The Ca Mau Hospital and the upgrading and operation of the commune medical sta-tions in district 3 of Ho Chi Minh City aimed to cover a finance gap, but also to promote healthcare efficiency through private sector expertise and funding, the main motivation of Gia An 115 Hospital (driving force). All Vietnamese PPPs operate in the healthcare sector, they provide economic and social, but no environmental infrastructure and services (object). As only limited information was available on the process evaluation of these PPPs, this dimension cannot be fully evaluated, yet the context makes it likely no comprehensive evaluation of economy, society and environ-ment is undertaken (process). Regarding the stakeholders, all Vietnamese PPPs are limited to the public and private partner, no external agents are involved (Subject). Similar to the German case, this places the Vietnam-ese PPPs to the largest extent between PPP 1.0 and 2.0. None of the cases and specific dimensions represent a PPP 3.0. While all the PPPs aim to promote investment and/or efficiency through the economic and social objects they provide, they do not collaborate with public and non-gov-ernmental organizations representing wider society, do not establish infrastructure and services benefiting the environment and most likely do

not apply a comprehensive economy-society-environment evaluation. In this sense, none of the chosen PPPs has yet fully institutionalized and operationalized the idea of sustainable development on all dimensions of the framework. As these PPPs only embrace parts of sustainable development, there seems to be a particular need to strengthen public debate in Vietnam, but also in Germany, which fosters a shared understanding and acceptance of strategies among PPPs to achieve the SDGs (United Nations 2015).

Moreover, the results have several theoretical implications. Following the call of Cheng et. al (2021) to test the sustainability-oriented PPP framework in a non-Chinese setting, the findings verify its applicability to German and Vietnamese healthcare PPPs. However, to foster the framework's feasibility in practice, adjustments are required. In this sense, the PPP phases' integrated relationship and the equal weight of the three sustainability dimensions should be displayed more precisely, as Figure 2 attempts to do. In accordance with the 2030 Agenda, countries are committed to achieving sustainable development in in its three dimensions – economic, social, and environmental – in a balanced and integrated manner (United Nations 2015). None of the dimensions is prioritized over the other, and the more a PPP addresses them, the more sustainability-oriented it is (Strezov et al. 2017). To convey this logic, the framework should make clear higher PPP phases integrate the sustainability-characteristics of lower PPP phases and add new ones (see grey font in Figure 2). For instance, PPP 2.0 aims to cover a finance gap as well as PPP 1.0, but additionally it seeks to promote efficiency. What is more, an ideal framework should not rank the impact of infrastructure type (economic, social, environmental) on PPPs' sustainability-orientation by assigning it to a specific phase. According to the original framework shown in Figure 1, PPP 1.0 would always provide only economic infrastructure, hence its sustainability-orientation would be weak. However, the sustainability-orientation of PPPs which only provide social (PPP 2.0) or environmental (PPP 3.0) infrastructure is no different since these neglect economic growth as an equally important criterion of sustainable development. The more infrastructure types a PPP establishes, the stronger its orientation is towards sustainability, regardless of the types it provides. The following figure illustrates a potential optimization of the framework. The refinement of the framework can not only increase its generalizability, but also facilitate its application in practice and

policymaking, for instance, by allowing it to be backed up with precise monitoring, feedback, and adjustment mechanisms.

Figure 2: Potential Refinement of the Sustainability-Oriented PPP Framework

	PPP 1.0	PPP 2.0	PPP 3.0
Driving Force	Financing Gap	Efficiency Promotion Financing Gap	Sustainable Development Efficiency Promotion Financing Gap
Subject	Government and Enterprise	Government and Enterprise	Government, Enterprise, and Public Government and Enterprise
Process	Economic Evaluation	Economic Evaluation	Economic, Social, and Environmental Evaluation Economic Evaluation
Object	1 Infrastructure Type	2 Infrastructure Types 1 Infrastructure Type	3 Infrastructure Types 2 Infrastructure Types 1 Infrastructure Type

Sustainability-Orientation

Source: Own illustration.

Although the chapter focused on testing the framework, the findings also contribute to practical debates on PPPs to become drivers of sustainable development. In line with pertinent literature, the additional findings highlight the major sustainability-related challenges PPPs face, specifically conflicts of interest and external intervention (Omobowale et al. 2010), differences in power relations and partner dependency (Chen & Hubbard 2012), and a lack of experience and data, especially in the early phases of projects (Pattberg et al. 2012). Overcoming them will be crucial to implement sustainability-oriented PPPs in Southeast Asia. By using the German context as an example, the interviewed expert urges to strictly separate responsibilities in PPPs and give public partners a more proactive role in PPP constellations. As governmental entities and their workforces are often constrained by legal requirements and risk aversion,

they struggle to seize sustainability opportunities with private partners on an equal footing, often being reduced to mere clients for the private enterprise. The use of subsidiaries, which act under private law on behalf of the public partner in the PPP, can help overcome this challenge. In general and based on the long-term experience with PPPs in Germany, a relaxation in public sector regulation, and reduced bureaucracy would grant public servants more latitude in cross-sector collaborations. The expert sees this as a key for PPPs to make a lasting impact on sustainable development.

As mentioned in section 3, this chapter has some limitations which arise from the research design. To reach universal conclusions on the sustainability-orientation of PPPs in Southeast Asia and further refine the framework by gaining more detailed insights into the process dimension of PPPs, quantitative research is necessary. Examining data from national and international PPP databases can provide more nuanced insights into PPPs motivations for, and effects on, sustainable development across various sectors in Southeast Asia.

3.4 Conclusion

The need in Southeast Asia for better infrastructure and public services to achieve the SDGs is greater than ever, which is one of the reasons why Vietnam has turned to PPPs. In this context, PPPs are becoming increasingly attractive as drivers of sustainable development, yet questions arise as to how they can embrace the idea of sustainable development consciously and allow Vietnam and other countries to provide public services and infrastructure without compromising the ability of future generations to meet their own needs.

Against this background, the chapter puts the assessment of PPPs' sustainability-orientation at its core; it seeks to understand to what extent Vietnamese and German PPPs are oriented towards sustainability and how this orientation can be systematically assessed. Following this, the chapter tests the conceptual framework of sustainability-oriented PPPs developed by Cheng et al. (2021) from the perspective of systematic and comparative exploration. The findings on four case studies in the German and Vietnamese healthcare sectors reveal that none of the PPPs analyzed embrace sustainable development as a whole but just parts of it. The

results verify that the framework can be used to systematically categorize Vietnamese and German PPPs along their sustainability-orientation on the dimensions of driving force, subject, process, and object. In this sense, the findings contribute to the framework's generalizability outside of China, but also to its refinement for application in practice. Specifically, an optimized framework as proposed in the discussion should display the integrated relationship of the PPP phases and the equal weight of the three sustainability dimensions more accurately. Besides refining the framework, the comparative insights into the German PPP reveal how a clear line of responsibility and a more proactive role of the public partner in cross-sector arrangements can help overcome sustainability-related challenges of PPPs. This is especially relevant to addressing common issues such as conflicts of interest and external intervention, differences in power relations and partner dependency, and lack of experience and data. By overcoming them in line with the German PPP experience, the impact of PPPs on sustainable development in Southeast Asia could be substantially leveraged.

In an overriding perspective, adequately designed and managed PPPs can be a promising governance mechanism to help Vietnam and Southeast Asia become more sustainable. The framework tested can serve as an attractive tool in practice and for policymaking which could help decision-makers evaluate and navigate PPPs' orientation towards sustainability more effectively. To address the limitations of this chapter, further quantitative research is required. In future, the sustainability-orientation of PPPs deserves more investigation, which ultimately could allow PPPs to deliver on the high expectations that the 2030 Agenda places on them.

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Motivations and Leadership Styles: Preferences of Gen Z in Germany and Vietnam

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1. Shifting Demographics and Gen Z as New Stakeholder

"I need to be free; I need to be myself, increasingly be myself, every day. With the internet, I feel much more free." (Female respondent 2018 (as cited in McKinsey 2018)

This quote from a respondent to a McKinsey study on Generation Z gives a brief impression of Gen Z's attitude towards future employers and thus points out one of the main focuses of this paper.

With regard to the SDG goals, this paper addresses goal number eight, which refers to decent work and economic growth (UN 2016). In practice, this goal aims at supporting the economy, for instance, by tackling labor market challenges. In a highly globalized world of shifting demographics and accelerating technological change, employers have faced new challenges in attracting and recruiting talent in recent years. Statistical forecasts project a steady increase in the Vietnamese population within the next few years (Statista 2022), and according to further forecasts, the so-called "Generation Z" will make up about a third of Vietnam's workforce by 2025 (PwC Vietnam 2021). Meanwhile, in Germany, the population is expected to stagnate and even decrease in the coming decades after an increase in 2022 (Bundesinstitut für Bevölkerungsforschung 2023), and thus German employers increasingly fear a battle for talent or a battle for professionals (Werner 2022).

However, both countries are going through the phase where Generation Z currently dominates the workforce and thus represents the development trend and will represent the majority of the future workforce of companies. For companies to be able to acquire and promote new talent, it is vital that managers understand the values and expectations of Generation Z. In addition, the concept of work has also changed a lot in recent years. Since organizations have been challenged to a greater extent than before, the conventional view – where work was considered to be repeatable, fixed, and well-defined – no longer applies. Deloitte's global human capital trends revealed opportunities in the labour market for more meaningful tasks and co-creation within an organization (Deloitte 2023).

This study, as part of the theme "Management, Leadership and Stakeholder Dialogue" of the TSRG project, aims to examine and compare the expectations that Generation Z places on potential leaders in two countries that have different cultures. Based on these expectations, recommendations for managers will be derived to create a corporate/inclusive culture for Generation Z in Germany and Vietnam and thus improve employer attractiveness for Generation Z.

