THE UNIVERSITY OF TEXAS AT DALLAS
Naveen Jindal School of Management

Conference Program and Proceedings

SUSTAINABILITY AS A SOLUTION TO GLOBAL CHALLENGES

March 24-25, 2023

Ann & Jack Graves Foundation Conference

THE CONFERENCE CO-CHAIRS WELCOME

Dear Participants:

On behalf of the University of Texas at Dallas Sustainable Global Business Initiative (SGBI) and Center for Global Business (CGB), we want to welcome all of you to the Second Ann and Jack Graves Foundation Conference: **SUSTAINABILITY AS A SOLUTION TO GLOBAL CHALLENGES**. We appreciate the extraordinary contributions from the Jack and Ann Graves Charitable Foundation, Dallas, Texas, led by Mike Redeker, MBA'97 and MS'01, a dedicated alum, an SGBI Advisory Board member, and a CGB Honorary Advisory Board member.

Global sustainability is defined by the World Commission on Environment and Development as "the ability to meet the needs of the present without compromising the ability of future generations to meet their needs." It refers not only to a sustainable social and natural environment, but also to sustainable capitalism. Capitalism is at a crossroads. Drivers underpinning global sustainability are complex and multidimensional, debates are numerous, and consequences are far-reaching.

It is our goal to use the conference to bring together like-minded scholars, practitioners, policymakers, and students involved in different aspects of sustainability. We will cover the fields of sustainability, corporate social responsibility, global business, strategic management, cross-cultural management, technology strategy, and global entrepreneurship.

Two years in the making, this conference—the second in the Ann and Jack Graves Foundation Conference Series—is our first one that is taking place in-person (with a hybrid mode for a small number of participants). The first conference was originally scheduled to be held in April 2020, and had to be postponed by one year due to COVID-19—and to take place virtually in April 2021. Planning for the current conference started immediately after the conclusion of our highly successful first conference. Lessons learned from the first conference have resulted in what we hope to be an even better one.

We are delighted that the responses to our call for papers/abstracts have been overwhelmingly positive. Colleagues from Brazil, Britain, Canada, China, Colombia, Denmark, Ethiopia, Germany, Japan, Kenya, Nigeria, Norway, Pakistan, Poland, Singapore, South Korea, Sri Lanka, Sweden, Tanzania, and the United States have submitted 48 contributions.

Our keynote speaker, special speakers, and panelists come from Altair Global, Amazon, Bonton Farms, Center for Asian Studies at UT Dallas, City of Richardson, Dallas College, ECLAT, Ericsson, EY, Hope International, Infosys, Livekindly, McMaster University, Mekelle University, Nokia, Pall Corporation, Tech Mahindra, Theodore Waddell Designs, United Nations, US-China Chamber of Commerce Dallas, and US-India Chamber of Commerce Dallas/Ft. Worth, which are gratefully acknowledged as co-sponsor organizations at the back of the Conference Program and Proceedings.

Enjoy the festivities!

Conference Co-Chairs

Habte G. Woldu
The University of Texas at Dallas

Mike Peng
The University of Texas at Dallas

Agnieszka Skuza
The University of Texas at Dallas

Hubert Zydorek
The University of Texas at Dallas

Baniyelme D. Zoogah
McMaster University, Canada

PROGRAM OVERVIEW

All times mentioned are Central Time (CT)
Location: Student Union Galaxy A, B, and C

Ann & Jack Graves Foundation Conference

Time	Friday, March 24, 2023	Saturday, March 25, 2023
8:30 – 9:00 a.m.	Check In & Light Breakfast	Check In & Light Breakfast
9:00 – 9:50 a.m.	1.1 Opening Ceremony Keynote Speech	2.1 Panel: Social Entrepreneurship at Home and Abroad
10:00 – 10:50 a.m.	1.2 Panel: Global and Local Insights from Special Speakers	2.2 Panel: Managing Sustainability Multidimensionally
11:00 – 11:50 a.m.	1.3 Panel: Technology as an Enabler of Sustainability at Global Corporations	2.3 Panel: Sustainability in Higher Education
12:00 – 12:50 p.m.	LUNCH	LUNCH
1:00 – 1:50 p.m.	1.4 Paper Presentations: Strategizing with Corporate Social Responsibility	2.4 Paper Presentations: Managing Stakeholder Responses and Institutional Voids
2:00 – 2:50 p.m.	1.5 Paper Presentations: Keeping Texas Sustainable	2.5 Paper Presentations: Creating Value, Managing Growth, Solving Wicked Problems
3:00 – 3:50 p.m.	1.6 Paper Presentations: Investigating Consumer Responses to Sustainability Practices	2.6 Paper Presentations: Managing Political and Technical Aspects of Sustainability
4:00 – 4:50 p.m.	1.7.1 Round Table 1: Dealing with Information Technology, Multinationals, and Ecosystems 1.7.2 Round Table 2: Managing Trade and Compliance 1.7.3 Round Table 3: Embracing Energy Challenges and SDGs	2.7.4 Round Table 4: Navigating Between Nuclear Winter and Rural Transformation 2.7.5 Round Table 5: Managing Ethical Economies, Green HRM, Location Choices, and Process Mining 2.7.6 Round Table 6: Overcoming Supply Chain Challenges

DAY ONE MARCH 24, 2023
All sessions are in Student Union Galaxy A, B, and C

Session: 1.1 / Friday, March 24, 2023: 9 – 9:50 am
OPENING CEREMONY & KEYNOTE SPEECH
Co-Chairs: Habte Woldu, University of Texas at Dallas, USA; Mike Peng, University of Texas at Dallas, USA; Agnieszka Skuza, University of Texas at Dallas, USA; Hubert Zydorek, University of Texas at Dallas, USA; Baniyelme D. Zoogah, McMaster University, Canada

Welcome Message: Dean Hasan Pirkul, Jindal School of Management, University of Texas at Dallas, USA

Keynote Speaker: Navid Hanif, United Nations Department of Economic and Social Affairs

KEYNOTE SPEECH: FINANCING INCLUSIVE GROWTH: LEAVING NO ONE BEHIND

Mr. Navid Hanif is the Director of the Financing for Sustainable Development Office of the United Nations Department of Economic and Social Affairs (UNDESA). He is also the UN sous Sherpa to the G20 finance and main tracks. He joined UNDESA in 2001. He was Senior Policy Adviser in the Division for Sustainable Development and member of the team for the World Summit on Sustainable Development held in Johannesburg in 2002. He later joined the Office of the Under-Secretary General for UNDESA and focused on departmental initiatives in various policy areas. He worked as the Chief of Policy Coordination Branch in the office for Economic and Social Council (ECOSOC) support. He also served as the Director of this office from 2011-2018. He was the first head of the UNDESA Strategic Planning Unit established in 2010. He was Principal Officer in the Office of the United Nations Secretary-General and worked as a member of the team for the 2005 World Summit. He was Vice-Chair of the UN High Level Committee on Programming (HLCP) and Co-Coordinator of the UN team on repositioning of the UN Development System that led to major reforms in 2018. He has contributed a number of articles on financing and investing in the SDGs in various journals and reports. Hanif has an MIA in international political economy from Columbia University, New York; and an MA in English literature from Government College University, Lahore.

Dr. Habte Woldu is Clinical Professor at the Jindal School of Management, UT Dallas; and Director, Sustainable Global Business Initiative (SGBI). Born in Ethiopia, he attended Haile Selassie I University in Addis Ababa, where he earned an undergraduate degree in social science while simultaneously working as an auditor for the National Bank of Ethiopia. From there he went on to pursue a master's degree in human resource management followed by a doctorate degree in economics from Poznań University of Economics and Business, Poland. After beginning his academic career as an assistant professor at Poznań University, Woldu joined UT Dallas in 1993. Woldu has done extensive research and has many publications covering a wide breadth of topics, including comparative management and cross-cultural studies, empirical analysis of cultural differences and divergence, HRM in Central and Eastern Europe, and international trade and foreign direct investment in Africa. During his tenure at the Jindal School, Woldu has grown with the University itself and has been actively involved in the internationalization of UT Dallas. Passionate about sustainability, he is the founding Director of SGBI at UT Dallas.

Dr. Mike Peng (PhD, University of Washington) is the Jindal Distinguished Chair of Global Strategy at the Jindal School of Management, UT Dallas; and Executive Director of the Center for Global Business, which he founded in 2006. Peng is a National Science Foundation career award winner and a Fellow of the Academy of International Business and Asia Academy of Management. He currently serves as Vice President of the Asia Academy of Management. Having published more than 170 articles and accumulated 58,000 Google citations, he is one of the most prolific and most influential scholars in global business strategy. Both the United Nations and the World Bank have cited his work. He has also authored three best-selling textbooks, *Global Strategy*, *Global Business*, and *Global*, which have been translated into Chinese, Portuguese, and Spanish. His consulting clients include multinationals (such as AstraZeneca and Texas Instruments), government organizations (such as the UK Government Office for Science), and international organizations (such as The World Bank). He has been quoted by *The Economist*, *Newsweek, US News & World Report*, *Dallas Morning News*, *Texas CEO Magazine*, *Business Times* (Singapore), *CEO-CIO* (Beijing), and *Brasil Econômico* (São Paulo), as well as on KERA/PBS TV, National Public Radio, and Voice of America.

Dr. Agnieszka Skuza joined UT Dallas in 2001, first as a visiting professor and then as Associate Professor of Instruction, Organizations, Strategy, and International Management. Skuza earned her PhD at Poznań University of Economics and Business in Poland. She has done extensive research in human resource management and cross-cultural comparative studies. She was a leader or a member of over 15 research projects, including those funded by the Polish National Science Center and European Social Fund. She has published more than 60 articles and chapters, and two books in Polish, English, and Chinese. She received two best paper awards from the Academy of International Business and Public Disciplines. In Poland, she has received awards from the Polish Ministry of Education and president of PUEB. Skuza has extensive teaching experience. She has taught management and cross-cultural courses and conducted research seminars in Europe (Finland, Ireland, Portugal, Spain, and the UK), the US, and Mexico. In consulting engagement, Skuza coached employees of large international companies (from pharmaceutical, chemical, telecommunications, energy, food, and textile industries), city halls, and chambers of commerce and industry. She also performed numerous coaching sessions for employees of the Office of the Prime Minister of Poland.

Hubert Zydorek is Associate Professor of Instruction; Director, BS in global business and MS in international management programs; and Director, Center for Global Business at the Jindal School of Management, UT Dallas. He partners with students, faculty, businesses, and communities to promote global business initiatives. He has 18 years of experience in international consulting, academic teaching, and management of design, development, and delivery of blended-learning solutions for international clients. Prior to joining UT Dallas, he worked for Intellinex, an e-learning venture of Ernst & Young (EY) and Xerox Learning Solutions, where he led global teams to create multilingual and customized learning programs. He has lived and worked in various countries in Europe and Asia. Zydorek received his BA in international relations and business and MBA from Cleveland State University, and MA in finance and investments from the University of Nottingham, Ningbo, China. He currently serves on advisory boards of academic institutions and international companies.

Dr. Baniyelme D. Zoogah (PhD, The Ohio State University) is Associate Professor of Management at the DeGroote School of Business, McMaster University, Ontario, Canada. He teaches organizational behavior and human resource management courses. He has held visiting professorship positions in Ghana and South Africa. His research has been published in numerous academic journals. He has authored four books: (1) *Strategic Followership: How Followers Impact Organizational Effectiveness*; (2) *Theoretical Perspectives of Strategic Followership*; (3) *Ethnos Oblige: Theory and Evidence*; and (4) *Managing Organizational Behavior in the African Context*. In addition, he has edited *Advancing Research Methodology in the African Context: Techniques, Methods, and Designs*. He is President of the Africa Academy of Management.

Session: 1.2 / Friday, March 24, 2023: 10 – 10:50 am
Track: Panel

GLOBAL AND LOCAL INSIGHTS FROM SPECIAL SPEAKERS

Co-Chairs: Mike Redeker, Ann & Jack Graves Foundation, USA; Dorothée Honhon, University of Texas at Dallas, USA

Special Speakers:

- Peter Greer, President and CEO of HOPE International, USA
- Paul Voelker, Mayor of Richardson, TX, USA

Mike Redeker is a member on the Kennedy Center's National Committee for the Performing Arts, representing the state of Texas. Mike has earned an MBA and a master of science from the Jindal School of Management, UT Dallas; and an MA in Biblical studies from Dallas Theological Seminary. He has served as the Director of Communications for a Christian leadership training organization and Executive Director for a medical/dental organization with medical centers in Romania, Moldova, and Guatemala. Having traveled to over 80 countries, Mike has worked directly with leaders in places like Haiti, India, Cuba, Uganda, and Eastern Europe. An investor in the undervalued, he currently invests and serves on the boards of (1) a graduate leadership institute in India, (2) a ministry to cancer patients and their families, and (3) a ministry to refugees from Somalia, Sudan, Iraq, Congo, Ethiopia, Eritrea, and Myanmar.