The theoretical part of this paper mainly discusses generational concepts and particular literary contributions to Generation Z in Vietnam and Germany. Additionally, the fundamentals of Herzberg's two-factor theory and transactional leadership are outlined as the basis for the empirical section: The latter part of this paper applies these theoretical fundamentals in the form of a questionnaire, which was sent out to members of Generation Z as the target group.

2. Literature Review

2.1 Theoretical Framework

2.1.1 Herzberg's Two-Factors Theory and Psychological Safety as a Motivational Approach

The following elaboration outlines Herzberg's Two-Factors theory in order to examine the concept of motivation. However, beforehand the additional concept of psychological safety is introduced.

There are several elaborations in the literature on the concept of psychological safety. An article published by McKinsey (2021) defines it as a corporate climate that enables employees to ask for help, to challenge established concepts or to share suggestions without fearing possible negative social consequences. Furthermore, the article states that psychological safety is a driver for an employee's innovative and adaptive work performance (ibid.). In their definition of psychological safety, the scholars Amy Edmonson and Zhike Lei (2014) relate it to interpersonal risk-taking and its consequences in particular surroundings, for instance, a workplace. Past studies have revealed a positive and strong link between psychological safety and employees' attitudes towards work, e.g., organizational commitment (Newman et al. 2017) or work engagement (Nembhard & Edmondson 2006).

Figure 1: A Link Between Psychological Safety and Motivation
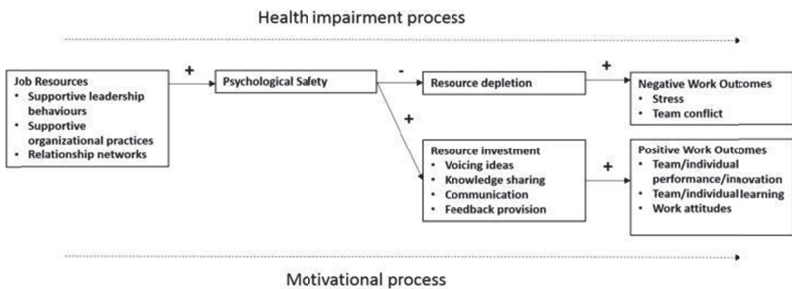
Source: Newman et al. 2017: 521 ff.

In their systematic review of psychological safety, Newman et. al. (2017) developed a conceptual framework that shows how psychological safety can develop and influence work outcomes. Figure one above illustrates how so-called supportive job resources create a climate of psychological safety and furthermore offer protection from resource loss. However, this resource loss is linked to negative outcomes of an individual, e.g., tension or stress and possible negative team outcomes, e.g., conflict (Newman et al. 2017). Moreover, Newman, Donohue and Eva state that psychological safety also enables a distinction to be made between high-performance

teams and low-performance teams. Accordingly, the members of high performing teams are motivated to invest their resources in terms of communicating or sharing their knowledge. In turn, this resource investment can result in positive work outcomes, e.g., performance or learning at an individual- as well as a team-level. Newman, Donohue and Eva refer to this as the motivational pathway (ibid.). Based on these findings, this work assumes that psychological safety therefore forms the basis for an individual's motivation and thus the first hypothesis can be defined as follows:

> Hypothesis 1: Respondents with strong psychological safety are more likely to value intrinsic factors over extrinsic factors.

In their review, Yusoff et al. (2013) refer to motivation as one of the most significant factors that influences human performance and human behavior. The term motivation itself has been subject to much research. In a Harvard Business Review article, Nohria, Groysberg and Lee (2008) define employee motivation by means of four commonly measured workplace indicators, namely engagement, commitment, satisfaction as well as intention to quit. The Harvard University Center of Developing Children published a working paper in 2018 with a scientific approach: accordingly, motivation is described as the result of brain cells (or neurons) in specific regions that send chemical signals to other regions and thus create a pathway for further signals to follow in the future. Moreover, the release of these chemicals can be triggered by experiences. The chemicals are released to regions which connect memory, emotions and the feeling of reward or pleasure. As a result, the reward feeling is linked to the emotions and the experience that triggered it. These factors therefore influence an individual's expectation of reward and the motivated actions in order to receive the feeling of reward (National Scientific Council on the Developing Child 2018).

   In 1959, Frederick Herzberg's Two-Factor Theory was established (Herzberg et. al. 1959). He defined two possible factors that influence an employee's attitude towards work and performance, namely motivation and hygiene factors (Yusoff et. al. 2013). Whereas the motivation factors refer to intrinsic factors that increase an employee's job satisfaction, hygiene factors can be described as extrinsic factors which prevent an employee from being dissatisfied. Thus, hygiene factors do not relate to

an employee's satisfaction and in order to engage an employee's productivity or performance, motivation factors need to be considered (Yusoff et. al. 2013). Herzberg's theory contributes clear categories that influence an employee's attitude towards work, however the literature provides critical remarks regarding their interpretation. In his paper, business psychologist Florian Becker (2019) criticizes the fact that Herzberg's theory puts job satisfaction on a par with work motivation. According to Becker, there is empirical proof which states that job satisfaction is partly innate and thus not determined by external factors. Furthermore, he doubts the existence of a positive correlation between motivation and job satisfaction. According to Becker, another critical aspect is the generalization of motivators and hygiene factors in Herzberg's theory. He claims that especially the hierarchy of those conditions leading to either satisfaction or dissatisfaction cannot be generalized and can change in different situations. As an example, he explains that salary becomes more important in a recession or that studies show that women attach higher importance to social surroundings in the workplace than men (ibid.).

Becker further criticizes Herzberg's concept of hygiene factors and motivators which can either motivate or demotivate. In Herzberg's theory, hygiene factors are merely assigned to leadership. In modern literature, leadership can indeed be a motivational factor, as the transformational leadership approach shows (Becker 2019).

Much research has been conducted regarding the motivators and hygiene factors of Herzberg. Iorgulescu (2016) published a case study in Romania revealing several implications about Generation Z and its perception of work. The result of this survey indicated that Gen Z has a constant need for certain intrinsic motivators over other chosen extrinsic factors. In an earlier study carried out by Tulgan (2013), the importance of reward – an extrinsic hygiene factor was emphasised. The research findings of Bencsik, Horváth-Csikós, and Juhász (2016) suggested controversial views about the preference for intrinsic motivational and extrinsic hygiene factors. Based on the findings of the mentioned research, this paper proposes a second hypothesis:

> Hypothesis 2: Gen Z places higher importance on intrinsic motivational factors compared to extrinsic hygiene factors.

2.1.2 Leadership: Transformational vs Transactional Definition and Historical Background of Transformational and Transactional Leadership

In 1978, James MacGregor Burns first introduced the fundamental concept of transforming leadership. Leadership, according to Burns (1978), can be defined as either transactional or transforming. Leaders who lead through exchange transactions are known as transactional leaders. Some politicians, for example, as Burns points out, lead by swapping one thing for another: jobs for votes, or subsidies for campaign money. Similarly, transactional corporate leaders offer cash incentives for productivity or deny incentives for lack of productivity. Transforming leaders, on the other hand, are those who motivate and inspire their people to deliver outstanding results while also developing their own leadership potential. Transforming leaders assist followers in growing and developing into leaders by reacting to the needs of individual followers, empowering them, and matching the objectives and goals of the individual followers, the leader, the group, and the wider organization (Burns 1978).

Years later from Burns' coining of the "transforming leadership" terminology, Bass extended and developed Burns' transforming leadership theory into transformational leadership (Bass 1985; Roberts 1985). In addition to Burns' idea, Bass offered a method for measuring Transformational Leadership and how it affects follower motivation and performance. The perfect transformational leader piques the interest of their followers and pushes them to work harder than expected. A transformational leader also engages subordinates in the work process by valuing their unique personalities. In contrast to Burns, who stated that transactional and transformational leadership cannot coexist, Bass stated that these two leadership styles can go hand in hand (Bass & Riggio 2006).

According to Bass & Riggio (2006), transformational leaders inspire others to achieve more than they had planned, and often more than they thought possible. They set higher expectations and often attain higher results. Transformational leaders have more devoted and satisfied followers. Furthermore, transformational leaders empower their followers and attend to their unique needs and personal growth, assisting followers in developing their own leadership potential. In some ways, transformational leadership is an extension of transactional leadership. Transactional leadership stresses the exchange or transaction that occurs

between leaders, co-workers, and followers. This exchange is based on the leader sharing what is required with others and stating the conditions and rewards that those individuals will receive if those needs are met. Transformational leadership, on the other hand, takes leadership to the next level. Inspiring followers to commit to a shared vision and goals for an organization or unit, challenging them to be innovative problem solvers, and developing followers' leadership capacity through coaching, mentoring, and providing both challenge and support are all examples of transformational leadership. Through years of research, transformational leadership has evolved to be made up of the following four components (The Four Is) (Bass & Riggio 2006):

1. *Idealized Influence.* Transformational leaders act in ways that enable them to be role models for their followers. The leaders are looked up to, respected, and trusted. Followers identify with leaders and desire to be like them; followers regard leaders as having outstanding qualities, persistence, and determination. Thus, idealized influence has two components: the leader's activities and the elements assigned to the leader by their followers and other associates. Furthermore, leaders with a lot of idealized influence are prepared to take chances and are consistent rather than arbitrary. They can be relied on to do the right thing, upholding high ethical and moral standards.

2. *Inspirational Motivation.* Transformational leaders inspire and encourage those around them by giving significance and challenge to their followers' work. Team spirit is always kept high. There is a sense of excitement and optimism shared among team members. Leaders engage followers in visualizing appealing future states; they establish clearly expressed objectives that followers desire to meet; and they exhibit dedication to goals and the shared vision.

3. *Intellectual Stimulation.* Transformational leaders stimulate their followers to be inventive and creative by challenging assumptions, reframing challenges, and addressing old problems in novel ways. Creativity is valued. Individual members' mistakes are not publicly criticized. Followers are sought for new ideas and creative problem solutions, and they are included in the process of addressing problems and finding solutions. Followers are encouraged to attempt new

techniques, and their ideas are not ridiculed simply because they differ from those of the leaders.

4. *Individualized Consideration*. By acting as a coach or mentor, transformational leaders pay close attention to each individual follower's needs for achievement and progress. Followers and co-workers are progressed to greater levels of potential. Individualized consideration is used when fresh learning possibilities are offered in conjunction with a supporting environment. Individual diversity in needs and preferences are acknowledged. Acceptance of individual diversity is demonstrated by the leader's actions (for example, some employees receive more encouragement, some more liberty, others tougher standards, and yet others more task structure). Individually considerate leaders listen well to followers' opinions. As a technique for creating followers, leaders distribute work. Delegated tasks are monitored to identify whether followers require more guidance or support, as well as to assess progress; ideally, followers should not feel they are being micromanaged.

The Full Range Leadership Model

The Full Range Leadership Model is a leadership theory developed by Bernard Bass and Bruce Avolio (2000). It is based on the idea that there are different types of leadership styles that leaders can use, ranging from laissez-faire to transformational leadership. This paradigm contains various components of transactional leadership behaviors, as well as laissez-faire (or non-leadership) behaviors, in addition to the four components of transformational leadership (the four I's outlined above) (Bass & Riggio 2006). Transactional leadership occurs when the leader either rewards or disciplines the follower based on the follower's performance. Transactional leadership is based on contingent reinforcement, either positive contingent reward (CR) or more negative active or passive management-by-exception (MBE-A or MBE-P).

Contingent Reward (CR): this constructive transaction has been found to be helpful in encouraging others to higher levels of development and performance, though not as much as any of the transformational components. Contingent reward leadership entails the leader assigning or securing follower agreement on what has to be done in exchange for

promised or actual rewards in exchange for successfully completing the assignment (ibid.).

Management-by-Exception (MBE): this corrective transaction is less effective than contingent reward or transformational leadership components. The corrective transaction might be either active (MBE-A) or passive (MBE-P). Active MBE involves the leader actively monitoring deviations from standards, mistakes, and errors in the follower's assignments and taking corrective action as needed. MBE-P indicates passively waiting for deviations, mistakes, and errors to occur before taking corrective action. In some cases, such as when safety is critical, active MBE may be required and effective. Leaders must occasionally use passive MBE when they are required to supervise a large number of subordinates who report directly to them (ibid.).

The Full Range Leadership Model is an important tool for leadership research because it provides a comprehensive framework for understanding leadership styles and their impact on followers and organizations. In this particular context, the aforementioned model was explored because of the assumption taken from it that transformational leadership is the most effective style of leadership, which might imply the possibility of preferences from Generation Z for transformational leaders.

The Multifactor Leadership Questionnaire

Although the transformational leadership theory struck a compassionate note with those interested in leadership topics in general, as evidenced by the popularity of Burns' (1978) book, the surge in transformational leadership research is due in large part to the growth of measurement tools for evaluating the leadership construct (Muenjohn & Armstrong 2008). The Multifactor Leadership Questionnaire is the most widely accepted tool for assessing transformational leadership (Bass & Avolio 2000). The MLQ (Form 5x) included 45 items that addressed nine conceptually distinct leadership factors and three leadership outcomes. Transformational leadership has been identified as having five scales (Idealized influence attributed and behavior, Inspirational motivation, Individual consideration, and Intellectual stimulation). Three scales were defined as transactional leadership characteristics (Contingent reward, Manage-

ment-by-exception-active, and Management-by-exception-passive). One scale was labeled as non-leadership (Laissez-faire).

Even though the MLQ is the most widely used instrument to assess transformational leadership theory (Kirkbride 2006) and is considered the best validated measure of transformational and transactional leadership (Özarallı 2003), the MLQ has been criticized for its theoretical model. While Yukl (1999) did not provide a detailed critique of the Multifactor Leadership Questionnaire (MLQ) in his 1999 book, he did mention some potential limitations of self-report measures of leadership, which were relevant to the MLQ. One potential limitation of self-report measures of leadership, such as the MLQ, is social desirability bias. Respondents may be motivated to provide responses that they perceive as socially desirable, rather than their actual beliefs or behaviors. This can result in response bias and limit the accuracy of the results. Yukl suggested that social desirability bias may be particularly problematic in situations where leaders are being evaluated by their subordinates, who may be hesitant to provide negative feedback (Yukl 1999). Charbonneau (2004) conducted a study to evaluate the reliability and validity of the Multifactor Leadership Questionnaire (MLQ). It was found that the questionnaire may be susceptible to ceiling effects. This means that scores on the questionnaire may cluster around the high end of the scale, especially for transformational leadership. This can limit the ability of the questionnaire to differentiate between highly effective leaders and those who are merely average or good (Charbonneau 2004).

Other research was conducted to measure the structural validity of the MLQ when being used to review characteristics of transformational, transactional, and non-leadership behaviors. Muenjohn and Armstrong (2008), after refining several versions of the instruments in response to criticisms of the MLQ, concluded that the version of the MLQ, Form 5X (as proposed by Bass & Avolio 2000), is successful in adequately capturing the full leadership factor constructs of transformational leadership theory. As a result, researchers should have confidence in using the MLQ 5x version to measure the nine leadership factors representing transformational, transactional, and non-leadership behaviors.

Leadership Styles: Preferences and Perceptions of Different Generations

There are many research studies on leadership styles and preferences of Baby Boomers, Generation X and Y (the so-called Millennials), the three generations before Gen Z.

As early as 1976, Sandler and Hofstede conducted a survey on employees in an international company to determine their ideal style of leadership (Sandler & Hofstede 1976). They found that the majority of participants, who were Baby Boomers, preferred "the consultative style" of leadership. Wieck et al. (2002) investigated desired leadership traits in cross-sectional samples of nursing students and management that were intended to be representative of both the "emerging workforce" (ages 18-35, the "twenty-something generation") and the "entrenched workforce" (35+, the "baby boomers") cohorts. The participants were asked to identify and rank the six leadership characteristics that they thought were most and least desirable (each with three traits). There were no differences in desirable and undesirable leadership traits between generational groups, with both groups valuing honesty, supportiveness, and good communication, among other qualities (Wieck et al. 2002). In 2007, Sessa et al. carried out two large survey-based studies of leadership attributes and behavioral preferences. Although not all generational groups were represented in both studies, they defined six groups of interest ("matures" (1925-1945), "early baby boomers" (1946-1954), "late baby boomers" (1955-1963), "early Gen-Xers" (1964-1976), "late Gen-Xers" (1977-1982), and "Gen Y", or "millennials" (1983 or later). In the first study, the authors concluded that there were similarities and differences related to generational cohort membership by examining the respondents' top 12 rankings of leadership attributes. Honesty, organizational knowledge, listening, and helping others were all valued by all cohorts. However, matures valued delegation more than the other groups, while millennials valued focus, dedication, and optimism more than the other groups, and honesty, big-picture orientation, and cultural sensitivity less. There were also differences, such as late boomers and Gen-Xers placing high value on feedback (and millennials placing relatively low value on feedback), and younger generations expressing a preference for individually caring leaders and day-to-day focus (rather than "big-picture focus," as with older generations). Furthermore, their behavioral analysis (using a 360-degree leadership evaluation tool) revealed parallels with

these attribute rankings, with managers in specific cohorts displaying behaviors consistent with attributes highly valued by those in their cohort (e.g., matures were more likely to exhibit delegation behaviors) (Sessa et al. 2007).

According to the findings of a 2017 study among Generation Y employees, transformational leadership has a significant negative relationship with intention to quit. However, the moderating effect of job satisfaction only influenced the relationship between reward and intention to quit, not the relationship between transformational leadership and intention to quit (Jauhar et al., 2017). Kultalahti et al. (2013) compared the leadership preferences of Generation Y innovators and non-innovators to those of older generations and concluded that transformational leadership is preferred by younger employees compared to older employees.

Despite a variety of research done on leadership preferences of older generations, to the authors' knowledge, there are currently very few studies on which leadership traits the youngest generation in the workplace, Generation Z, prefer their leaders to have. An Interpretive Phenomenological Study of America's Emerging Workforce conducted in 2018 suggested a strong preference for transformational leadership (McGaha 2018). A qualitative study about Swedish Generation Z's leadership preferences in entry-level jobs also indicated the same result, implying Gen Z's preference for this style of leadership (Elias et al. 2021). At the moment, a large number of people from the iGen or Gen Z are still at school or studying, but it is estimated that, by the next decade, Gen Z will account for one-third of the global workforce (Nix 2021). Based on findings of former research on older generations and transformational leadership's conformity with the modern work environment, this paper proposes a hypothesis on the desired leadership style of Gen Z which can be expressed as:

> Hypothesis 3: Gen Z prefers leaders to demonstrate traits of transformational leadership rather than transactional leadership.

2.2   Generation Z and Their Characteristics

Generation Z is expected to surpass Millennials to become the world's largest living adult generation, especially in Vietnam (Nguyen Ngoc et

al. 2022b). According to PwC Vietnam's Digital Readiness Survey 2020 "How digital ready is Generation Z?", Gen Z is expected to make up about a third of the total Vietnamese workforce by 2025 (PwC Vietnam 2021). The number of Generation Z in Germany, however, only makes up a tenth of the total population according to 2020 statistics (deutschland.de 2022). But one thing is certain: Gen Z is now the newest generation to enter the workforce.