Peter Greer is President and CEO of HOPE International, a global micro-enterprise development organization serving throughout Africa, Asia, Latin America, and Eastern Europe. Prior to joining HOPE, Peter worked internationally as a micro-finance adviser in Cambodia and Zimbabwe, and managing director of Urwego Bank in Rwanda. He is a graduate of Messiah College and received a master's in public policy from Harvard's Kennedy School. Peter has coauthored over 10 books, including *Mission Drift* (selected as a 2015 Book Award Winner from Christianity Today) and *Rooting for Rivals* (selected as a 2019 Leadership Resource of the Year in *Outreach Magazine*). More important than his occupation is his role as husband to Laurel and dad to Keith, Liliana, Myles, and London.

Paul Voelker was appointed to serve as Mayor of the City of Richardson in May 2015, was elected as Mayor in May 2017, and re-elected in May 2019 and 2021. He has served on the City Council since 2013. Mayor Voelker's past positions include serving as President and Vice President of the Metroplex Mayors Association, service on the Texas Governor's IT Cluster Committee under the Texas Workforce Commission, Ex-Officio Board Member of the Tech Titans. Voelker's involvement in local education includes past board memberships on the Richardson Independent School District Tomorrow Foundation and the UT Dallas Jonsson School Industrial Advisory Board Executive Committee. Voelker received a bachelor of arts degree in business administration from William Penn University in Oskaloosa, Iowa in 1983. He is an executive in the information, communications and technology industry and currently serves on the board of TrenData, Inc., an AI company in Richardson. He has over 30 years of experience working in Richardson's Telecom Corridor® area.

Dr. Dorothée Honhon (she/her/hers) is Professor of Operations Management at the Jindal School of Management, UT Dallas; and Associate Dean for Diversity, Equity and Inclusion (DEI). Dorothee received her undergraduate and master's degrees in business administration from the University of Liege, in Belgium; and a PhD in operations management from New York University. Her research interests include sustainability in supply chains—in particular, food waste minimization. She is the Chair of the Sustainability Committee at UT Dallas. She is an Associate Editor at three of the top four journals in operations management and was President of Women in Operations Research and Management Science. She is the Chair of the DEI Committee of the Revenue Management and Pricing Section and a founding member of the Pride Forum at the Institute for Operations Research and the Management Sciences (INFORMS).

Session: 1.3 / Friday, March 24, 2023: 11 – 11:50 am
Track: Panel

TECHNOLOGY AS AN ENABLER OF SUSTAINABILITY AT GLOBAL CORPORATIONS

Chair: Srikantan (Tan) Moorthy, Infosys, USA
Panelists:

- Bhushan Joshi, Ericsson, USA
- Nikunj Nirmal, Amazon, USA
- Munish Rishi, Tech Mahindra, USA
- Mark Bunn, Nokia, USA

Tan Moorthy is Executive Vice President at Infosys. An accomplished business leader, with over three decades of experience in the global IT services industry, Tan is one of the senior executives at Infosys. He has played leadership roles across a wide range of areas including as Group Head of HR at Infosys. Tan is currently Head Delivery Operations for the US, Canada and LATAM for Infosys. He is also the Global Head of Education & Assessments at Infosys. Tan has been an active representative of Infosys in several professional organizations, including the Professional Development Committee of ACM (Association for Computing Machinery), NASSCOM (National Association of Software and Services in India) Education Council, IFEES (International Federation of Engineering Education Societies), and the United Nations Working Group for GISD (Global Investment for Sustainable Development). Tan is a trustee on the board of Infosys Foundation, USA. He is passionate about sustainability and workforce development.

Bhushan Joshi is Head of Sustainability and Corporate Responsibility at Ericsson in North America. He has more than 15 years of professional experience in corporate sustainability, business development, energy management, renewables, sustainability reporting, sustainability strategy development, and program management. He is an experienced in-demand public speaker on the topics of sustainability and corporate responsibility, presenting at prestigious events including Techonomy, Nordic Innovation Summit, Institute of Electrical and Electronics Engineers, ATIS Next G Alliance, and Assembly Magazine.

Nikunj Nirmal is a business executive, technology enthusiast, and accomplished leader with extensive experience in digital strategy, brand and customer experiences, intellectual property acquisition, product management, enterprise architecture, and technology roadmap for Fortune 100 organizations. At Amazon, Nikunj heads the international expansion programs to launch Amazon ecommerce business in new countries. Nikunj has worked in several leadership roles such as Chief Technology Officer, Head of Digital Transformation, Head of Innovation Labs (USA), IT Delivery Head, and Shadow Board Member. With a strong focus on customer experience and innovation, Nikunj has extensive experience in leading large-scale digital transformation programs and delivering CX centric solutions to drive sustainable growth. Nikunj serves on Forbes Technology Council and is Mentor for WingsForGrowth. He has been on the Technical Advisory Council for Linux Foundation for Artificial Intelligence, and serves on two Advisory Boards at UT Dallas: Center for Global Business and Retail Innovation and Strategic Excellence (RISE). He is also an Advisory Board member for the University of Houston's Customer Experience Program, and has worked as an adjunct faculty member at UT Dallas. An MBA and MS (international management) graduate from UT Dallas, Nikunj is passionate about mentoring and building high-performance teams.

Munish Rishi is a senior leader at Tech Mahindra and currently works as the Senior Vice President and Chief Growth Officer - NS Americas. In this role, he is responsible for revenue growth across verticals for network services business. Munish is a recognized leader in the technology industry. Prior to joining TechM, Munish held several leadership positions at DEC/HP, Nokia, and Aricent/ Capgemini. Apart from his corporate career, Munish founded and led two successful startups as an entrepreneur. These ventures won numerous technology and industry awards including two times the Dallas100—for being the fastest-growing most-dynamic companies in Dallas area by SMU Cox School of Business. For his contribution to the business world, he was included in the Forbes "Most Valued People" list alongside several other industry leaders. Munish is a computer science graduate and an MBA from Northwestern University Kellogg School of Management. He is passionate about sports and is a

regular at the local tennis, pickle ball, and badminton circuits.

Mark Bunn is the Senior Vice-President of SaaS Business Operations for Nokia Cloud and Network Services. Mark joined Nokia from Oracle where he led Monetization and Orchestration Products for Oracle Communications Applications, focusing on Cloud development spanning digital service provider's businesses and operations. He brings over 25 years of experience in product management and software development, and a passion for driving SaaS transformation. He holds an MBA in business computer information systems from the University of North Texas (Denton, Texas) and BBA degrees in finance and management from Florida State University (Tallahassee, Florida).

Session: 1.4 / Friday, March 24, 2023: 1 – 1:50 pm
Track: Paper Presentations
STRATEGIZING WITH CORPORATE SOCIAL RESPONSIBILITY
Chair: Mike Peng, University of Texas at Dallas, USA

There Are Many Ways to be Green: Investor Approaches and Theory

- David H. Myers (Northeastern University, USA)
- Sheila M. Puffer (Northeastern University, USA)

Each investor must choose their green portfolio based on their utility/social distance. Approaches to green investing range from shareholder activism, investing positively/negatively (screens), or a combination resulting in different investment weights. This paper provides a historical background on ethical investing to highlight the path to today's investment environment and green investing. Trade-offs and shortfalls for each approach are discussed. Challenges and opportunities for green investing are then explored. The conclusion highlights how the current practical environment lends itself to future research to support the field of green investing.

"Glossy Green" Banks: The Disconnect Between Sustainability Disclosures and Lending Activities

- Mariassunta Giannetti (Stockholm School of Economics, Sweden)
- Martina Jasova (Columbia University, USA)
- Maria Loumioti (University of Texas at Dallas, USA)
- Caterina Mendicino (European Central Bank, Germany)

The Boards Are Now Willing, but Are They Ready? Building Sustainability Competence in Boards

- Kristjan Jespersen (Copenhagen Business School, Denmark)
- Jennifer Lee (University of Texas at Dallas, USA)
- Lise Pretorius (Matter, Denmark)

For companies to achieve successful ESG performance, the advisory role of the board is critical, especially given the specialized science behind navigating material risks and the fast-changing regulatory landscape. While this is widely acknowledged, understanding how competent a board is in guiding firms to be leaders in the ESG area remains unclear. We have carefully built a methodology to understand a board's ESG competency by closely tracking and systematically aggregating each director's educational background and prior experiences. We find that a majority of companies are not yet equipped with an ESG-competent board. We discuss how this dataset, once available to the larger audience, will have practical impact on companies, directors, and investors.

Who's Socially Responsible? The Double Bind of Materiality

- Sheen Levine (University of Texas at Dallas, USA)
- Razvan Lungeanu (Northeastern University, USA)

Some call on corporations to serve society, not just the bottom line. Some disagree, others doubt that a company can be civic-minded. Either way, the debaters often neglect to ask what members of society perceive as social responsibility. Using archival data, press coverage, and behavioral experiments, we suggest that public perception hobbles the promise of corporate social responsibility. We ask how members of society interpret a corporation's actions and attribute the extent of its social responsibility. Employing a blend of experimental and econometric methods, we examine which actions create an aura of social responsibility. We find that consumers perceive a corporation as more socially responsible when it supports more causes, even if the total amount spent remains identical. For example, a company that devotes $1 million to vaccinating children in Africa against malaria tends to

be perceived as less responsible than a company that spreads the same amount across several causes.

What's more, a corporation is perceived as less socially responsible when it supports material causes that are related to its core activity. For example, when a pharmaceutical spends money on free vaccination, the public perception is less favorable than when a software company does the same. These results reveal the double bind of materiality: Members of society reward corporations for supporting numerous causes and penalize them for supporting material ones. So, a corporation may be better perceived when it does not specialize. Paradoxically, a corporation may be rewarded with better perceptions of responsibility when it spreads its charitable giving across numerous unrelated causes—even if doing so undermines the effectiveness of dealing with those social issues. We discuss how the double-bind of materiality can hobble the promise of corporate social responsibility in addressing social needs.

Session: 1.5 / Friday, March 24, 2023: 2 – 2:50 pm
Track: Paper Presentations
KEEPING TEXAS SUSTAINABLE
Chair: Sheen Levine, University of Texas at Dallas, USA

Pricing for Water Conservation and Equity Consideration: The Case of Texas

- Hien Nguyen (University of Texas at Dallas, USA)
- Kevin Siqueira (University of Texas at Dallas, USA)

Water utility providers in Texas have been trying to coordinate demand for and supply of water to ensure a stable source of water, given the state's recent rapid population growth and persistent drought-like conditions. Their efforts, however, vary across municipalities throughout Texas. The paper provides a broad analysis of pricing practices in 423 municipalities across Texas from 2014 to 2020 and their impact on residential water consumption. We also assess how other socio-demographic and climatic conditions may influence water use and water rates decisions across municipalities. Besides investigating the potential determinants of water demand, the paper also looks at several supply-side variables and the income gap to address the endogeneity of water block prices. Our results shed light on how current water pricing practices in Texas incorporate aspects of the Integrated Water Management Practices that have been shaping water management for decades.

Texas Opposition to Federal Environmental Policy Review

- Tiffany Lourdraj (General Motors, USA)

Individualistic and often conservative viewpoints have defined Texas' opposition to federal policies. These viewpoints translate into how one views Texas' resources, most notably air, water, oil, and gas. These viewpoints are essential, as Texans' environmental policies have become more prominent in politics. Addressing climate change is of the utmost importance, with several studies suggesting that federal and local policies must be implemented to make fundamental, sustainable changes within the United States. This situation is critical to address because it affects not only the current environment that one lives in but the future generations. Topics such as toxic waste, pollution, air quality, and limited oil production are all hot topics at the local and national levels.

Comets to the Core: Sustainable Public Transportation in the City of Dallas

- Alagan Pinto (University of Texas at Dallas, USA)

Transportation access is a major issue in the DFW area, especially for those who are less wealthy. Dallas needs to improve its public transit by expanding the Dallas Streetcar system to alleviate the accessibility issue that plagues the city while simultaneously improving the sustainability of the city's transportation.

Slate Haircare & Hygiene: Business Case Research

- Niyati Palasamudram (University of Texas at Dallas, USA)
- Navya Gaddam (University of Texas at Dallas, USA)
- Hunter Chan (University of Texas at Dallas, USA)
- Kevin Jose (University of Texas at Dallas, USA)

Plastic use has been a prominent issue since its introduction into widespread consumption in the 1970s. A significant contributor to this issue is the cosmetics industry, which is currently worth over $500 billion. This industry covers personal care and cosmetic products (PCCPs), with anything from a small tube of lipstick to a large bottle of shampoo—all of which require some kind of single-use plastic encasing that likely ends up in a landfill. Along with the known harms plastic waste causes on our planet, PCCPs are

also an environmental threat regarding their chemical makeup.