There are different points of view on the delimitations between generations. The definitions of the birth years used to define Gen Z differ from paper to paper.

Table 1: The Definition of the Birth Years Used to Define Gen Z in Past Literature

1995-2009	(Williams 2010 (as cited by Bolser & Gosciej 2015))
1995 onwards	(Adecco 2015)
1995 or later	(Löffler & Giebe 2021)
born after 1995	(Iorgulescu 2016)
born between 1995 and 2012	(Barhate & Dirani 2021)
1997-2013	(Schroth 2019)
born after 1997	(Bresman & Rao 2017)
1990 as the first birth year of Gen Z	(Tulgan 2013)

Source: Own table.

According to Perna (2019), Gen Z members were born between the second half of the 1990s and the mid-2000s. Some may view the same regarding the birth year of Gen Z, considering a member of Gen Z is anyone born between 1995 and the early-mid 2000s (Williams 2010 (as cited by Bolser & Gosciej 2015); Adecco 2015; Iorgulescu 2016; Barhate & Dinari 2021).

It is essential to consider the characteristics of Generation Z – the newly introduced generation in the workforce – before researching their

behaviors and expectations in the workplace. Generation Z will represent the most significant generational transition the workplace has ever experienced, as they will provide several challenges to high-level managers, leaders, superiors, recruiters, and educators in every sector of the workforce (Tulgan 2013). Generation Z resembles Generation Y in that they both value work-life balance (Ernst & Young 2016; Schroth 2019), are accustomed to communicating digitally, aspire to take leadership roles, and have high levels of entrepreneurial spirit (Schroth 2019). However, Generation Z behaves differently due to the significant events in the world around them (Nguyen Ngoc et al. 2022a). Thus, they deserve to be treated uniquely. They are more knowledgeable about remote regions of the world than Gen Yers ever were, thanks to the advent of the Internet, but they are probably far fewer daring travelers. They are heavily immersed in the limitless online world but are more engaged with local issues (Tulgan 2013). Compared to previous generations, Gen Zers also enjoy more economic prosperity, have higher levels of education, and are more ethnically and racially diverse. In addition, they are the most likely to experience depression and anxiety and are the least likely to have work experience when they are younger (Schroth 2019).

2.3 Cultural Differences of Vietnamese and German Culture

Many researchers have pointed out that there is a cultural difference between people who were born and raised in Western cultures (the German culture, for instance) in comparison to those who grew up in Eastern cultures (for example, in the Vietnamese culture). While children in Western countries emphasize individual originality and equality, Eastern parents educate their children to respect and preserve the role of relationship interdependence, chain of command, and status (Guthrie Yarwood 2022). As a result of those different philosophies, Westerners and Easterners, require a different expected balance between Individualism and Collectivism in their employers and leaders. Leaders in Eastern cultures frequently pay more attention to the collective as they lead their employees with commitment, relationships, and hierarchy. On the other hand, Western leaders prefer to empower their staff and evaluate them according to their roles and responsibilities (Connor et.al. 2014).

With the rising popularity of globalization and with the rapid economic growth of Asian countries, more and more multinational corporations and companies want to invest and produce in Asian countries, where labor and materials are still relatively less expensive than in western countries. As a result, if employers mechanically apply Western leadership to local labor, it can backfire and may lead to a reduction in productivity, profits, and results in their being ostracized by consumers.

Based on the study of Hofstede, Hofstede and Minkov (2010), as well as the model based on their theory, the major differences between Vietnamese and German cultures can be compared based on four factors:

1. *Power Distance*: In Vietnamese culture, hierarchy order in an organization or in any party is considered to be universal, and to reflect inherent inequalities. With centralization remaining popular among most companies and organizations, subordinates are usually more passive and expect to be told what to do while employers dislike being challenged by their employees. On the other hand, German culture prefers a direct and participative communication and meeting style, where leadership is challenged to show expertise and best accepted when it is based on this expertise.

2. *Individualism:* In Germany, the relationship between the employer and the employee is mostly based on personal preferences for people as well as a sense of duty and responsibility and recorded by the contract between both parties. In contrast, the Vietnamese, living in a collectivist society, usually default to a close long-term commitment to the "member" group, be that family, extended family, or extended relationships.

3. *Uncertainty Avoidance:* Germany is a country known for its rules and discipline. To avoid being threatened by unexpected events that may damage the company, Germans would prefer to make up for their higher vulnerability by unequivocally depending on knowledge and understanding. Meanwhile, as a newly developing country which wants to catch up with the modernity of other developed countries, Vietnam is more open to experiments in mechanisms and policies, which results in a higher risk tolerance.

4. *Long Term Orientation:* In German society, people believe that situation, context and time are key determinants that have a great

influence on truth. Germans demonstrate a strong propensity to save and invest, prudence, and perseverance in achieving results, as well as the ability to easily adapt traditions to changing conditions. Meanwhile, in Vietnamese culture, time-honored traditions and norms are integral parts of people's lives. Although Vietnamese people are very open to receiving the unique cultural features of many cultures around the world, they often learn them selectively (as Vietnamese often say: adapt but not assimilate). Any attempt to change too radically long-standing cultural traditions will quickly be opposed and rejected by most Vietnamese.

However, with the irreversible trend of globalization, with the movement of people from rural to urban areas, from lower-quality-of-life countries to developed countries, there are more and more multicultural families and many young people from diverse cultures. As a result, the study of Hofstede, Hofstede and Minkov does not fully reflect the trends and characteristics that determine people, especially young people, based on their nationality.

Based on the findings of former research on differences in Eastern and Western cultures, as well as the desired leadership styles of young people in many countries, this paper proposes a hypothesis on the variation of the desired leadership style of Gen Z in Germany and in Vietnam, which can be expressed as:

Hypothesis 4: There are differences in preferences of leadership styles between Gen Z from Germany and Gen Z from Vietnam.

3. Methodology

Following a discussion of relevant leadership and Gen Z theory, the methodology for the research is explained below. The selection of study design, survey construction, and survey execution are all addressed here.

3.1 Research Method: Quantitative Approach

A quantitative research approach, a survey in particular, was chosen to test the hypotheses presented above. There has not been a lot of research conducted on this topic so far, therefore the authors recognized a need to

collect a moderate amount of data to analyze and compare the findings across the two countries. As a result, because more respondents can be involved in quantitative research, it provides a more comprehensive picture than qualitative research.

Survey research examines a sample of a population to provide a quantitative or numerical description of trends, attitudes, or opinions. It includes cross-sectional and longitudinal studies that collect data using questionnaires or structured interviews with the goal of generalizing from a sample to a population (Fowler 2008). Surveys can be adapted to a wide range of research questions and settings, making them a highly flexible research method, which was the main reason why they were employed by the author to collect and standardize data.

3.2 Construction of the Survey

Google Forms, a Google-based, online survey development tool, was used to create the survey. The survey's design and user experience were prioritized during its construction because these factors have a significant impact on data quality. Google Forms not only allows for an appealing design that aids in engaging with the target audience, but also provides a positive user experience and easier access on all types of device such as smartphones or computers. The survey was conducted online and distributed to people in Gen Z living in Vietnam and Germany. In this study, we join Iorgulescu (2016), Barhate & Dirani (2021) and Löffler & Giebe (2021) in considering that Generation Z means those born after 1995. More specifically, considering the subject of this study, we would like to look into undergraduate students and working Gen Z-ers born between 1995 and 2004. The survey was written completely in English to avoid misinterpretation during translation to Vietnamese and German. The authors assume that all respondents understand English and fully comprehend the content and implications of the survey.

The survey involves a series of demographic questions which serve as additional parameters to better interpret and evaluate the results. Each question is followed by a brief explanation of how it relates to the survey:

1. What is your nationality? – in order to compare preference based on cultural background.

2. When were you born? – in order to compare different age groups and their expectations.

3. Are you working or are you studying? This question determines those who would proceed to the psychological safety questionnaire.

Participants were asked to rate how likely they agreed with the following statements using the Likert scale.

Figure 2: The Likert Scale
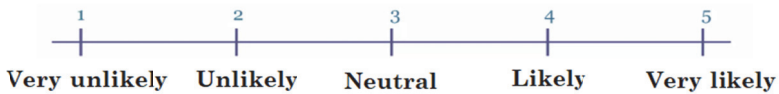
Source: Own illustration.

From question 4 to 13 the surveyors examined whether the respondents felt psychologically safe in their organization or not by means of the following sentences:

4. Working in this organization I understand what is expected of me.

5. I feel my ideas are valued, and I feel safe in suggesting them.

6. If I make a mistake while working, it is never held against me.

7. When something goes wrong, we (me and my colleagues) work together to find the systemic causes.

8. I feel able to bring up problems and concerns.

9. Colleagues in this organization never reject others for being different and nobody is left out.

10. It is safe for me to take an intelligent risk (quantifiable risk that you will manage to handle the resulting possibilities) when working with my colleagues.

11. It is easy for me to ask other colleagues for help.

12. Nobody in my working group would deliberately act in a way that undermines my efforts.

13. When working with my colleagues, my unique skills and talents are valued and utilized.

The survey also includes statements about Herzberg's two-factor theory. The next section was designed to test the participants' perceptions of intrinsic and extrinsic motivation. Questions 14 to 19 link to intrinsic factors that motivate Gen Z:

14. Certain achievements, (e.g., being able to solve a professional issue, completing a task successfully within the given timeline, or achieving a target), in your job are important to you.

15. Recognition (e.g., incentives, rewards, or simply praise) from colleagues and leaders is important to you.

16. The nature of work itself (e.g., suitable company culture, your dream job, flexible timeline, …) has to match your expectations.