To address the detrimental effects of plastic packaging and cosmetic waste incited chemicals, our team proposes Slate Hygiene & Haircare (Slate H&H). Slate H&H is an eco-conscious and affordable hygiene company that sells shampoo, conditioner, and body wash on campus. The business operates on a refillery model, providing easy access to products with clean ingredients.

In a small but tangible way, our intended contributions will help reduce the amount of plastic waste that students create through their consumption of hygiene and hair care products. It will also create a model that other universities can implement on their own campuses.

Session: 1.6 / Friday, March 24, 2023: 3 – 3:50 pm
Track: Paper Presentations
INVESTIGATING CONSUMER RESPONSES TO SUSTAINABILITY PRACTICES
Chair: Agnieszka Skuza, University of Texas at Dallas, USA

Do Consumers Care About Corporate Social Responsibility? Evidence from Retail Markets

- Jiaying Wei (University of Texas at Dallas, USA)
- Steven Xiao (University of Texas at Dallas, USA)

Using data on barcode-level sales in retail markets, we show that corporate social responsibility (CSR) causally affects consumer demand. First, CSR ratings are positively related to annual local sales, especially in counties with more Democrat-leaning, higher-income, and college-educated households. Second, controlling for product-year-level heterogeneities, monthly product sales decline after negative firm news on environmental, social and governance issues. Third, immediately after major environmental disasters, sales in counties located close to the disasters become more sensitive to CSR, but this heightened sensitivity reverses within a year. Overall, our study provides direct evidence that CSR affects firm value through the cash flow channel.

Pricing and Producing Green Products Under Subsidy Termination and Coopetition

- Lingling Shi (Southern Methodist University/University of Texas at Dallas, USA)
- Metin Cakayildrim (University of Texas at Dallas, USA)
- Suresh Sethi (University of Texas at Dallas, USA)

Previous studies discuss the role of a government's subsidy offered to consumers in reaching its green product adoption target. However, subsidies do not last forever and will terminate. Accounting for the subsidy termination and the interplay among subsidy, learning-by-doing and competition, we develop a two-period Stackelberg-Nash game between the government and the manufacturer(s). We find that the government spends less subsidy expenditure with qualified-sales rule compared to all-sales rule. Under the qualified-sales rule, each manufacturer adopts a zero-inventory strategy. In addition, it adopts a sandwiched pricing strategy: the price is dropped after the termination but at most by the subsidy amount. Intuitively, prices decrease in learning. Less intuitive is that the first-period production quantity decreases in learning. Moreover, competition acts as a substitute for subsidy. Two manufacturers may learn individually or as a group. Interestingly, under group learning, a manufacturer's total equilibrium production quantity in two periods decreases in its rival's initial cost when the cooperation through group learning outperforms the competition between the manufacturers. Besides, group learning benefits the government in all cases but not the two manufacturers and leads to win-win outcomes for the three involved parties only in particular cases. Comparing two competing manufacturers to a merged manufacturer, we find that the government may favor a monopoly to reduce its subsidy expenditure. We also consider a subsidy decline scheme and show the robustness of zero-inventory and sandwiched pricing strategies.

Environmental-Friendly Behavior in Tourism in Poland Following COVID-19: Assessment of Demand and its Determinants Using Agent-Based Modeling

- Justyna Majewska (Poznan University of Economics and Business, Poland)
- Szymon Truskolaski (Poznan University of Economics and Business, Poland)

The cognitive purpose of the study is to identify the rules and patterns of tourist behavior in destinations to

determine the demand and its determinants for pro-ecological services of tourist firms stimulated by the COVID-19 pandemic. Due to the lack of available large datasets that could be used to assess interest in sustainable tourism solutions, the study used an advanced method of economic modeling: Agent-Based Modeling (ABM).

Simulations were carried out to answer the question of which variables and to what extent influence pro-ecological behavior in tourism, taking into account many different decision-making rules, the model of social relations and both the characteristics of tourists and their environment (according to the theory of planned behavior [TPB]). The essence of the study is to take into account the interactions among tourists and between them and the environment.

The methodological goal of the paper is to determine the possibility of using simulations with the use of ABM to discover the rules and behavior patterns of agents (tourists) given the lack of sufficient data on new phenomena.

The originality of the study lies in proposing an effective method of identifying and evaluating new phenomena that are not easy to capture in statistics, but may constitute an important development trend such as pro-environmental solutions in tourism. The use of ABM made it possible to build a "virtual world" to simulate the behavior of tourists taking into account specific determinants of the decision-making process undertaken by tourists creating social relations and interacting with each other what can change their decisions and behavior over time. The research responds to the need for a deeper diagnosis of the determinants of behavior that has a multidimensional structure (Ertz et al., 2016), in changing conditions and in the interdependence of variables (Pizzo et al., 2018), as well as the need to include human behavior in the system (Moss, 2016).

We developed model algorithms on the decision-making process of an agent characterized by an individual objective function and implemented them in Python program, along with the rules of conduct and interactions, including the design of a connections network between agents. As a result we created an ABM simulations database. We further carried out simulations of the initial model and after parameterization and calibration, we obtained an appropriate model meeting the validation assumptions based on market statistical data and the results of previous research. On this basis, the demand for environmental-friendly solutions in tourism was assessed and its determinants were determined, taking into account various simulated scenarios.

Knowledge about demand forecasts and its determinants in relation to environmental-friendly solutions in tourism, on the one hand, creates guidelines for local and regional decision-makers on an effective policy of tourism development. On the other hand, it can be used by tourism companies in building a tourist offer that responds to new pro-environmental trends.

Consumer response to climate change: Wildfire smoke and sustainable product choice in California

- Taewook Lim (University of Texas at Dallas, USA)
- TI Tongil Kim (University of Texas at Dallas, USA)
- Suh Yeon Kim (University of Texas at Dallas, USA)

Global warming has increased the frequency and intensity of extreme climate change events in recent years. We study consumer response to a major climate change event by examining the case of the 2018 Camp Fire, the most destructive wildfire in California's history. In particular, we investigate how wildfire smoke affects consumer purchases of sustainable products in the dish soap category by combining the Nielsen-Kilts retail scanner data and the Environmental Protection Agency's air quality measure quantifying the severity of wildfire smoke. Exploiting the randomness of the wildfire smoke dispersion induced by geographic and meteorological conditions, we show that stores experiencing severe wildfire smoke exhibit an increase in market shares of sustainable products (3.7 percentage points or 15%) relative to stores facing little to no wildfire smoke. The change in consumer purchases occurs gradually over a few months, suggesting that wildfire smoke is a gentle nudge to sustainable product purchases rather than an abrupt cue to behavior change. We also find substantial heterogeneous responses: stores located in areas with an older population, a higher level of education, or higher income observe greater market share changes after severe wildfire smoke. A similar pattern is observed in more Democratic leaning areas, suggesting that political affiliation also plays a role. We then discuss managerial and policy implications of consumer purchases of sustainable products as we face future major climate change events that are likely to continue and intensify.

Session: 1.7.1 / Friday, March 24, 2023: 4 – 4:50 pm
Track: Round Table Presentations
ROUND TABLE 1 DEALING WITH INFORMATION TECHNOLOGY, MULTINATIONALS, AND ECOSYSTEMS
Chair: Zhiang "John" Lin, University of Texas at Dallas, USA

The Intersection of Information Technology and Sustainability

- Tiffany Lourdraj (General Motors, USA)

Technology is an ever-present aspect of our increasingly connected world. Society depends on technology to make our lives easier, cheaper, and faster. The latest trends in technology include big data, cloud computing, and artificial intelligence, to name a few. These key developments are shaping our lives on the brink of the Fourth Industrial Revolution. The technology we manufacture today has the potential to affect billions of people in the upcoming years, so we must utilize our resources to make the most positive impact. The information technology (IT) sector and the Fourth Industrial Revolution go hand in hand because the current technological developments, such as cloud computing, artificial intelligence, and cyber security, are all shaping businesses, governments, people, and the environment. Whether we harness the technology for a more significant and greener force is crucial. The UN has stated that there are a few sustainable goals that we as humanity need to reach by 2030; a few relevant environmental goals are affordable and clean energy, technological innovation, and sustainable cities. The IT sector can be a driving force in positively improving the environment through artificial intelligence, cybersecurity, big data, and cloud computing.

Push and Pull Factors of Sustainable Behavior in an Organization: A Systematic Review

- Imelda Freddy (University of Texas at Dallas, USA)

As more companies integrate sustainable development goals into their strategic plans, companies have become increasingly innovative with their technology, operations, production, and other areas to complete their sustainability projects. Moreover, the pressure to be environmentally friendly also comes from consumers, who are increasingly aware of how their consumption and purchasing behaviors contribute to their ecological impact, which in turn pressures companies to modify their strategies to be more aligned with their customers' sustainability concerns. However, organizational greening is not just centered on formal management practices, initiatives, or tools. Research indicates that employee response and participation is essential to achieve a company's sustainability goals. Thus, many organizations realize that their efforts to achieve sustainability goals are inefficient when employee integration is not included. Development of various initiatives to improve employee participation in the sustainability practices and efforts is necessary. Organizations are becoming more active in pushing their employees to produce less waste, conserve water and energy, and use less paper by leveraging electronic documentation.

Additionally, employee environmental practices can give a company a competitive edge, improve the company's environmental performance, and enhance its reputation in the environmental community. It can also improve employee motivation, increase job satisfaction, and promote career development. These initiatives may also improve public perception of the company, to the extent that employees become more active in participating in pro-environmental behavior (PEB) and contribute to the organization's development as an environmental entity. Knowing the importance and impact of employee engagement in organizational sustainable practices highlights the need to understand the factors that affect people's PEB work. The objective of this study is to provide a comprehensive review of underlying concepts for each factor influencing PEB. The research question for this study is: "What are the push and pull factors that influence PEB in an organization?" This research will provide a systematic map, identifying each influencing factor into push or pull categories. Thus, this study can give an outlook that can help organizations formulate their initiatives or programs to encourage PEB.

Introducing Sustainability Practices to U.S. Multinationals

- Grace T. Peng (George Mason University, USA)

The purpose of the paper is to understand how sustainability practices have been introduced into existing business models in the United States, as well as how environmental social governance (ESG) efforts impact profitability in multinational enterprises (MNEs). Today, sustainable practices and ESG efforts affect many factors such as shareholder interests, investment opportunities, profitability, and consumer relations (Jones 2017). The paper intends to show how to introduce sustainability to make MNEs more environmentally conscious and meet Environmental Protection Agency (EPA) guidelines.

Sustainability has been a more recent practice. It was only in the 1970s and 1980s that MNEs started to care more about the world around them. Today, ESG efforts as well as sustainable development goals (SDGs) have encouraged further growth (Brundtland 1987). On the one hand, many industry giants hesitate to move towards sustainability, for fear of losing investors' interests and market shares. On the other hand, large investment institutions such as BlackRock, State Street, and Vanguard have been providing incentives for MNEs to transition, albeit slowly, to the new echelon of sustainable growth and environmentally conscious practices. However, progress has been slow. So, the question becomes: How can MNEs be environmentally conscious through their ESG efforts but also turn a profit in the current state of the economics within the United States?

This paper endeavors to connect the history of sustainability to the current and projected success of MNEs. Studies have shown that working with SDGs and ESG efforts have made MNEs reduce costs, optimize growth, minimize regulatory interventions, increase employee productivity, enhance investment opportunities, and improve upon established business models (Friede et al. 2015).

Additionally, the paper will focus upon three industry giants making strides in ESG efforts with a particular emphasis on energy transformation—Apple, Boeing, and Google. Apple utilized hydropower, solar, and wind to power its technological innovations. Boeing focused on small-scale hydropower. Google used hydropower and solar to become one of the industry leaders in a "zero carbon emissions" MNE. All MNEs that have high profit margins can learn from Apple and Google. It is an impressive feat that Apple and Google managed to turn their business models into profitable ones with a significant amount of ESG goals met. Boeing has transitioned its coal- and natural gas-based emissions to include small-scale hydropower, bringing back the amount of coal and natural gas burned by itself. Overall, these three industry giants have demonstrated that making efforts toward sustainable energy practices is not only feasible, but also profitable. This journey is not the easiest, but it is worth embarking on and being studied, imitated, and improved upon by other MNEs.

Towards a Systems Thinking Approach to the Creation of Sustainable Ecosystems

- Kyeyoung Shin (University of Oxford, UK)

Management scholars have been increasingly interested in tackling grand challenges (GCs) through research (George et al., 2016; Voegtlin et al., 2022). GCs are persistent large-scale problems that typically cannot be tackled by a single entity due to their significant scale and scope. Among various GCs, financial inclusion is a GC that deserves more attention. According to the World Bank's Global Findex Database (Demirgüç-Kunt et al., 2022), globally, 1.4 billion adults are still unbanked, and the majority of unbanked adults worldwide are women. The challenge of financial inclusion is particularly significant in developing countries where the vast majority of the unbanked and underbanked are. As financial inclusion enables individuals and businesses to access affordable financial products that meet their needs, it is a key enabler for creating sustainable solutions to GCs.

The large scale and sector-spanning nature of GCs necessitate an ecosystem approach to tackling them. Ecosystems are communities of "hierarchically independent, yet interdependent heterogeneous participants who collectively generate a coherent, ecosystem-level output and related value offering targeted at a defined user audience" (Autio, 2022, p. 99). In the context of financial inclusion, key ecosystem participants include established financial institutions, regulatory authorities, financial technology firms, nonprofits, and international organizations. In the process of ecosystem formation, ecosystem orchestrators play a crucial role by initiating the process to nurture an ecosystem and by providing leadership to overcome the liability of newness.

Using both interviews and archival data, this inductive research aims to demonstrate that given the high degree of complexity involved in ecosystem orchestration, strategy research can benefit significantly from systems thinking and an emergence approach to ecosystem orchestration strategy. In this empirical, single case study, I investigate a US-based non-profit organization's efforts to create mobile payments ecosystems in Tanzania and Rwanda as embedded cases.

The findings show that an ecosystem orchestrator can deploy different strategies (i.e., deliberate strategy vs. emergent strategy) at different stages of ecosystem development (i.e., preparation, launch, formation), using different mechanisms of aligning diverse

stakeholders' varying interests. In the preparation stage, deliberate strategy appears well suited for the ecosystem orchestrator to use to develop a blueprint of the ecosystem with the aim to convene core partners. In the launch stage, however, emergent strategy can be more advantageous for the ecosystem orchestrator to respond to unpredictable dynamics in the ecosystem that stem from various sources such as regulation and entry and exit of key participants. In the final stage of ecosystem formation when stability and predictability become core virtues, deliberate strategy can better inform the orchestrator's approach to maintaining the ecosystem and its participants. Throughout these stages, the ecosystem orchestrator develops and utilizes systems thinking capabilities simultaneously, which enable the orchestrator to think holistically to identify opportunities and coordinate with ecosystem participants to capture and co-create value in response to changes in the environment. As one of the first attempts to empirically apply systems thinking to ecosystem creation and emergent strategy issues in developing country contexts to tackle a GC, this study makes original contributions to the relevant literatures.

Session: 1.7.2 / Friday, March 24, 2023: 4 – 4:50 pm
Track: Round Table Presentations
ROUND TABLE 2 MANAGING TRADE AND COMPLIANCE
Chair: Baniyelme D. Zoogah, McMaster University, Canada

Analysis of Carbon Markets and Offset Alternatives in the Compliance and Voluntary Schemes to Commercialise Colombian Neutral Coal

- Clara Inés Pardo Martínez (Universidad del Rosario, Colombia)
- Alexander Cotte Poveda (Universidad Santo Tomás, Colombia)

This study examines the international carbon market opportunities to commercialise Colombian coal offsets from the forest economy for compliance schemes and the voluntary market within carbon neutral and economic diversification strategies, taking into account the opportunities of international carbon markets as instrument to decrease global greenhouse emissions. In recent years, carbon markets in its two modalities (compliance and voluntary) have been growing. To the extent that more drastic policies are generated against emissions and the price of credits and/or offsets, this market manages to be above US$20 by credit. It is estimated that the credits that will have the greatest commercialisation potential are those based on nature and that generate co-benefits. Colombia has multiple possibilities in this regard, which, connected with the commercialisation of carbon, could generate a competitive advantage. The analysis by countries shows that Colombian neutral coal would have great possibilities in the regions and countries studied, taking into account the objectives of the established ETS that in most cases includes the electricity generating sector with a maximum of compensation. Conservatively, this could generate demand for Colombian neutral coal of 5%–10% of the credits and/or required offsets. In the voluntary market, the expectations are positive since many companies that use coal as an input and/or that count on emission reduction objectives could opt for this strategy with the co-benefits that this innovative way of marketing coal has. These elements will be fundamental in the analysis of the carbon neutral strategy in Colombia.

Sustainable Economic Development and Social Stability in Emerging Economies: Empirical Analysis with the Sole Aim of Analyzing the Impact of Trade Protectionism on Economic Growth and Sustainable Development of Tanzania Covering the Period 1990-2020

- Award Said Jabran (KKK Education Consulting, Tanzania)

A consensus is emerging in both scientific circles and international policy discourse that business-as-usual approaches to sustainability have led to a critical state, and that urgent measures are required to reverse these dynamics. At the same time, national and international commitments to address the crisis remain reluctant to reconsider the assumption that growth can continue unchecked (Alexander 2012; Gough 2017; Adloff and Neckel 2019). Indeed, in the Sustainable Development Goals (SDGs), the argument is even made that growth should be encouraged to provide the necessary resources for implementing the goals, and efforts for sustainability emerging markets.

This study will largely be based on carrying out an empirical analysis with the sole aim of analyzing the impact of trade protectionism on economic growth and sustainable development of Tanzania covering the period 1990-2020. Specifically, it will explore the different trade protectionism measures that have been implemented within the time scope of the study and investigating the impact of trade protectionism on economic growth and sustainable development.

The study will use mainly secondary data from UN COMTRADE, which will be aligned with trade

protectionism data from MacMAP, World Bank (Development Indicators), and real GDP data from Tanzania National Bureau of Statistics. Methodologies will be based on role of protectionism from two perspectives: the single impact on pollutant emissions and the comprehensive impact on environmental efficiency. Specifically, the capital inputs, labor inputs, energy consumption, economic output, carbon dioxide, sulfur dioxide and nitrogen oxides emissions related to global trade activities will be simulated based on the MRIO. Then, sector-level trade environmental efficiency will be computed by intergrading the MRIO and DEA using a non-radial directional distance function.

Findings are expected to reveal that as more barriers are enforced, economic growth and sustainable development are decelerated; and that economic growth and performance cannot be fully attributed to trade protectionism or trade liberalization. Issues like varying resource endowment, initial level of development, timing of protectionism or liberalization, and degree of openness are also of great importance. This being the case, it will be recommended that the government and other policy makers take a keen look into this by leveling the ground with other trade partners as this will increase foreign inflow plus speeding up the process of trade liberalization to accelerate the rate of economic growth and sustainability in Tanzania.

Assessment of the Global Market Trends of the Tea Industry: A Systematic Review Based on Five Tea Exporting Countries

- Sandyani Mihindukulasooriya (United Nations Sri Lanka, Sri Lanka)

I conducted this research to assess the global market trends and sustainability compliance of tea industry based on five leading tea exporting countries in the world. They are China, India, Sri Lanka, Kenya and Vietnam. I used systematic review approach to conduct the study and incorporated published research papers to gather information. Using PRISMA (Preferred Report Items for Systematic Review and Meta-Analysis) technique, I selected most appropriate research articles. I incorporated thematic analysis which is one of the qualitative data analysis methods for data analysis.

Accordingly, I could develop three themes as market trends, level of demand and sustainability compliance. I found that there is an increasing demand for value-added tea in the global market and it is the most prominent market trend. There is a declining demand for bulk tea, and sustainably produced tea has a fluctuating demand in the global market. Out of several sustainability certification, Voluntary Sustainability Standards (VSS) certified tea has the highest demand and possible to obtain a higher price in the global market. I found that spending on sustainability certification does not give the expected market benefits to the producers in the global market. Value addition can give more economic benefits than sustainability certification for farmers at present.

Sustainability and Trade Compliance: An Interactive Perspective

- Kannan Ramanathan (University of Texas at Dallas, USA)
- Ajay Gupta (SterlingAgility, Canada)

This paper discusses the interaction between sustainability and international trade compliance. The current year, 2023, represents one hundred years since the signatories to the 1923 "International Convention Relating to the Simplification of Customs Formalities" undertook that their "commercial relations shall not be hindered by excessive, unnecessary or arbitrary customs or other similar formalities."

Compliance requirements are put in place to, inter alia, keep us safe and secure, and ensure fair play. However, the transaction costs associated with these trade formalities are high. Not only do they increase with the number of rules and regulations, lengthy and duplicated clearance processes, and documentation requirements, but also leave an ever-larger carbon footprint.

Today we recognize that the costs of trade compliance range from 1% to 10% of the value of trade. OECD in 2003 suggested that each 1% saving in trade transaction costs can generate benefits of $43 billion overall. This recognition of the importance of the cost imposed by customs and other trade compliance requirements is particularly important in the context of sustainability.

In this paper, we present trade compliance as having many facets vis-à-vis sustainability. On the one hand, compliance with excessively rigid trade regulations has an adverse influence on several aspects of sustainability. For instance, unreasonable trade compliance requirements can exacerbate the carbon footprint—through excessive paperwork or warehousing costs triggered by delayed customs clearances.

On the other hand, trade compliance can be leveraged as a strategic tool to promote sustainability: green

products/services can be encouraged through preferential tariff treatments. In short, sustainability and trade compliance interact in a multitude of ways.

In this paper, we discuss these interactions. While the net impact of trade compliance on any measures of sustainability will evidently be contingent on the product or services being traded, we suggest measures to influence this trade-off such that a net effect is bigger with more rapidly positive outcomes.

Session: 1.7.3 / Friday, March 24, 2023: 4 – 4:50 pm
Track: Round Table Presentations
ROUND TABLE 3 EMBRACING ENERGY CHALLENGES AND SDGS
Chair: Emily Choi, University of Texas at Dallas, USA

Evidence From the Energy-Technology-Growth Nexus: A New Study Based on Technology-Minerals Resources Complexity Index

- Khan Baz (China University of Geosciences, China)
- Xu Deyi (China University of Geosciences, China)
- Hashmat Ali (Abbottabad University of Science and Technology, Pakistan)
- Faheem Zeb (Abbottabad University of Science and Technology, Pakistan)

The increasing trend in sustainable economic growth over the last few decades has elevated the energy demand. Technological innovation and access to minerals resources are contributing well to economic development. This article investigates the nexus among minerals resource complexity, energy consumption, technology, and economic growth by employing autoregressive distributed lag and vector error correction techniques for Pakistan from 1995 to 2018. After a close assessment, the investigated long-run results illustrate that a 1% increase in minerals resources complexity, technology, and energy consumption will boost economic growth by 1.7%, 2%, and 0.6%, respectively. Bidirectional causality was noted between minerals resources complexity and economic growth. Moreover, a feedback effect was also confirmed between energy use and economic growth. Further, a unidirectional causal relationship was estimated between minerals resources and technology running from minerals to technology. Similarly, there is a one-way causality between technology and energy consumption running from technology to energy consumption. These findings suggest that minerals resources, technology, and energy consumption act as main drivers in economic growth and can perform in environmental quality.

Role of Ecological Footprint, Nonrenewable Energy, and Natural Resources in Environmental Quality: A New Study Based on the Top Carbon Dioxide Emitter

- Mushtaq Ali (Mardan Chamber of Commerce, Pakistan)
- Hashmat Ali (Abbottabad University of Science and Technology, Pakistan)
- Imad Ali (Jiangsu University, China)
- Khan Baz (China University of Geosciences, China)

Over the past few decades, sustainable economic expansion has increased the need for energy, and technological advancement and easy access to mineral resources are influencing environmental quality. However, multiple results are visible across the literature, indicating that this field is not sufficiently investigated. Recognizing the importance of fossil fuels, the ecological footprint, and natural resources is essential for significant environmental protection. Therefore, it is crucial to consider various aspects that may contribute to environmental sustainability. This study aims to examine the relationship between per capita carbon dioxide emissions and total natural resources, nonrenewable energy, industrialization, and ecological footprint from 2001 to 2020. The most recent Panel Corrected Standard Error (PCSE) simulation models are used in this study. The findings indicate that natural resources, ecological footprint, and registered companies impede environmental quality. Similarly, the same results were noted by employing the generalized least square method. This article makes policy recommendations to planners and government representatives for controlling rapid industrialization, extraction of natural resources, and environmental and economic issues.

Rethinking Capital Subsidies for Residential Solar PV in Sub-Saharan Africa: A Case Study in Ghana

- Mark M. Akrofi (United Nations University, Japan)
- Mahesti Okitasari (United Nations University, Japan)

The cost of residential solar PV systems is often cited as a major barrier to their uptake in sub-Saharan Africa. Consequently, the most recommended policy solutions include lowering the costs of residential solar PV systems through subsidies or tax and tariff reductions. Such measures are observed in Ghana, where the

government rolled out a capital subsidy program aimed at lowering costs and encouraging the uptake of residential solar PV systems in the country. This paper questions whether such policy interventions alone can facilitate solar PV uptake by different income groups of urban dwellers, taking into account the physical characteristics (urban form) of the neighborhood in which they live. The paper examines the effects of urban form on residential rooftop solar PV potential and Levelized cost of electricity (LCOE) in high-income, middle-class and low-income neighborhoods in Accra. Using building footprint data, ArcGIS Pro, and linear regression analysis, we find the highest and lowest rooftop solar PV potential in the high-income and low-income neighborhoods, respectively. The suitable rooftop area, building footprint area, and near distance between buildings, which correlated positively with the rooftop solar PV potential, were higher in the high-income neighborhood as compared to the middle-class and low-income ones. The low-income neighborhood exhibited higher density with clustered building patterns and, consequently, lower rooftop PV potential. The LCOE ranged between $0.02/kWh-$0.19/kWh for most buildings, with 92%, 74%, and 51% of houses in the high-income, middle-class, and low-income neighborhoods falling within this range, respectively. We conclude that while capital subsidies for residential solar PV can boost their uptake by households, their effectiveness could be limited in low-income neighborhoods due to the limitations imposed by the urban form in such neighborhoods. It may be more appropriate for policy interventions to target such neighborhoods with community solar schemes instead of building integrated solar photovoltaics.