17. Being given adequate responsibility and authority in your job is important to you.

18. An upward and positive status or position in a workplace (e.g., a promotion) is important to you.

19. Opportunities for growth and enhancing professional skills are important to you.

From questions 20 to 25, participants rate the statements according to their extrinsic motivation factors:

20. Being supervised and given autonomy as per the job requirements keeps you motivated.

21. Clear and fair management and organizational policies are important to you.

22. Positive and strong interpersonal relations with co-workers (e.g., supervisor, colleagues, subordinates) are important to you.

23. Clean surroundings, a healthy atmosphere, and agreeable people are important to your job.

24. The company should pay according to your position and provide a sufficient amount so that you can maintain a decent living.

25. Job security, which assures employees that their job is secure under organizational policies, is important to you.

The last sections allow the respondents to choose their preferred leadership style, from numbers 26 to 32. The questions were combined from traits of transformational and transactional leadership, which originated from the Multifactor Leadership Questionnaire's 5X Form but shortened:

26. I prefer my employer to be flexible and open to feedback, innovations and new ideas.

27. I want my leader to willingly take risks instead of just following existing rules or procedures.

28. My motivation to work comes from the rewards my employers give me if I reach the target rather than their ideals and visions.

29. I would like to be empowered to make my own decisions and plans rather than receive and follow tasks, instructions and plans made by my employer.

30. I want my leader to keep things how they normally are with policies or fixed procedures and to not try or test new processes that can be risky.

31. In dealing with issues and crises, I prefer my employers to anticipate and be prepared in advance rather than respond to them only when they arise.

32. I want my leaders to place emphasis on the values, ideals, morals and needs of the followers rather than on their relations with followers.

After the questionnaire was constructed, the survey was distributed on January 1st, 2023, and responses were collected until January 17th, 2023. The authors assured specifically that only people born between 1995 and

2004 received the survey to ensure that only Gen Z is the subject of the survey. People born after 2004 would still be in high school so they might not be the suitable subject for this research. To encourage as many Gen Z as possible to participate, the survey link was distributed via WhatsApp and Messenger private chats. Furthermore, friends and family offered to distribute the survey among younger friends, allowing the authors to reach a wider audience. A total of 54 results were gathered but only 53 responses (98.15%) were qualified for further analysis because one respondent did not complete the extrinsic-intrinsic motivation section.

4. Findings

4.1 General Observations

Of the 53 qualified respondents, 33 were Vietnamese (62.26%) and 20 were German (37.74%). The percentage of male and female participants is depicted by the pie chart below:

Figure 3: Respondents Summary by Gender

Male
37.7%

Female
62.3%
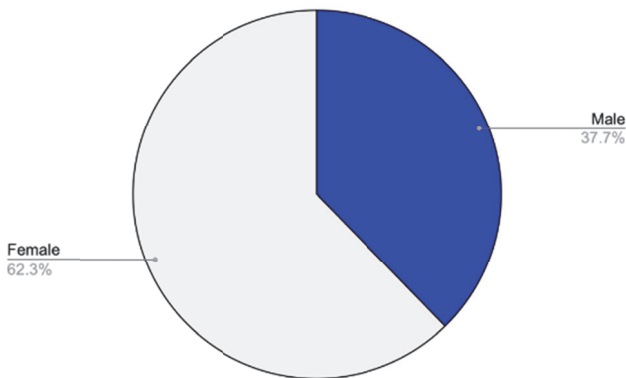
Source: Own illustration.

29 respondents were born between 1995 and 2000 and 24 others were born between 2001 and 2004. Regarding employment status, 21 people

said that they were currently working (39.62%) and the rest were still studying.

4.2 Empirical Results

Result of Hypothesis 1: Respondents with strong psychological safety are more likely to value intrinsic factors over extrinsic factors.

The following aims to prove or disprove hypothesis one, namely that respondents with strong psychological safety are more likely to value intrinsic factors over extrinsic factors.

Since a total number of 21 interviewees stated that they worked in an organization and thus received the questionnaire asking for psychological safety, the basic population is half of the total number of respondents. Due to the relatively low number of results, it is not possible to provide a solid correlation, it is rather a tendency.

Looking at the demographic data, about 62 percent of the 21 respondents are Vietnamese and 58 percent are German. The quota for female respondents is 76 percent and thus 24 percent are males. These facts need to be considered when it comes to comparing and analyzing the results. Most of the respondents, namely 90 percent, stated that they were born between 1995 and 2000 and thus belong to the elder part of Generation Z. Almost half of the respondents work in the field of economics and business administration.

The questionnaire for psychological safety asks respondents to answer by means of a scale with 1 standing for least appropriate and 5 standing for most appropriate. As there are 10 questions to be answered, an interviewee with high psychological safety can reach a maximum score of 50 points and conversely an interviewee with low psychological safety can reach a minimum of 10 points. The results show that about 10 of the 21 respondents reported relatively high psychological safety with an individual sum of above 40 points. Of the eight German respondents, six of them reported high psychological safety. Comparing the individual answers of these persons to their stated psychological safety, the results show that there is indeed a tendency for people with high psychological safety to value high intrinsic motivation. However, regarding this issue it appears that the respondents with less intrinsic motivation do not necessarily have less psychological safety.

Based on this finding, the hypothesis cannot be proven. There may be a correlation between intrinsic motivation and psychological safety, however psychological safety does not seem to be a requirement for people to be intrinsically motivated. In order to receive a more informative picture, it would be necessary to test this hypothesis on a larger population. Nevertheless, and as mentioned before, these results can be considered as an approach. Regarding the tendency that German respondents reported higher psychological safety compared to Vietnamese respondents, a separate study needs to be conducted.

> Result of Hypothesis 2: Gen Z places higher importance on intrinsic motivational factors compared to extrinsic hygiene factors.

The sample consists of 53 respondents, among which there are 33 Vietnamese respondents and 20 German respondents. The second hypothesis "Gen Z places higher importance on intrinsic motivational factors compared to extrinsic hygiene factors" is tested through the second part of the questionnaire – Intrinsic factors & Extrinsic factors, which includes 12 questions. The first six questions address intrinsic motivational factors (Achievement, Recognition, Nature of work, Responsibility, Advancement and Growth), while the latter six are dedicated to extrinsic hygiene factors (Supervision, Company administration, Interpersonal relationships, Working conditions, Salary, and Job security). Respondents are asked to rate the appropriateness of the assumptions on the importance of these factors on a Likert scale of 1 to 5 with 1 being least appropriate and 5 most appropriate, which also means that these scores can be transferred to 1 being least important and 5 being most important. For intrinsic motivational factors, a respondent can score a maximum of 30 points for a total of 6 factors and a minimum of 6 points. The same applies to extrinsic hygiene factors.

Looking at the intrinsic motivational factors (Table 2), Growth was ranked as the most important factor with a total score of 237. While 31 respondents gave an explicit 5 for the importance of opportunities for growth and enhancing professional skills, only 1 rated a 2 for Growth and none gave a 1, which results in an average score of 4.47. The second most important factor is Advancement, followed by Achievement, Recognition, Responsibility and Nature of work itself with average scores per factor of 4.094, 4.075, 4.038, 4 and 3.89 respectively.

Table 2: Intrinsic Motivational Factors

Score of importance	Certain achievements	Recogni-tion	Nature of work	Responsi-bility	Advance-ment	Growth
5	18	19	13	12	21	31
4	27	20	25	32	18	17
3	3	12	12	6	12	4
2	4	1	2	3	2	1
1	1	1	1	0	0	0
Total number of responses	53	53	53	53	53	53
Total score per factor	216	214	206	212	217	237
Average score per factor	4.0755	4.0377	3.8868	4	4.0943	4.4717

Source: Own table.

Table 3: Extrinsic Hygiene Factors

| Score of importance	Super-vision	Company Policies	Interpersonal relationship	Working conditions	Salary or wages	Job security
5	10	22	17	22	31	21
4	23	20	22	22	18	19
3	11	9	11	7	3	12
2	7	2	2	2	1	1
1	2	0	1	0	0	0
Total number of responses	53	53	53	53	53	53
Total score per factor	191	221	211	223	238	219
Average score per factor	3.6038	4.17	3.9811	4.2075	4.4906	4.1321

Source: Own table.

Figure 4: Total Intrinsic Factor Score per Respondent

Total Intrinsic Factor Score Per Respondent
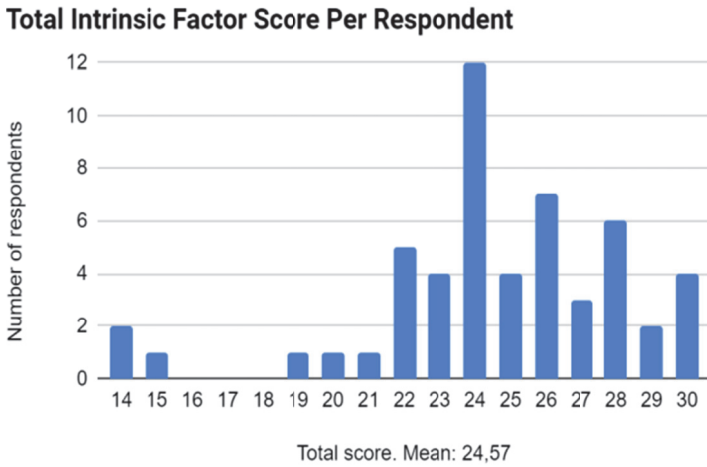
Source: Own illustration.