Disposition Management Standards: Enabler for Achieving the SDG Goals Within the Pharmaceutical Industry

- Jayashree Balakumar (University of Texas at Dallas, USA)
- Ramesh Subramoniam (University of Texas at Dallas, USA)

The pharmaceutical industry generates a significant amount of waste, including empty drug containers and expired drugs, contributing to environmental degradation. To support the Sustainability Development Goal 3 (Good Health and Well-being), new regulations are necessary to enable a strong reverse logistics program in the pharmaceutical industry. This paper critically analyzes the challenges and opportunities, and proposes additional standards and guidelines for effective disposition management programs for pharmaceutical waste.

The study examines the current practices of the pharmaceutical industry in the United States vs. international practices in managing waste and the challenges of collecting, sorting, and disposing of/recycling pharmaceutical waste. It also investigates the role of regulatory frameworks in facilitating an effective disposition management program that can reduce the environmental impact of pharmaceutical waste. The paper provides a comprehensive overview of the legal, economic, and technological factors that influence the feasibility of implementing an effective disposition management program in promoting sustainable practices and achieving sustainability goals. The research further identifies the opportunities for developing new regulations that incentivize pharmaceutical companies to adopt sustainable practices and invest in infrastructure to support environmentally friendly waste disposal methods. The study also suggests a socially responsible framework for corporate enterprises and local governments to motivate good citizenship practices regarding safe pharmaceutical waste disposal.

In summary, the study highlights the need for new regulations and additional standards (such as ANSI and ISO) as guidance for enabling a robust pharmaceutical waste disposition management program in the pharmaceutical industry to achieve SDG 3 Goals.

DAY TWO MARCH 25, 2023
All sessions are in Student Union Galaxy A, B, and C

Session: 2.1 / Saturday, March 25, 2023: 9 – 9:50 am
Track: Panel

SOCIAL ENTREPRENEURSHIP AT HOME AND ABROAD

Co-Chairs: Agnieszka Skuza, University of Texas at Dallas, USA; Habte Woldu, University of Texas at Dallas, USA
Panelists:

- Daron Babcock, Bonton Farms, USA
- Alex Riggs, University of Texas at Dallas, USA
- Tarun Kandarpa, University of Texas at Dallas, USA
- Sijo Varghese, University of Texas at Dallas, USA
- Mearg Tesfay Hagos, Mekelle University, Ethiopia

Dr. Agnieszka Skuza joined UT Dallas in 2001, first as a visiting professor and then as Associate Professor of Instruction, Organizations, Strategy, and International Management. Skuza earned her PhD at Poznań University of Economics and Business in Poland. She has done extensive research in human resource management and cross-cultural comparative studies. She was a leader or a member of over 15 research projects, including those funded by the Polish National Science Center and European Social Fund. She has published more than 60 articles and chapters, and two books in Polish, English, and Chinese. She received two best paper awards from the Academy of International Business and Public Disciplines. In Poland, she has received awards from the Polish Ministry of Education and president of PUEB. Skuza has extensive teaching experience. She has taught management and cross-cultural courses and conducted research seminars in Europe (Finland, Ireland, Portugal, Spain, and the UK), the US, and Mexico. In consulting engagement, Skuza coached employees of large international companies (from pharmaceutical, chemical, telecommunications, energy, food, and textile industries), city halls, and chambers of commerce and industry. She also performed numerous coaching sessions for employees of the Office of the Prime Minister of Poland.

Dr. Habte Woldu is Clinical Professor at the Jindal School of Management, UT Dallas; and Director, Sustainable Global Business Initiative (SGBI). Born in Ethiopia, he attended Haile Selassie I University in Addis Ababa, where he earned an undergraduate degree in social science while simultaneously working as an auditor for the National Bank of Ethiopia. From there he went on to pursue a master's degree in human resource management followed by a doctorate degree in economics from Poznań University of Economics and Business, Poland. After beginning his academic career as an assistant professor at Poznań University, Woldu joined UT Dallas in 1993. Woldu has done extensive research and has many publications covering a wide breadth of topics, including comparative management and cross-cultural studies, empirical analysis of cultural differences and divergence, HRM in Central and Eastern Europe, and international trade and foreign direct investment in Africa. During his tenure at the Jindal School, Woldu has grown with the University itself and has been actively involved in the internationalization of UT Dallas. Passionate about sustainability, he is the founding Director of SGBI at UT Dallas.

Daron Babcock is CEO of Bonton Farms. Moved by his personal beliefs, Daron couldn't sit idly by as he witnessed his brothers and sisters in South Dallas be ravaged by institutional inequities. In 2012, he left a successful corporate career and moved from his home in North Dallas to immerse himself with the inner-city community of Bonton to learn and walk alongside the people who call Bonton home. Known for all the wrong things, Bonton was primed for change at the macro-level because the people were ready to lead and fight for their future. Daron is referred to as a "social entrepreneur," having started multiple successful social ventures: Bonton Honey Company, The Market at Bonton Farms, Bonton Farms Coffee House, Bonton Farmers Market, The Preservatory, and CityBuild Housing. Of all his ventures, the most notable is Bonton Farms, one of the largest urban farms in the United States nestled in a once-forgotten neighborhood in South Dallas. Daron is not only the CEO, but he is also a perpetual visionary and re-inventor of what's possible. Bonton Farms is so much more than a farm. It is the catalyst that is helping to level the playing field, creating systemic change necessary so the residents of Bonton and others from marginalized neighborhoods all over the country can fully realize the potential created in them. "Our goal is not to simply grow food because we're in a food desert, but to address WHY Bonton is a food desert. We're not here to fix broken people, but to be the hands and feet to fix broken systems." Daron has been invited to speak all over the world, most notably TEDx Jacksonville; Philanthropy Southwest; Nairobi, Kenya; Bucharest, Romania; Itu, Brazil; Texas Public Policy Foundation;

Texas State Capitol; Dallas City Hall; countless churches, civic organizations, conferences, and corporate gatherings.

Alex Riggs is a Dallas native and recently graduated with an MS in business analytics with a specialization in data science from the Jindal School of Management, UT Dallas. Before pursuing data science, he received his bachelor's degree in accounting from Southwestern University, where he first began cultivating an interest in business sustainability. Working as an analyst for TD Ameritrade reinforced his fascination with understanding data, and he pursued his master's training with the hopes of using his interest in big data to benefit smaller organizations. His goal is to take his newly honed skills into the workforce to use data science as a tool to help shed light on important social and financial issues.

Tarun Kandarpa is a second-year graduate student at the Jindal School of Management, UT Dallas, specializing in information technology and management. He also holds an MBA degree in marketing from the Institute of Management Technology, Ghaziabad; and has donned many hats over seven years in the telecommunications and tech-startup domains. As a passionate problem-solver, he believes that technology and data can be the catalysts for positive change. He is also a nature enthusiast, constantly exploring ways to reduce his carbon footprint and make the planet cleaner and greener, one step at a time. In his leisure time, he enjoys hiking, reading, cycling, and solving sudoku puzzles.

Sijo Varghese is an ex-entrepreneur. He co-founded Overnight Ventures, a digital marketing and advertising firm in 2017, and grew the bootstrapped agency startup to profits, achieving an average growth rate of 40% annually at a profit for five years until 2022. He spearheaded marketing execution for 40+ brands throughout India including Puma and Ola Electric; and managed a highly cross-functional team of 16+ marketers. He has 5+ years of experience under the belt with a savvy for digital marketing, product marketing, business analytics, branding, creative storytelling, and technology. He is highly skilled in leading teams, project management, and data-driven execution to achieve brand, engagement, and revenue to win commercially. He is currently a full-time MBA candidate at the Jindal School of Management, UT Dallas. He is pursuing an independent study as a consultant at a non-profit in South Dallas and serves as the Dean's Council representative and Engagement Principal at UT Dallas's Consulting Club. His team is one of the top-five winning teams in the Nokia Case Competition.

Mearg Tesfay Hagos is an assistant professor at School of Management, College of Business and Economics, Mekelle University—a position he has held since 2008. He received his MBA degree from Mekelle University. He has been engaged in teaching, research, training, and community engagements. His research interests include sustainability, entrepreneurship, and leadership.

Session: 2.2 / Saturday, March 25, 2023: 10 – 10:50 am
Track: Panel
MANAGING SUSTAINABILITY MULTIDIMENSIONALLY
Chair: Cuili Qian, University of Texas at Dallas, USA
Panelists:

- Malik Sadiq, Livekindly, USA
- Miroslaw Ryba, EY, Poland
- Joachim Scheurich, Pall Corporation, USA
- Laura Gatins, Altair Global, USA

Dr. Cuili Qian is Professor of Organizations, Strategy, and International Management at the Jindal School of Management, UT Dallas. Her research interests include stakeholder management and corporate social responsibility, corporate governance and political strategies in transitional economies, and MNC control and staffing issues in international business. She has published in leading journals such as the *Academy of Management Journal*, *Strategic Management Journal*, *Organization Science*, and *Journal of Management*. She currently serves on editorial boards of the *Academy of Management Journal*, *Strategic Management Journal*, *Administrative Science Quarterly*, *Journal of Management*, and *Journal of International Business Studies*. She is also a Senior Editor for *Management and Organization Review* and incoming Senior Editor for the *Journal of Management*.

Malik Sadiq joined Livekindly Collective in June 2021 as the Chief Operating Officer. Within a year, he was promoted to Co-CEO, a position that he shares with company's CFO. Malik continues to perform his duties as COO also.

Malik joined Livekindly Collective from Tyson Foods, where he worked for 15 years in various roles, including President International, COO China business, and CEO India business. Malik led Tyson's international business to profitability and drove growth through M&As and strategic partnerships. Prior to Tyson Foods, Malik gained valuable experience at Hitachi Consulting and Arthur Andersen, where he headed Consumer Products Practice for the Southwest region. Malik earned a doctorate and master's degrees in industrial engineering and a bachelor of science in electrical engineering from the University of Arkansas, Fayetteville. Malik lives in Friso, Texas.

Miroslaw Ryba leads the EY global Internet-of-Things consulting practice. He is also responsible for EY technology ecosystem supporting the ESG agenda. During 25 years of his professional career, Miroslaw led multiple projects focused on transforming business through technology for both government institutions and large heavy-industry enterprises in Europe and North America as well as Middle East, India, Africa, and Asia. In 2014, Miroslaw joined the EY EMEIA Advisory Center, where he was responsible for defining and building IoT services for EY, as well as for creating digital solutions that leverage the IoT ecosystem. Prior to joining EY, Miroslaw worked for a new technology company and software developers. Miroslaw is a co-author of a book regarding critical infrastructure protection as well as numerous publications regarding business application of technology. He is also a voting member of The International Society of Automation (ISA) and one of the co-authors of leading international standards for industrial systems.

Joachim Scheurich manages the Strategic Sourcing Supplier Risk and Sustainability program for the Life Sciences division of Pall Corporation. He is responsible for the worldwide expansion of the company's supplier risk management practice with a focus on business continuity and supply chain resiliency. Prior to joining Pall, Joachim spent 29 years in international sourcing, procurement, and supply chain leadership positions for different operating companies of Siemens AG in the United States and Germany. Joachim earned a Diplom-Kaufmann degree in business administration from the University of Cologne and is a Certified Professional in Supply Management with the Institute for Supply Management (ISM).

Laura Gatins is Senior Vice President, Global Operational Excellence, at Altair Global. In this role, Laura works with all departments and business leaders to bring a focus to operational excellence. She has responsibility for the Global Learning and Development and Quality Assurance teams at Altair. In addition, she leads projects for Altair 2.0 initiatives, a program that focuses on efficiency, productivity, and overall process improvement. Laura joined Altair's Global Headquarters and Central Service Center in Plano, Texas, in 2010, as Vice President, Global Services. In 2012, she was promoted to Senior Vice President, Operations; and in 2016, she transitioned to her current position. Laura began her mobility career in 1998, working for a third-party relocation company where she held management roles providing support for both domestic and global services. She was awarded an Outstanding Achievement Award in recognition of her exceptional contribution to the company. Prior to joining Altair, Laura worked with patients with traumatic brain injuries and individuals with developmental disabilities. Laura is a member of Worldwide ERC® and holds the Certified Relocation Professional (CRP) and Global Mobility Specialist, Strategic Talent Mobility (GMS-T) designations. She also serves as Vice Chair for the Center for Global Business Advisory Board at UT Dallas. Laura earned a bachelor's degree in psychology from Central Connecticut State University and a master's degree in industrial organizational psychology from Fairfield University in Connecticut.

Session: 2.3 / Saturday, March 25, 2023: 11 – 11:50 am
Track: Panel

SUSTAINABILITY IN HIGHER EDUCATION

Chair: Mike Peng, University of Texas at Dallas, USA
Panelists:

- Habte Woldu, University of Texas at Dallas, USA
- Baniyelme Zoogah, McMaster University, Canada
- Danielle Dunn, University of Texas at Dallas, USA
- Marisol Romany, Dallas College, USA

Dr. Mike Peng (PhD, University of Washington) is the Jindal Distinguished Chair of Global Strategy at the Jindal School of Management, UT Dallas; and Executive Director of the Center for Global Business, which he founded in 2006. Peng is a

National Science Foundation career award winner and a Fellow of the Academy of International Business and Asia Academy of Management. He currently serves as Vice President of the Asia Academy of Management. Having published more than 170 articles and accumulated 58,000 Google citations, he is one of the most prolific and most influential scholars in global business strategy. Both the United Nations and the World Bank have cited his work. He has also authored three best-selling textbooks, *Global Strategy*, *Global Business*, and *Global*, which have been translated into Chinese, Portuguese, and Spanish. His consulting clients include multinationals (such as AstraZeneca and Texas Instruments), government organizations (such as the UK Government Office for Science), and international organizations (such as The World Bank). He has been quoted by *The Economist*, *Newsweek*, *US News & World Report*, *Dallas Morning News*, *Texas CEO Magazine*, *Business Times* (Singapore), *CEO-CIO* (Beijing), and *Brasil Econômico* (São Paulo), as well as on KERA/PBS TV, National Public Radio, and Voice of America.

Dr. Habte Woldu is Clinical Professor at the Jindal School of Management, UT Dallas; and Director, Sustainable Global Business Initiative (SGBI). Born in Ethiopia, he attended Haile Selassie I University in Addis Ababa, where he earned an undergraduate degree in social science while simultaneously working as an auditor for the National Bank of Ethiopia. From there he went on to pursue a master's degree in human resource management followed by a doctorate degree in economics from Poznań University of Economics and Business, Poland. After beginning his academic career as an assistant professor at Poznań University, Woldu joined UT Dallas in 1993. Woldu has done extensive research and has many publications covering a wide breadth of topics, including comparative management and cross-cultural studies, empirical analysis of cultural differences and divergence, HRM in Central and Eastern Europe, and international trade and foreign direct investment in Africa. During his tenure at the Jindal School, Woldu has grown with the University itself and has been actively involved in the internationalization of UT Dallas. Passionate about sustainability, he is the founding Director of SGBI at UT Dallas.

Dr. Baniyelme D. Zoogah (PhD, The Ohio State University) is Associate Professor of Management at the DeGroote School of Business, McMaster University, Ontario, Canada. He teaches organizational behavior and human resource management courses. He has held visiting professorship positions in Ghana and South Africa. His research has been published in numerous academic journals. He has authored four books: (1) *Strategic Followership: How Followers Impact Organizational Effectiveness*; (2) *Theoretical Perspectives of Strategic Followership*; (3) *Ethnos Oblige: Theory and Evidence*; and (4) *Managing Organizational Behavior in the African Context*. In addition, he has edited *Advancing Research Methodology in the African Context: Techniques, Methods, and Designs*. He is President of the Africa Academy of Management.

Danielle Dunn is Coordinator for Collaborative Initiatives in the UT Dallas Office of Sustainability. She coordinates internal and external stakeholder collaborations between administrative departments, faculty, and students to achieve community-focused sustainability at UT Dallas. She leads the Office of Sustainability communications channels including newsletters, social media, and outreach events, while also organizing campus resources at Earth Week and the Community Garden. She began her university studies with horticulture and entomology, earning a BS in plant and soil science. She is currently a graduate student at Texas Tech University completing a master's in ecology and environmental sustainability.

Marisol Romany is Chief Social Responsibility and Inclusion Officer at Dallas College. She oversees sustainability; diversity, equity and inclusion (DEI); and supplier diversity. She is responsible for the development and implementation of the social responsibility strategy, goals, and targets that directly align with the College's overall vision, for equity, the economy, and the environment. Romany also oversees the development of effective, multi-faceted training programs that ensure Dallas College employees at all levels are knowledgeable about social responsibility and how it applies to their roles within the organization. Additionally, Romany provides intentional and positioned advocacy to generate parity and economic inclusion within minority and underserved communities. Prior to joining Dallas College, Romany served as the corporate director of diversity and minority business development at Orlando Health, where she addressed DEI and minority business development within the nine-campus hospital network. Throughout her career, she has cultivated successful relationships with diverse chambers, certifying agencies,

and community organizations by valuing diversity and inclusion in both the workplace and the marketplace. Born in Puerto Rico, she holds a bachelor's degree in management from Florida International University and dual master's degrees in leadership and education from Framingham State University in Massachusetts; and is a Certified Diversity Professional/Advanced Practitioner (CCD/AP) from Cornell University.

Session: 2.4 / Saturday, March 25, 2023: 1 – 1:50 pm
Track: Paper Presentations
MANAGING STAKEHOLDER RESPONSES AND INSTITUTIONAL VOIDS
Chair: Hubert Zydorek, University of Texas at Dallas, USA

Do We Really Deserve It? The Impact of Female and Foreign CEOs on Shareholder Activism

- Hwayoung Kim (University of Texas at Dallas, USA)
- Yilin Liu (University of Texas at Dallas, USA)
- Cuili Qian (University of Texas at Dallas, USA)

The current study examines how the prevailing bias in leadership roles arising from prototypes induces more scrutiny on minority CEOs, leading to more shareholder activism towards the firm led by them. Shareholder activists are salient stakeholders who express displeasure with a particular way a firm is operated and are a force to change the firm's strategy or governance. Integrating the framework of corporate opportunity structure with the research on stereotypes, we hypothesize that firms led by female and foreign CEOs are more likely to suffer from shareholder activism, as minority status is a crucial factor for assessing the possibility of campaign success. More importantly, we argue that female and foreign CEOs can mitigate such bias by employing different linguistic strategies to show their leadership capability and effectiveness. The results largely support our predictions. The display of specific values can mitigate the negative impact of leadership stereotypes.

Terrorist Activities, Investor Sentiment, and Stock Returns: Evidence from Pakistan

- Hashmat Ali (Abbottabad University of Science and Technology, Pakistan)
- Zulfiqar Ali Memon (University of Sindh, Pakistan)
- Muhammad Arif (University of Swabi, Pakistan)

Motivated by the previous literature on investor sentiments and assuming that terrorist activities affect investor mood, this study attempts to address the psychological impact of terrorism for investors in Pakistan stock market. Apart from a direct economic loss, major terrorist incidents create/exacerbate uncertainty and fear in the market. The investors are likely to over-respond to such incidents and once the dust settles the market tends to recover. The analysis of cumulative abnormal returns in the aftermaths of terrorist incidents and the volume analysis provide strong evidence that the terrorist incidents adversely affect investor sentiments and confidence in the market as manifested through relatively feeble trading volumes.

Hen or Human? A Study on Potential Trade-Offs Between Animal Welfare Legislation and Environmental Sustainability

- TI Tongil Kim (University of Texas at Dallas, USA)
- Yeowoon Park (University of Texas at Dallas, USA)

Recent shifts in public opinion have spurred states to implement animal welfare legislation in the US. For example, in January 2015, California started mandating that egg-laying hens be raised in spacious living conditions. We study the impact of this law by comparing fresh egg markets in California and neighboring states. We first find increases in the number of products, especially cage-free eggs, as well as the average egg price in California post policy. We also find increased overall demand for eggs, suggesting that animal welfare legislation may lead to a higher environmental impact in terms of land use, water consumption, and greenhouse gas emissions. Overall, the results highlight the need for policymakers to consider the trade-offs between social goals such as animal welfare and environmental sustainability.

Female Ownership and Formal Training Programs in Emerging Economies

- Yoon-suk Baik (Korea Advanced Institute of Science and Technology, South Korea)
- Mina Lee (Xavier University, USA)
- Hyejin Cho (Farmingdale State College, USA)

This paper shows that to fill institutional voids, female-owned firms offer more formal training programs than male-owned firms in emerging economies. We also argue that these programs, a form of corporate social responsibility (CSR), enhance employees' human capital. We find that the likelihood of offering formal training programs further increases when both large

shareholders and female ownership exist. We contend that such socially responsible investments enable female-owned firms to increase their labor cost efficiencies. Our sample includes 78,762 firms in 133 emerging market countries and utilizes the World Bank's Enterprise Survey (WBES) and World Development Indicator (WDI) datasets from 2006 to 2018. In sum, we demonstrate that in emerging economies, CSR practices can serve as both nonmarket and market strategies for female-owned firms to overcome institutional voids.

Session: 2.5 / Saturday, March 25, 2023: 2 – 2:50 pm
Track: Paper Presentations
CREATING VALUE, MANAGING GROWTH, SOLVING WICKED PROBLEMS
Chair: Agnieszka Skuza, University of Texas at Dallas, USA

Sustainable Value Propositions for a Framework of Business Model Innovation with Organizational Ambidexterity

- Aki Nagano (Independent researcher, Japan)

Corporate activities undoubtedly impact the environment, the society, and the economy. Thus, the visions and strategies that shape the business models are vital to society as well. With global environmental and social issues rising, high-end brands and major fashion firms are becoming more involved in sustainability practices. This is due to enormous pressures from stakeholders, governments, and consumers. Simultaneously, small and medium-sized textile companies (SMTCs) are expected to shift more sustainability productions as part of the high-end and large companies' supply chains. However, several academics note that SMTCs lack the resources to adopt to such changes. Hence, this research aims to develop a framework for integrated sustainable business model (SBM) innovation and organizational ambidexterity for SMTCs to align and adapt to changes in sustainable transformation.

Since management science demands both a theoretical approach and actual actions, the methodology combines both literature reviews and case studies. Literature reviews demonstrate that the core of SBMs innovation is sustainable value propositions, which describe how the organization acts to establish sustainability values through its business model practices. The framework of SBMs—environment, economy, social, and stakeholders' involvement—is clarified based on the analyses of each company's actual actions.

Furthermore, creating the business model innovation needs exploitation and exploration. According to the findings, organizational ambidexterity plays foundational role in SBM innovation. Particularly, organizational climate and culture such as trusted partnerships and owner family's leadership improve exploitation and exploration, and play complemental roles in resource scarcity in SMTC. Results also show sustainable value that case study organizations communicate with stakeholders. Respecting client policy and sharing environmental principles with employees are observed as values-in-exchanges. From a broad viewpoint, land ethic contributes to maintain the long-term conservations of regional environment. Simultaneously, environmental stewardship is crucial for exchanging values in the collaboration of stakeholders. The contribution of this study is to extend the existing literature by uncovering the SBMs with an ambidexterity method in SMTC. Proposed frameworks provide vital key drivers to implement SBM innovation that incorporates with sequential and contextual ambidexterity for SMTC.

The Need for African Economic Growth Sustainability: The Case of Ethiopia

- Mearg Tesfay Hagos (University of Mekelle, Ethiopia)
- Habte Woldu (University of Texas at Dallas, USA)
- Hubert Zydorek (University of Texas at Dallas, USA)

This study highlights the need for a critical view on the current African countries' high-growth model. The authors bring to the attention of researchers that the recent growth in African countries, specifically the case of Ethiopia's high-growth model, will be unsustainable. Although the projections of many economists indicate that the high-growth African countries will achieve a high-income status in less than 20 years, we believe that neither the high-growth rate nor the high-income status are attainable. The African annual growth rate, which reached an average of 7.6% for a decade and half, was triggered by the construction of government-sponsored infrastructure, including freeways and tollways, railways, airports, and the construction of mega projects such as hydroelectric power and industrial parks. The authors acknowledge that these government-sponsored infrastructure projects did contribute to a high GDP growth rate, but didn't trickle down to the common citizens of the respective African countries. In recent years, this situation has led to violent unrests, leading to conflicts at national and regional levels. The sustainable African growth

"miracles," coupled by the difficulty of creating significant employment opportunities for college and high school graduates, has already led to bloody regional conflicts, especially in the Northern part of Ethiopia. Therefore, this study suggests that a sustainable economic growth model, which currently focuses mainly on infrastructure and mega projects, needs to engulf the society at large. This also means that African countries need to move away from government-managed economic policy to a market-driven economic system.