Figure 5: Total Extrinsic Factor Sore Per Respondent

Total Extrinsic Factor Score Per Respondent
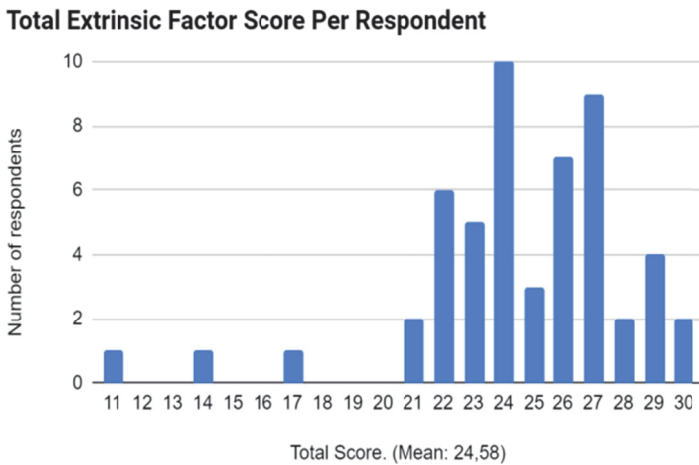
Source: Own illustration.

Focusing on extrinsic hygiene factors (Table 3), salary or wages is the most important factor with a total of 238 points, among which a score of 5 was rated 31 times, and an importance score of 4 was rated 18 times, resulting in an average score of 4.49.

Moreover, by adding up the scores of the factors for each respondent, a total score ranging from 6 to 30 can be collected for intrinsic and extrinsic factors.

Regarding the Intrinsic factors, the lowest total score is 14 and highest total score is 30, which is also the maximum score. Intrinsic factors received a total score of 24 or higher from more than half of the sample. Overall, the average score for Intrinsic factors is 24.57. Extrinsic factors also achieve the highest total score of 30 for 6 factors and receive the lowest total score of 11. In simple terms, more than half of the sample also gave a total score of 24 or more to Extrinsic factors. Overall, Extrinsic factors receive an average score of 24.58, which is just slightly greater than that for Intrinsic factors.

The same analysis can be applied to smaller groups of the sample.

Table 4: Mean and Standard Deviation Value of Intrinsic and Extrinsic Factors Grouped by Nationalities

	Sample (As a whole)		Vietnamese (33 respondents)		German (20 respondents)	
	Intrinsic factor	Extrinsic factor	Intrinsic factor	Extrinsic factor	Intrinsic factor	Extrinsic factor
Mean	24.57	24.58	24.79	24.03	24.2	25.5
Standard deviation	3.6348	3.5704	3.1894	4.0271	4.3359	2.4815

Source: Own table.

While among the Vietnamese responses, the average score of Intrinsic factors exceeds that of Extrinsic factors, the German Intrinsic factor average score is far lower than its Extrinsic factor mean. This means that while Gen Z in Vietnam places higher importance on intrinsic motivational factors, Germany's Gen Z places higher importance on extrinsic hygiene factors. The differences between the results of Gen Z from the two countries in the sample has concluded a relatively equal result of the

average score of Intrinsic factor and Extrinsic factor of the sample with Extrinsic factor being in the lead.

This result is the evidence that Hypothesis 2 cannot be proven.

> Result of Hypothesis 3: Gen Z prefers their leaders to demonstrate traits of transformational leadership rather than transactional leadership.

All 53 respondents of the survey completed the questions relating to Hypothesis 3, where Gen Z had to rate their liking of their leadership style of choice, either transformational or transactional. Questions 1, 2, 4 and 7 test the participants' preference for transformational leadership compared to transactional whereas questions 3, 5 and 6 test their preference for transactional leaders over transformational ones.

For each trait, a scale of 1 to 5 is presented, with 1 standing for very unimportant and 5 very important likely. For each choice, a certain score is given, and interviewees can score a maximum of 20 points for the four questions relating to transformational leadership and 15 points for the three questions regarding transactional leadership. If the respondent rates a trait 3, or neutral, this means they are indifferent to both styles and weight them equally important. The specific number of responses is recorded in the table below for each question:

*Table 5: Likert Scale Result of Preferences for Leadership Traits*

	Question number and corresponding traits	1*	2*	3*	4*	5*	Total
1	Flexibility, openness to feedbacks and innovations	0	1	2	25	25	53
2	Willingness to take risks	0	3	20	18	12	53
3	Rewards for achievements	4	6	21	15	7	53
4	Empowerment and autonomy to make decisions	0	3	15	26	9	53
5	Maintaining status quo, stability and rigidity	4	16	21	9	3	53
6	Readiness and preparation for issues and crises	0	4	12	21	16	53
7	Emphasis on values, ideals, morals and needs of followers	1	1	14	22	15	53

(Note*: according to likert scale (1 – very unimportant to 5 – very important))

Source: Own table.

After grouping those who rate very important and important into one cohort, meaning they have a strong preference for a trait; those who rate very unimportant and unimportant into another cohort, meaning they tend to choose the other style; and those who are neutral into a final cohort, we have a graph presenting the participants' priorities when it comes to leadership traits:

Figure 6: Gen Z's Preference of Leadership Traits by Percentage
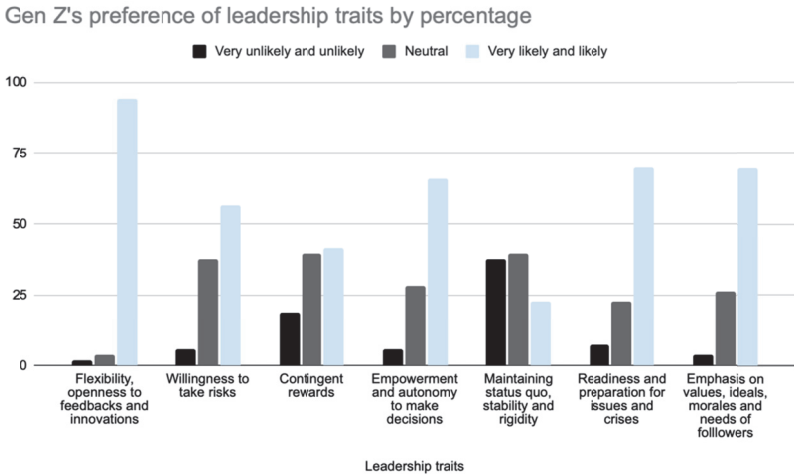
Source: Own illustration.

Approximately 94.03% of respondents preferred their leader to demonstrate a common trait of transformational leadership, which is being flexible and open to feedback, new ideas and innovation. More than half of the participants wanted their leader to be willing to take risks (56.56%) and the majority (66%) would like to be empowered and have autonomy when making important decisions. In dealing with issues and crises, 69.81% preferred employers to anticipate them and be prepared in advance rather than respond to them only when they arise. Likewise, the same number of Gen Z-ers agreed that leaders should place emphasis on the values, ideals, morals and needs of followers rather than on their relationship with followers.

37.74% wished that leaders would not keep things how they normally are with policies – fixed procedures and rarely try or test new processes that can be risky, a known trait of the transactional style while 39.62% gave a neutral rating to both sides. Almost 40% stated that they placed an even emphasis on the rewards their employers give if they reach their target as well as their ideals and visions. Meanwhile, 41.50% had a different opinion, giving contingent rewards a higher value as a source of work motivation.

The means, variance and standard deviation for the two sets of traits, transformational and transactional, were calculated and are displayed in this table:

Table 6: Summary Statistics of Likert Scale Result of Preferences for Leadership Traits

	Traits of transformational leadership	Traits of transactional leadership
Mean score	15.83	10.04
Variance	4.87	3.77
Standard deviation	2.21	1.94

Source: Own table.

The mean score of preference for all transformational traits portrayed in questions 1,2,4 and 7 is 15.83 and that for all transactional traits, questions 3, 5 and 6, is 10.04. The results support Hypothesis 3, that Gen Z prefers their leaders to demonstrate traits of transformational leadership rather than transactional leadership. There is evidence proving that when given a choice, people in this particular generation tend to opt of the transformational leader.

Result of Hypothesis 4: There are differences in preferences of leadership styles between Gen Z from Germany and Gen Z from Vietnam

Based on the "Leadership Traits" section of the questionnaire, the responses of Vietnamese and German respondents are separated into two groups based on their nationalities in order to compare the trends among Gen Z-ers in both countries, and see whether differences in culture make any difference to the preference for one leadership style over another.

In total, there are 20 respondents from Germany and 33 from Vietnam. To overcome the asymmetry in the number of respondents, percentages were used when comparing the data, thereby making assessment and drawing conclusions more accurate and scientific.

Figure 7: Leadership Preference – Flexible and Open-minded Employer
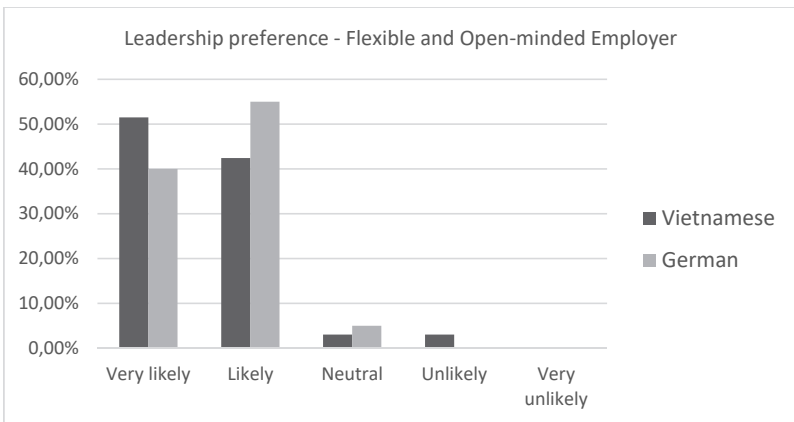
Source: Own illustration.

Looking at the demographic graph, most Vietnamese and German respondents expected their employers to be more responsive and adaptable to the ever-changing difficulties and challenges arising from the changes in market requirements and world trends. Furthermore, in order to increase the effectiveness of their work, respondents from both countries (although there are differences in the level of agreement) would like their bosses to be open to suggestions and evaluations from employees.

*Figure 8: Leadership Preference – Risk Lover*
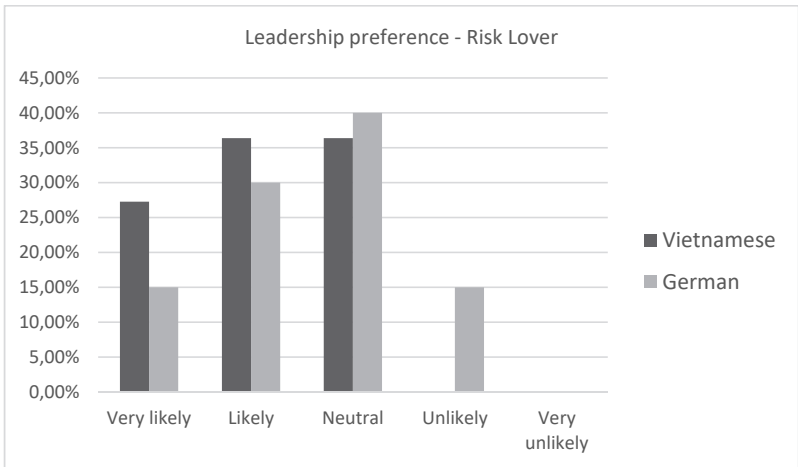
Source: Own illustration.

When referring to the expected risk tolerance of their employers, there are differences in preference of the leadership style from German and Vietnamese respondents. Most Vietnamese prefer their bosses to with-stand more volatility and uncertainty, in order to be able to find more opportunities to grow because the higher the risk, the higher the return. Meanwhile, most Germans are more reluctant to talk about risks and expect their superiors to follow strictly established procedures and rules when handling tasks.

Figure 9: Leadership Preference – Empowerment
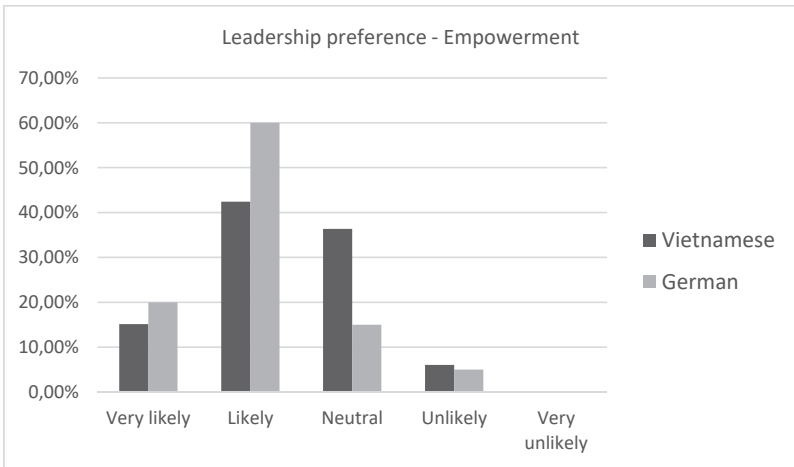
The difference in leadership style preference between Vietnamese and German respondents is also shown in employee empowerment. 80% of the responses from Germany clearly indicated that they want to be empowered so that they could decide and complete tasks economically and efficiently. Meanwhile, Vietnamese people's opinion about being empowered varies. Although there is a notable number of Vietnamese who desire their boss to empower them so that they can make decisions freely and independently, some Vietnamese have a neutral opinion about this matter because they do not mind whether or not they are empowered.

Figure 10: Leadership Preference – Emphasis on the Values, Ideas,
Morals and Needs of the Followers
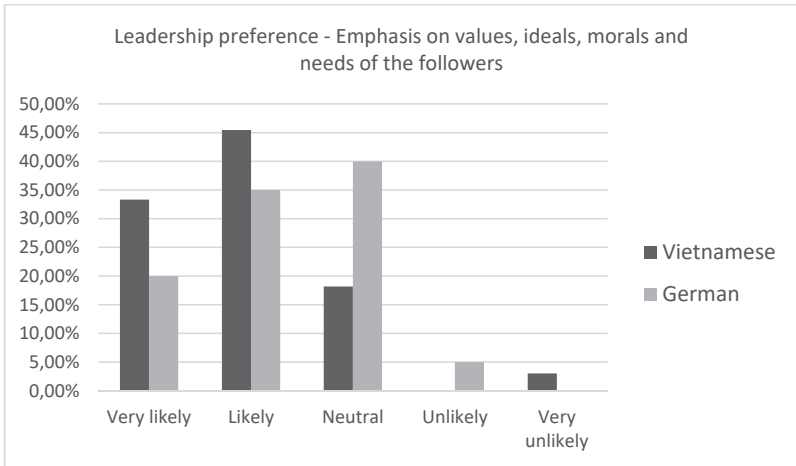
Source: Own illustration.

Regarding the difference in preference of leadership style, Vietnamese and Germans prefer their superiors to place emphasis on distinct aspects. The majority of Vietnamese prefer their bosses to consider the values, ideals, morals and needs of the followers when making decisions, especially decisions related to personnel and issues related to the quality of work of their employees. On the contrary, a considerable number of the Germans who responded to the questionnaire remained neutral on the matter of whether leaders should emphasize the thoughts and needs of their subordinate rather than only his/her relationship with the employees.

Figure 11: Leadership Preference – Work Motivation as Rewards
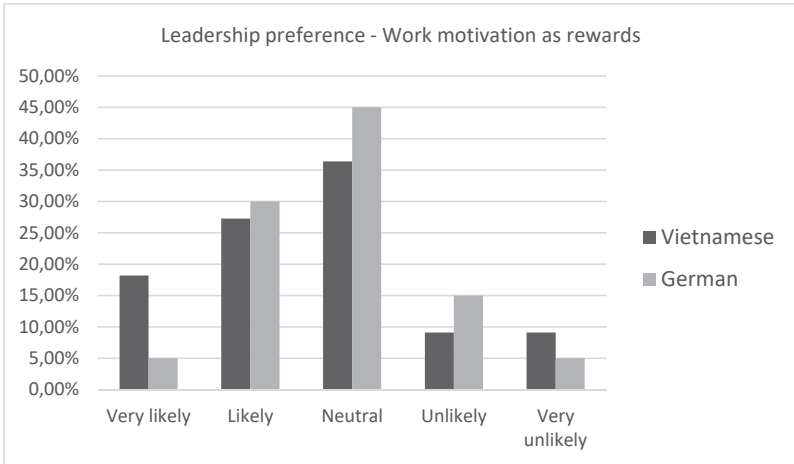
Source: Own illustration.

The demographic graph shows that Vietnamese and German employees have different motivations to work – and employers should take note of this in order to strategize on how to persuade their staff to work efficiently and effectively in order to achieve the highest outcome. Most Vietnamese consider rewards as their motivation to perform smoothly and effectively, while most Germans think differently. What motivates them to work hard is a combination of both rewards and the ideals and vision of their employer. In other words, German respondents value both the rewards and the inspiration from their companies and superiors.

Figure 12: Leadership Preference – Be Prepared for Issues and Crises
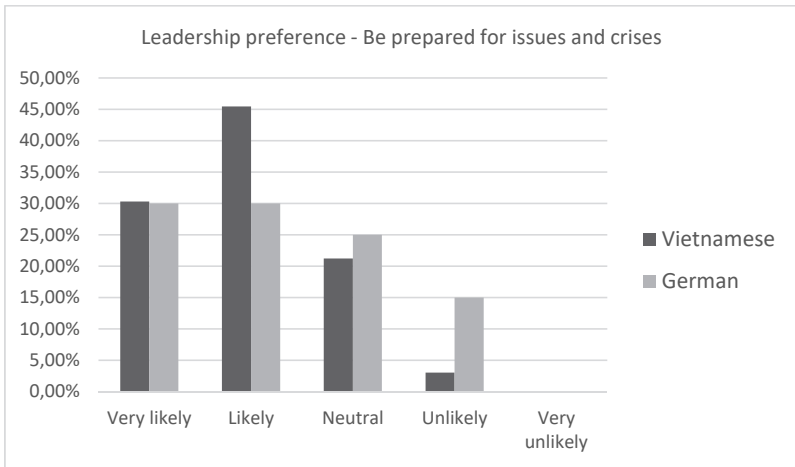
Source: Own illustration.

The graph shows that in the matter of dealing with difficulties and challenges, many respondents from both Germany and Vietnam wanted their bosses to be prepared in advance rather than finding ways to deal with them only when they arise. This means that when unforeseen situations occur, there will be plans and procedures on how to handle the problem smoothly and effectively.

Table 7: Mean Score of Preference of Leadership Style Grouped by Nationalities

Traits – Question	Vietnamese	German
1 Flexibility, openness to feedbacks and innovations	4.42	4.35
2 Willingness to take risks	3.91	3.45

3 Rewards for achievements	3.36	3.15
4 Empowerment and autonomy to make decisions	3.67	3.95
5 Maintaining status quo, stability and rigidity	2.91	2.70
6 Readiness and preparation for issues and crises	4.03	3.75
7 Emphasis on values, ideals, morale and needs of followers	4.06	3.70

Source: Own table.

To sum up, the mean score of preference of leadership styles in each situation supports Hypothesis 4, which emphasizes the difference in preferences of leadership styles between Gen Z from Germany and Gen Z from Vietnam. Although there are differences in the mean score of the two countries in each situation, they are relatively small.