Rethinking Heritage, Diversity, and Blockchain Intervention in Nuclear Era: Systemic Thinking and Sustainability

- John Allison (Port Harcourt Polytechnic, Nigeria/University College London, UK)
- Anita Alaerae Bala (Rivers State University, Nigeria)

The future is systems thinking, but after the Ukraine attack and subjectivization of nuclear threat to cities, Nigerians end their public and informal conversations with a question: "Can the nuclear superpowers engage in full-scale nuclear war to settle old disputes once and for all?" This question negates sustainability and systems thinking. Here the article reviews relevant literature and extract of a 2022 survey of stress and nuclear awareness in Nigeria. The article highlights the complexity and interconnectedness of things as a means of creating awareness of the catastrophic impact of nuclear weapons, in response to the UN's call for awareness-building. Also, by brief historical perspective revealed underlying challenges, knowledge gaps, implication for millennials and the urgency to bridge gaps as otherwise could be catastrophic assurance for humanity and architectural heritage in the near future. One recommendation to build trust and confidence is the adoption of Blockchain in nuclear resource management and deterrent initiatives, as well as reorganizing the UN Security Council. Furthermore, research, aggressive awareness campaign program targeted at the reorientation of millennial including systematic disengagement of the older generations from leadership role to statesmanship are necessary.

Wicked Problems, Sustainable Solutions

- John Hulpke (University of Nevada Las Vegas, USA)
- Cubie Lau (University College Dublin, Singapore Office, Singapore)

The world faces "wicked problems," from climate change to inequities in health care, hunger, educational access, and poverty. How can scholars address uncertain ill-defined "wicked" problems? Eden and Wagstaff suggest that "Wicked Problems Demand Non-Dogmatic Multidimensional Thinking." They illustrate by suggesting moves towards solving gender equality of opportunity. A similar approach can be used with any wicked problem.

To solve wicked problems, standard approaches to problem solving may not be relevant. Wicked problems have no clear solution or even a set of possible solutions. The best one can do is strive to manage the problem, not solve it. How can one proceed? Eden and Wagstaff start with gender equality. The present authors say that "planning how to manage this problem" can still seem so amorphous and insurmountable as to lead to inaction. An alternative to solving any wicked problem can be to do as Dan Brass suggested, proceed one step at a time: "how do you go about eating an elephant? One bite at a time." Rather than focus on the complex wicked issue, focus instead on what may be done here and now. As the famous quote says, "I cannot do everything; but still I can do something." Authors of the present paper recently helped plant one million trees. We did not plant one million trees personally, but each planted one tree as part of a Singapore Rotary Club service project: One Million Trees (OMT). We work on climate change, one tree at a time.

Academics can study any wicked problem. Consider world hunger. As Thomas Malthus warned, if food is not available to feed growing numbers of humans, people will die. The fear was that as population grew geometrically, food availability would grow arithmetically. The predictions about population growth seem on target, with almost 8 billion people on the planet. In the 21st century, some believe 250 million go to sleep hungry each night.

How can one proceed? One can focus on managing moves towards the future. Or, instead of planning to plan, one may follow Hale or Brass: simply start. Do something. Although this may sound atheoretical, it is perfectly consistent with various theories. Rather than spending energy and time defining terms or sorting and categorizing wicked problems, rather than surrendering to seemingly insolvable problems, complexity theory suggests approaching big issues not as insoluble amorphous dilemmas. Rather, complexity theory advises step by step actions. This "take small steps" perspective is consistent with what we learn by looking at microfoundations. An example of how academics may proceed is described in a *Journal of Business Ethics* case study of the Jelutong wet market in Penang,

Malaysia. We will show how one global food giant, Ayam, is working to solve several wicked problems, one bite at a time.

Session: 2.6 / Saturday, March 25, 2023: 3 – 3:50 pm
Track: Paper Presentations
MANAGING POLITICAL AND TECHNICAL ASPECTS OF SUSTAINABILITY
Chair: John Hulpke, University of Nevada Las Vegas, USA

Renewable Electricity and Political Affiliation in the United States: Are They Related?

- Taher Garamanli (Eastern Illinois University, USA)

This research examines renewable electricity generation in the United States and analyses its relationship with political partisan affiliation. A hypothesis is tested on whether renewable electricity is correlated with the partisan votes of Republicans on a state level.

Based on the 2020 data from the U.S. Environmental Protection Agency (EPA) and the U.S. Presidential election results, the analysis is performed by categorizing U.S. states by the partisan majority and sorting them by their renewable shares to come up with the findings.

It could be argued that there is no correlation between renewable electricity and political partisan affiliation—the top eight "green" states encompass equally four "red" states (South Dakota, Idaho, Montana, and Iowa) and four "blue" states (Vermont, Maine, Washington, and Oregon) in 2020.

Remarkably, the analysis found that the "bluest" state of Vermont has set a record to be entirely green by generating approximately 100% of its electricity from renewables, while some Republican states such as Idaho and South Dakota are found to be generating more renewable electricity than non-renewable electricity.

Plastic and Bioplastic Sustainability Comparisons: PET, B-PET, PHA and PLAs

- Tiffany Lourdraj (General Motors, USA)

This paper investigates the role of bioplastics in changing how society approaches plastic pollution. The findings reveal that the most sustainable option depends on the type of goods produced. Ultimately, switching to PLA is the most cost-efficient and environmentally-friendly option. They are easy to source, cheap to produce, biodegradable, compostable, and durable.

International Construction Sustainability Certifications: LEED, BREEAM, CASBEE, and Their Context

- Matheus Goes (Federal University of Ouro Preto, Brazil)
- Claudiano Rioga (Federal University of Ouro Preto, Brazil)
- Isadora de Assis Campos (Federal University of Ouro Preto, Brazil)

The standards for the environmental assessment of buildings, also known as international building sustainability certifications, are guidelines created to assess the levels of sustainable performance of buildings, in relation to their materials and construction processes. This article presents some of the most used certifications in the world: LEED, BREEAM, and CASBEE. We describe their evaluation methods, their number of applications in the world, and differences between them. Finally, an analysis is made of the contextualization of the creation of these certifications, and the relationship between the historical period of the conception of each one of them.

Ocean Acidification: A Threat to Global Environmental Sustainability and the Touchstone for International Conventions

- Yixuan Ma (Concordia University, Canada)
- Congmin Ren (Yorkville University, Canada)

Ocean acidification (OA) is the process by which the ocean absorbs atmospheric carbon dioxide, which raises its carbonic acid concentration. Currently, the ocean demonstrates an unprecedentedly high acidification rate due to humans' increased use of fossil fuels and the release of carbon dioxide. This harms marine species' living conditions and increases their vulnerability. The impacts on marine ecosystems extend to fisheries, aquaculture, coastal management, and tourism, triggering socioeconomic issues for the communities whose livelihoods depend on the ocean. This study examines the recognition of OA in international conventions as well as the actors involved, current practices, and objectives, followed by an assessment of the effectiveness of the international governance arrangements. This research uncovers that although OA has become an emerging topic in global environmental politics, the design, implementation, and effectiveness of these international conventions are still

in a regrettable stage filled with reluctance, fragmentation, and ambiguity.

Session: 2.7.4 / Saturday, March 25, 2023: 4 – 4:50 pm
Track: Round Table Presentations
ROUND TABLE 4 NAVIGATING BETWEEN NUCLEAR WINTER AND RURAL TRANSFORMATION
Chair: Mike Peng, University of Texas at Dallas, USA

Cities, Nuclear Winter, Global Trade: Reviews and Blockchain Consensus Mechanism as Panacea

- John Allison (Port Harcourt Polytechnic, Nigeria/University College London, UK)
- Osai Victor (Port Harcourt Polytechnic, Nigeria)

Global trade interest and statistics seem to authorised the disdain Africa suffer even though the continent accounts for about 60 percent of raw export to Western engines of production. The Chatham House recognized geopolitical tensions and shifting ongoing today. Global trade and market today is with few symbolisms. The first symbolism is building the Twin Tower edifice. Symbolic of a prosperous global trade and perfect market with global zero poverty and hunger. The second symbolism is yet ignoring growing monster Osama Bin Laden, that brought the total achievement of global trade down as memorial heap of pain. This is symbolic of the almost non-discussion in major trade and development conferences of an ambushing nuclear war. Such war that can obliterate cities—centers of global trade and markets, engines of development. The third symbolism is the smoldering waste heap at ground zero—symbolic of or a shadow of "nuclear winter." Here as part of climate policy, the article uses the symbolism to explore the state of global trade, cities, and human achievement in a more dangerous pre-Cold War era with action calls. It demonstrates placement of the cart before the horse. It demonstrates ambivalence of architectural landings as agency and victim. It demonstrates error of leaders of the free trade. It demonstrates urgent need to keep an open mind on global trade as well as discussions on Global Nuclear Blockchain Network (GNBN) as panacea to the nuclear trilemma. It demonstrates urgent need for leaders of the free world and trade keep an open mind on the proposed new soil with the hope that the entire world can organically grow beautiful flowers as solutions to around Blockchain's inclusive, zero vetoes, and consensus mechanism. It demonstrates validation requirement by all UN member nations on the network for both military and civil use of nuclear energy can guaranty trust, saving cities from nuclear obliteration.

Strategies to Improve Sustainability: An Analysis of 120 Microenterprises in an Emerging Economy

- Clara Inés Pardo Martínez (Universidad del Rosario, Colombia)

Global small and medium enterprises represent 90% of global business, creating and maintaining 50% of employment, and in emerging economies, formal small and medium enterprises (SMEs) provide 40% of the national gross domestic product and the gap of productivity is approximately 7% of global gross domestic product with respect to large firms. This study analyses the strategies and possibilities to improve sustainability in 120 microenterprises. The project included five stages: the postulation, selection, and enrolment of 120 microenterprises; sustainability diagnosis; action plan formulation; results of implementation and evaluation; and feedback on results. This study demonstrated the importance of integrating sustainability into the business to improve productivity, competitiveness, and access to new markets. In many cases, the microentrepreneur is unaware of all possibilities offered by having environmentally friendly processes, which was shown with evidence throughout the study. Approximately 242 action plans were implemented, achieving multiple results that involved knowledge of processes and equipment of microenterprises to measure and improve their environmental performance by reducing or consuming water and energy more efficiently, reducing waste, increasing awareness for caring for the environment, and measuring variables, among others. The findings of this study are important to demonstrate that microenterprises require adequate support and financial programs that should be designed and implemented by policymakers with the aim of strengthening this sector and decreasing poverty and promoting sustainable economic growth, environmentally friendly processes, and development in developing countries.

Mass Communication Model for Raising Awareness Towards Bio-Toilets

- Aeshiti Patel (Indraprastha College for Women, India)
- Mahak Megra Arora (Indraprastha College for Women, India)
- Manushreya Sharma (Indraprastha College for Women, India)
- Aahana Bhatnagar Chopra (Indraprastha College for Women, India)

According to SEWA International (2018), bio-toilets are a decomposition mechanised toilet system decomposing human waste into water and biogas. These toilets provide the safest sustainable switch to fighting the multifaceted challenges like open defecation, environmental hazards, health and dignity of individuals (WASH, UNICEF). 68%, almost one-third of people did not have access (WHO, 2016). India launched the Swachh Bharat Mission, a nationwide cleanliness campaign in 2014 to eliminate open defecation. The problem of open defecation in India cannot be resolved through the mere availability of government-built latrines (The Economist). According to the UN Sanitation Report of 2019, millions of new toilets which mark the progress of the Swachh Bharat Mission are producing large amounts of solid and liquid waste that India does not have the ability to treat and dispose of safely. "Our World In Data 2017" states that 328.72 million people in India are at risk of death owing to poor sanitation. Therefore, development communication becomes essential to adapt and expedite change. Community development necessitates effective communication at all stages, from planning to evaluation (William S. Maria, M. Harisha, Ilango P., 2020).

The aim is to study the feasibility of bio-toilets in urban commercial spaces. This research aims to trace the total coverage and prominence given to sanitation by Indian media. The research also examines the role of media in raising awareness in urban households towards bio-toilets as well as its installation in community spaces where even traditional toilets are not installed. The type of research is exploratory, using mixed methods. The research methods are content analysis and survey. The objective of the study is to suggest a communication model in order to raise awareness among residents vis the usability of bio-toilets and sanitation in the communities using the principles of scientific communication.