5. Discussion

5.1 Implications

The result of the intrinsic motivational factors evaluation under Hypothesis 1 pointed out that Growth was the most preferred factor among the six being considered, followed by Advancement, Achievement, Recognition, Responsibility and Nature of work. Such results confirmed the conclusions of the study conducted by Bohdziewicz (2016), which revealed Gen Z's preference for lateral career growth over hierarchical career progression, also known as Advancement. The research by Ernst and Young (2016) also noted generation Z's preference for Growth, in which Growth was proposed as career-focused perks and professional development

opportunities such as higher education privileges and training programs to help employees remain ahead of the curve. Moreover, the higher average score of Growth compared to that of Working conditions (an extrinsic hygiene factor) confirmed the results of previous research by Ernst and Young which showed the generation in question's preference for growth over flexible schedules and open work environments. However, Advancement – the second most essential intrinsic factor in our research – was considered the top priority in another study conducted by Iorgulescu (2016).

Turning to the six extrinsic factors being investigated by our research, the results showed that Salary is the most favorable factor of all, whose average score exceeded that of Working conditions, Company rules and policies, Job security, Interpersonal relationships, and Supervision (being given autonomy). Research carried out by Bencsik et al. (2016) also proposed the same preference for Salary, considering money as one of the top factors that motivate young employees to stay at a company. Putting Salary and Job security on the table, the research result of Iorgulescu (2016) matched our survey outcome, stating the prevalence of Salary over Job security. Despite the findings of Schroth (2019) and Barhate & Dirani (2021) about the culture of safety that Gen Z has, indicating their lack of interest in Salary in the early stage of their career, our survey showed the strong interest of Gen Z towards Salary given their demographics as 'first jobbers' and students.

Based on these findings, Hypothesis 2 cannot be proven despite an existing tendency showing people's likeliness to value intrinsic motivation given high psychological safety. However, this correlation between intrinsic motivation and psychological safety is worthy of consideration as other researchers have also suggested that Gen Z is intrinsically motivated when their team and, more importantly, their supervisor recognize their contributions and implement their ideas (Fodor & Jaeckel 2018; Hampton et al. 2019; Silinevica & Meirule 2019 (as cited by Barhate & Dirani 2021)).

Hypothesis 3 has been proven by our research, implying that Gen Z prefers their leaders to demonstrate traits of transformational leadership rather than transactional leadership. This result, collected from representatives of Generation Z in Vietnam and Germany, corresponded to the findings of qualitative research conducted in America and Sweden. While the data gathered for the Swedish research showed a strong notion

that Generation Z leadership preferences best align to a transformational leader (Elias et al. 2021). American research data suggested that Generation Z strongly prefers the transformational leadership style (more so than transactional leadership), meaning the preference for a leader to be both supportive and encourage developmental growth (McGaha 2018).

Looking closely into the detail, one of the distinctive traits of a transformational leadership style, with a preference of 66%, which is Empowerment and Autonomy, was found in a survey by Ernst and Young in 2020 to be the most noticeable development in generational preference for leadership. However, there was a difference in opinion between Gen Z in Germany and Vietnam. While 80% of the responses from Germany clearly indicated that they wanted to be empowered, the responses from the Vietnamese tended towards being more neutral.

Although the preference for transformational leadership style is evident, it is indisputable that contingent rewards still appeal to a certain group of people in this generation. It is evident from the data that the Vietnamese have a higher tendency to value rewards as motivators. Other prominent research that has looked at Gen Z's working motivators and retention also suggested the importance of rewards. Tulgan (2013) stated in his research that the most effective way to drive performance and maintain ongoing working relationships with GenZ-ers is for managers to explicitly negotiate performance and reward on an ongoing basis in a transparent open exchange. Moreover, qualitative research written by Barhate & Dirani (2021) referred to in a study by Deloitte outlined an effective retention strategy for organizations by using the expectations of rewards to keep Gen Z motivated and engaged in the workplace. Since rewards work as a basis for transactional leadership style, transactional leadership still plays an important role in creating a dream job for Generation Z.

Furthermore, under the analysis of Hypothesis 4, the mean score of the two countries in each trait usually deviates to the same side as the midpoint value, which indicates that young people in both Vietnam and Germany have a high tendency to prefer their employers to behave in the same way in certain situations. This phenomenon can be explained by the process of globalization, which increasingly narrows the cultural gap between the youth of eastern countries (e.g., Vietnam) and western countries (e.g., Germany).

All in all, the purpose of this study was to better understand the factors that influence an employee's attitude towards work using Herzberg's Two-Factors Theory and to identify the leadership preferences exhibited by Generation Z (more specifically, transactional or transformational leadership). The results have pointed out the importance of the intrinsic motivational factor – Growth, which is also the basis for transformational leadership style. It is also indicated that there is a clear preference for transformational leadership over transactional leadership. However, it is notable that transformational leadership, with the goal of encouraging growth and development of the followers as a means for the leader to grow themselves, also must go hand in hand with transactional leadership. This confirmed Bass's statement regarding the coexistence of these two leadership styles (Bass & Riggio 2006).

The discussion part of this study therefore suggested some helpful information for organizational leaders in the area of Gen Z employment. Firstly, organizational leaders need to take into account Gen Z's expectations about growth, which is the opportunity for enhancing professional skill rather than vertical promotion. Thus, learning opportunities, such as mentoring and coaching programs within their respective working field, would be extremely beneficial for Gen Z's job satisfaction. Secondly, a transformational leadership style should be the new trend in the way firms manage their employees without excluding an appropriate reward system.

5.2   Limitations

The following chapter critically reviews the methodological approach of this essay.

First, while the study of leadership preferences among Generation Z in Germany and Vietnam is a valuable research topic, the sample size of 53 participants is insufficient to draw meaningful conclusions. In quantitative research, a small sample size may not be representative of the broader population, making it challenging to draw valid inferences. In this study, the sample size of 53 participants does not provide a broad enough range of perspectives to capture the complexities and nuances of leadership preferences among German and Vietnamese Generation Z. As a result, the findings of the study cannot be generalized to the broader

population, rendering the study's results limited in terms of their applicability and significance. This opens an avenue for further research using a much larger sample size for better generalizability and reliability.

One other critical point is the fact that the Vietnamese participants as well as the German interviewees were not selected randomly or from random samples. The survey was conducted using the convenience sampling method: the representatives of Gen Z were selected based on their accessibility to the authors. The authors sent out the survey to particular persons within the target group via social media platforms such as WhatsApp. As a result, without a random sample, the diversity of the sample cannot be ensured as only people that we know (directly or indirectly), or those who are most likely to share the same background and mindset with the authors, responded to the survey. Therefore, our results cannot be generalized for the overall local Vietnamese and German population or communities. On the other hand, a more diverse sample could have led to a different result, as people from different – for instance, educational or social backgrounds – can have different preferences.

In addition, the number of Vietnamese participants is higher than the number of German participants, which can skew the results. This factor was eliminated by creating average numbers as a reference. However, in order to reach more people, publishing the survey link on social media may increase the number of participants and to receive even more results, a motivational reward for participants could be considered. As a result, the evaluated results represent one approach towards studying the requirements that Gen Z places on (potential) employers. The interpretation of the results should be applied carefully: assumptions can be derived from the survey results which are not proven in any way. Due to the limitations of this paper the authors suggest further research on the most important.

Finally, this study only focused on German and Vietnamese respondents. Future studies could investigate the relationship of the unique characteristics of people from different countries and their desired management and leadership styles from each continent, as well as the perception of motivational factors of several different cultures to examine whether there is similarity or difference among these diverse people groups.

6. Conclusion

In conclusion, we found that Gen Z participants, in general, value extrinsic hygiene factors less than intrinsic factors when it comes to the motivational factors that can profoundly affect their interest, desire and productivity. Besides salary and wages (which is considered to be the most influential extrinsic hygiene factors), employers should also focus more on designing career progression paths that help companies become more attractive and competitive in finding suitable and talented employees. Additionally, the results also show that, although people who have high psychological safety are more likely to value high intrinsic motivation, psychological safety is not a requirement for people to be intrinsically motivated.

Another conclusion that can be deduced from the study is that most Gen Z-ers prefer their leaders to demonstrate traits of transformational leadership rather than transactional leadership (although most participants expect to be rewarded with a pay rise or in some other form when they perform well and achieve high productivity at work – which is a trait of the latter). Furthermore, despite their cultural differences, Gen Z in both eastern countries (e.g., Vietnam) and western countries (e.g., Germany) usually expects their leaders to act and manage similarly in certain situations. As a result, leaders, in general, are encouraged to flexibly adopt traits of both transformational and transactional leadership styles to attract more talented young people to join their teams and companies.

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Southeast Asia, a dynamic and culturally diverse region, is experiencing remarkable economic growth and transformation in the 21st century. Comprising eleven countries and home to over 650 million people, Southeast Asia offers a compelling narrative of adaptability, development, and potential. As Southeast Asia continues to develop and play a prominent role in the global economy, this book aims for a deeper exploration of the region's challenges, opportunities, and contributions to the United Nations´ Sustainable Development Goals (SDGs).

The book is the result of the Transcultural Student Research Group 2022, a project conducted by the Transcultural Caravan at the Leadership Excellence Institute Zeppelin at Zeppelin University (Germany) in collaboration with HTWG Konstanz (Germany), the University of Lodz (Poland), the Vietnamese German University (Vietnam) and Fulbright University (Vietnam). The whole project involved more than 30 young researchers and it is an exploration of the SDGs with a focus on the application and implications of such goals in Vietnam. The book provides an in-depth look at the challenges and opportunities facing this country and region, as well as the potential for collaboration and sustainable development.

The book delves into specific aspects of Vietnam, including gender, culture, society, environmental issues, and management and governance, providing a comprehensive understanding of the region's vibrant and evolving economy.