Alternative Livelihoods for Rural Transformation in Illicit Crop-Growing Countries: Case Studies of Chinese Agricultural Investment in Laos

- Yan Jin (Yunan Agricultural University, China)
- Bin Wu (University of Nottingham, UK)
- Jinmin Wang (University of Nottingham, UK)
- Shuru Zhong (Sun Yat-sen University, China)
- Lu Feng (Yunan Agricultural University, China)
- Zhengzhong Si (Wilfrid Laurier University, Canada)

The extensive cultivation of illicit crops continues to be a serious problem worldwide, which poses serious challenges to global development as crime, conflicts, health threats and even environmental hazards. The call for integrated drug supply reduction strategies and development of alternative livelihood in illicit crop-growing countries has important theoretical and practical implications. Some Chinese companies have initiated the programs to reduce opium poppy cultivation with cash crops such as rubber and rice in Northern Laos since 2006. However, few studies have explored the practices and difficulties of these programs and assessed their impacts on alternative livelihoods. From the perspective of partnership building, this paper aims to address following questions: How have Chinese companies established cooperation relationship with local authorities and communities to develop an alternative livelihood system? By what conditions can such system be maintained or improved, leading to a successful rural transformation and sustainable livelihoods? What are the differences among Chinese companies in terms of approach, strategy relationship with local community and sustainability? Based upon case studies of two types of Chinese agricultural companies' investments in Laos, this paper sheds new light on an alternative livelihood system for rural transition in those regions, including the importance of mutual trust between Chinese investors and local communities; matched intervention between strategies, appropriate technology, and local talent training; and differentiation between Chinese companies in market strategy and integration into local communities. Policy implications for Chinese overseas investment for alternative livelihood projects are discussed.

Session: 2.7.5 / Saturday, March 25, 2023: 4 – 4:50 pm
Track: Round Table Presentations
ROUND TABLE 5 MANAGING ETHICAL ECONOMIES, GREEN HRM, LOCATION CHOICES, AND PROCESS MINING
Chair: Baniyelme D. Zoogah, McMaster University, Canada

Ethical Economies: Corporate Social Responsibility Lessons from Kenya for Global Sustainability

- Pauline Kenyatta (University of Nairobi, Kenya)

The eleventh Sustainable Development Goal of the UN is sustainable cities and communities, which focuses on inclusive prosperity and safe human settlements. Given that the simplest form of economics per Adam Smith's theory in *The Wealth of Nations* is to be able to produce enough for consumption and trade in the surplus, this papers explores the importance of sustainability of economies through giving back.

With a focus on Kenya, the first part of this research will lay out the constitutional, statutory and uncoded customary underpinnings of the corporate social responsibility of companies operating within communities. The general realization through the work is that companies that abide by their divine call to plough back into communities from which they profit will inevitably achieve a great level of success and remain a perpetual going concern.

Green Human Resource Management and Employee Engagement: A Sequential Mediation Approach

- Kamran Iqbal (University of Lahore, Pakistan)

This study aims to extend green HRM research by exploring the role of work meaningfulness and organizational identification between green HRM and employee engagement. Specifically, this study aims to examine the interrelationship between green HRM and employee engagement through the sequential mediation of job satisfaction and job engagement. Using social identity theory, it is proposed that green HRM will add to work meaningfulness, which will enhance employees' identification with their organization, which ultimately will improve employees' engagement. The survey method was used to collect data from 252 telecom sector employees using a cross-sectional study design. The data analysis was carried out by employing partial least squares structural equation model (PLS-SEM) using smart PLS. Overall, the results show empirical support for all suggested relationships. The findings reveal that green HRM has an indirect effect on employee engagement via work meaningfulness. The results further indicate that green HRM indirectly affects organizational identification via work meaningfulness. Finally, the indirect effect of green HRM on employee engagement is sequentially mediated by work meaningfulness and organizational identification. The paper is unique as this is the first study that has examined the serial mediating variables of work meaningfulness and organizational identification between green HRM and employee engagement.

Come Closer! On Transaction Costs and Location Choices in a Circular Economy

- Corina Fehlner (BI Norwegian Business School, Norway)

This conceptual study analyzes efficiency levels of circular economy (CE) value loops with a focus on transaction costs. Extant CE research is descriptive and lacks theoretical foundation, particularly in terms of understanding CE management. Transaction cost theory explains efficiencies in economic organizing, lending itself to study CE arrangements that maximize resource efficiencies at continued economic virtue. This study examines the governance aspect of closed-loop economic activities and, assuming all-else-equal, finds that transaction costs in a CE are relatively higher for most value chain activities than in the linear economy. The primary reasons are uncertainties evoked by reciprocal dependencies between more numerous actors, the complexity of managing materials re-joining the system, the demand for building and exchanging novel information, and increased bureaucratic contracting efforts. Geographically-bounded and institutionally homogeneous CE initiatives may curb these rising transaction costs. By bringing efficiency concerns into the CE analysis, the paper demonstrates the applicability of transaction cost theory to this novel organizational phenomenon. It also highlights the CE transition's relevance for strategic management literature by pointing out implications for MNEs' location choices.

Process Mining for Sustainability

- Gaurav Shekhar (University of Texas at Dallas, USA)
- Partho Das (University of Texas at Dallas, USA)

Organizations are increasingly adopting data mining and business process management technologies in their operations and management. While these technologies help take sustainable actions, their capabilities are insufficient in improving performance. Sustainability problems can be complex, requiring integrations among multiple systems and processes. Recent research has indicated that process mining can potentially overcome these challenges. How can organizations use process mining to achieve sustainable development goals? In our ongoing study, we contribute to developing a conceptual framework that organizations can implement to optimize their sustainability performance using process mining.

Globally, organizations are increasingly taking sustainability on priority—not only for ethical and environmental reasons, but also for economic and social values. Following sustainable practices can help in saving costs and increasing revenues. For example, companies that invest in energy efficiency and renewable energy can reduce their energy costs. In contrast, companies prioritizing sustainable sourcing and production can improve their reputation and attract environmentally conscious consumers.

Yet companies that still do not adopt sustainability measures may be taking significant risks. Governments are increasingly implementing compliance requirements and updating regulations to accommodate sustainability. Companies that do not respond to these new regulations may be at risk of non-compliance and penalties.

To adopt the United Nations' Sustainable Development Goals (SDGs), companies are incorporating sustainable practices in the processes used to deliver goods and services using business process management (BPM) technologies. But BPM does not allow companies to go further in managing sustainability performance. Sustainability-related processes often involve more activities than defined in the process models developed using BPM. In execution, these processes tend to deviate far from the ideal workflows, leading to undiscovered inefficiencies.

Process mining can help companies discover these inefficiencies. It is a rapidly growing field that applies data analysis techniques to extract knowledge from event logs of business processes. It can be used to (1) reveal the activities that cause bottlenecks leading to inefficiencies in sustainability processes, (2) maintain compliance with regulations and policies related to sustainable development, and (3) redesign processes that help organizations to optimize performance with sustainable goals in process execution.

Organizations can use process mining to support the achievement of several SDGs, including SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action). For example, process mining can improve energy efficiency by identifying bottlenecks and inefficiencies in energy-consuming processes.

In this paper, we explore how organizations can implement process mining technology in a planned and effective manner to contribute to sustainable development significantly. We intend to design a framework with ethical and social considerations in mind. We hope that our small but tangible contribution will help organizations realize the full potential of process mining in creating environmental, economic, and social value for society.

Session: 2.7.6 / Saturday, March 25, 2023: 4 – 4:50 pm
Track: Round Table Presentations
ROUND TABLE 6 OVERCOMING SUPPLY CHAIN CHALLENGES
Chair: Lingling Shi, Southern Methodist University/University of Texas at Dallas, USA

The Linkage Between Environmental Performance and Supply Chains Pre- and Post-COVID

- Mahfuja Malik (Sacred Heart University, USA)
- Kanwalroop Dhanda (Sacred Heart University, USA)

The importance of managing environmental, social, and governance (ESG) issues in supply chains has been documented in the literature (Sarkis, 2022; Dai and Tang, 2021; Fonseca and Azevedo, 2020). Furthermore, the COVID-19 pandemic revealed the value of supply chain thinking for firms to deliver business and human value and, concurrently, serves as an urgent call to action to connect ESG and supply chain thinking (Dai and Tang, 2021).

Prior research has been conducted to explore whether companies' environmental and social supply chain activities are associated with their financial performance (Zhihong and Sarkis, 2013). Some research has looked at an integrated model of supply chain rating, based on both financial and non-financial variables and including environmental, social and governance (ESG) indicators (Sardanelli, 2022). Yet another paper aims to investigate the impact of three critical dimensions of supply chain resilience, supply chain preparedness, supply chain alertness and supply chain agility, all aimed at increasing a firm's financial outcomes. The premise is that firms require resilience in their supply chains to prepare for potential changes, detect changes and respond to actual changes, thus providing superior value (Li et al.). Other findings show different mechanisms of reactivity by companies on the effectiveness of ESG measures in times of COVID-19, i.e., active and passive conformity and active resistance (Atkins et al., 2022).

However, there has yet to be any research that links companies' ESG performance with supply chain effectiveness. In our project, we plan to collect data on ESG performance and supply chain metrics to conduct an empirical analysis of the linkages between environmental and supply chain performance and analyze in three periods: pre-COVID, COVID years, post-COVID. We will extract data on the supply chain metrics and firm performance variables, such as inventory turnover, days sales outstanding, inventory to sales ratios, firm size, leverage, and cash holdings from Computstat, and the data on ESG indicators from the MSCI database. Furthermore, we plan to evaluate whether there is any change in ESG and supply chain performances as well as market valuations of those indicators as the global markets adjusted to the effects of the COVID pandemic.

Sustainable Healthcare Supply Chain Management and Information Processing

- Jeffrey Egbedi (University of Texas at Dallas, USA)

A dearth of limpidity into the supply chain of healthcare companies around the world exists due to a lack of timely access to data or complete information. This continues to plague many companies around the world. In the post-pandemic era, the needs for a "sense and respond" solution have never been more imperative for sustainable healthcare supply chain solutions. This study utilizes an in-depth case studies approach across the healthcare supply chain industry, reviewing and identifying the challenges that four large organizations face in terms of sustainability-related uncertainty and elaborating on information processing theory as they relate to sustainability objectives. The study shows that organizations that continue to use data efficiently via technology platforms and move data through user-driven intelligent engine identify critical problems that affect the supply chain early enough to act. Existing research also indicates that complementing information processing needs with the appropriate information processing capacity is a sustainable business practice. Organizations that can provide end-to-end visibility, insights from data, end-to-end prediction and end-to-end aligned decision making are more likely to be successful.

The Reality and Possibility of Global E-Waste Collaboration

- Wen-Yu Tsai (University of Texas at Dallas, USA)

Tackling E-waste is essential because E-waste would result in adverse health effects and harm the environment. E-waste means discarded electrical or electronic devices. Studies show that E-waste volume grew by 21% in the five years up to 2019, which is a considerable amount that already causes some diseases in people who live in some particular areas. For example, it increases rates of attention deficit and reduces a newborn baby's cognitive and language sense. Moreover, the unnatural electronic dumps are eaten by animals and absorbed by the land, damaging this planet and weakening the earth to defeat the incoming crisis. Sooner or later, after human beings and nature are affected, the following medical burden and imbalance of the ecological chain will be a never-ending vicious cycle.

Our contribution is to encourage those talents, companies, and governments around the globe to interact and systematically put their discussion into the effort. Some organizations have already started a platform or program to boost global communication, such as the EPA cooperation between Taiwan and the U.S. Many nonprofit organizations have monitored the plans of firms and officials for years or even dedicated to removing the waste, such as Electronic Recycling Association. However, the whole system is easily affected by geopolitical issues and companies' new policies, so it is not easy to follow and to have excellent outcomes. Because the demand for technology will only increase and a lot of E-waste still needs to be handled effectively, we endeavor to find suitable ways to organize and make those solutions more effective. By motivating the conversation of global experts and

governments, we can together find solutions quickly to deal with E-waste properly.

Impact of Mineral Resources, Fossil Fuels Energy Consumption, and R&D on Environment and Economic Growth: Evidence from China

- Imad Ali (Jiangsu University, China)

Using time series data for China from 1996 to 2021, this study determines two equations, one for economic growth and the other for CO2 emission, based on the roles of research and development expense, natural resources rent, fossil fuel energy consumption, and foreign direct investment (FDI) consumption. For the results, two equations were used representing non-linear model co-integration and symmetric and asymmetric granger causality. However, even though the utilization of natural resources rent has a significant negative effect on CO2, it is associated with a decrease in CO2 emissions and a positive co-integration with economic growth. Co-integration of fossil fuel energy consumption has a significant positive effect on CO2 emissions but a negative effect on economic growth over the long term. The consumption of fossil fuels energy has a Granger causal relationship with carbon dioxide. The net inflow of FDI has an asymmetrically positive and Granger association with economic growth. The negative asymmetrical net inflow of foreign direct investment has a Granger association with carbon dioxide. Negatively asymmetric fossil fuel energy consumption has a significant impact and bidirectional association. R&D, fossil fuel energy consumption, and natural resources promote industrialization and raise per capita income, boosting economic growth. However, the findings also suggest that there is a need to consider the limited availability of natural resources and deal with this situation by (a) developing policies that can ensure the efficient use of such rent received from natural resources by importing advanced technologies from developed nations, and (b) using natural resource rents to promote the business environment and attract FDI in China.

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