



WESTERN SYDNEY
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INTERNATIONAL DOCTORAL BUSINESS RESEARCH CONFERENCE 2024

CONVERGENCE OF BUSINESS RESEARCH,
INNOVATION AND SUSTAINABLE DEVELOPMENT

SYDNEY AUSTRALIA
7-8 NOVEMBER 2024



CONFERENCE CHAIRS

Associate Professor Dilupa Nakandala, Associate Dean - Graduate Studies, School of Business, Western Sydney University

Dr Aila Khan, Academic Program Advisor - HDR, School of Business, Western Sydney University

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Dr Louise Ingersoll



We would like to acknowledge the traditional custodians of the land. We pay our respects to the elders past and present, and extend that respect to all Aboriginal people.

With respect for Aboriginal cultural protocol and out of recognition that its campuses occupy their traditional lands, Western Sydney University acknowledges the Darug, Eora, Dharawal (also referred to as Tharawal) and Wiradjuri peoples and thanks them for their support of its work in their lands in Greater Western Sydney and beyond.

7-8 NOVEMBER 2024

SCHOOL OF BUSINESS

WESTERN SYDNEY UNIVERSITY

169, MACQUARIE STREET, PARRAMATTA 2150

AUSTRALIA

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Table of Contents

1. Message from our Chair
2. Message from our Dean
3. Our Keynote Speaker
4. Our Guest Speakers
5. Our Panel Speakers
6. Our International Researchers
7. Conference Program
8. Conference Proceedings

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Message from Our Chairs

Welcome to the inaugural International Doctoral Business Research Conference!

It's an absolute pleasure for us to bring together a wonderful assembly of doctoral researchers from various countries worldwide to present their cutting-edge research at the conference.

The theme for this year's conference, 'Convergence of Business Research, Innovation, and Sustainable Development', aligns with our collective commitment to the United Nations' Sustainable Development Goals (SDGs) through research and innovation. This theme is particularly appropriate for Western Sydney University, which has been named number one in the world in the Times Higher Education (THE) University Impact Rankings, topping the world's leading university sustainability ranking for an unprecedented three years in a row.

To our doctoral presenters from various countries, we are delighted to provide the opportunity for you to present your research, discuss your current progress and future plans, and receive constructive feedback and guidance regarding your current and future work and career perspectives. The conference is designed to ignite bold conversations in keynote speeches and panel discussions and spark collaborations among doctoral researchers to fuel meaningful change. Doctoral workshops are held on both days, and there are awards for recognising excellent doctoral research performance at the conference.

On behalf of our organising team, thank you for joining us and bringing your energy, passion, and insights. Let's make this an unforgettable gathering and springboard for creating economic, social, and environmental impact through doctoral research.

Here's to research, innovation, collaboration, and a sustainable future!



Best Wishes,
Associate Professor Dilupa Nakandala
Associate Dean Graduate Studies
School of Business



Dr Aila Kan
Academic Program Advisor HDR
School of Business



Message from Our Dean

I am delighted to welcome you to the inaugural International Doctoral Business Research Conference. This conference represents a significant milestone for the School of Business. It is a celebration of our dedication and commitment to higher degree research and provides doctoral researchers with the opportunity for interdisciplinary and international connections.

The conference theme, “Convergence of Business Research, Innovation, and Sustainable Development”, reflects the importance of integrating sustainability into our research.

I am particularly pleased to note the truly international nature of this conference, with participants from over 20 countries showcasing the strength of global collaboration. Your research and engagement will enrich our academic community and strengthen the worldwide network of doctoral researchers dedicated to solving the pressing challenges of our time.

On behalf of the School of Business, I extend my thanks to the Conference Organising Committee and all who have contributed to the success of this conference.

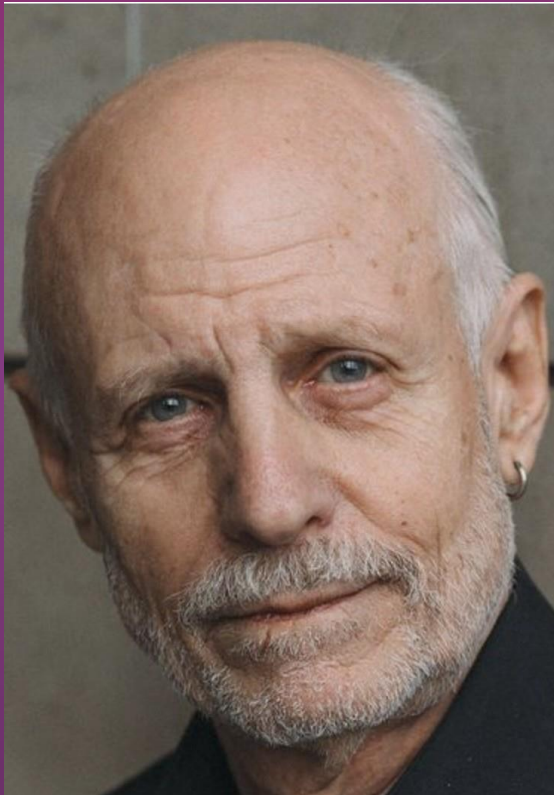
I wish you all a productive conference.



Professor Meg Smith
Interim Dean
School of Business
Western Sydney University



Our Keynote Speaker - Russ W. Belk



Russell W. Belk is the Kraft Foods Canada Chair in Marketing at the Schulich School of Business at York University in Toronto. He attended the University of Minnesota for his bachelor's degree in business and PhD in marketing.[7] Prior to joining the faculty at York University, he served as the N. Eldon Tanner Professor of Business Administration at the University of Utah from 1986 to 2006. Russ Belk's research involves the meanings of possessions, collecting, gift-giving, sharing, and materialism, and his work is often cultural, visual, qualitative, and interpretive. Belk is one of the most prolific contemporary consumer behavior and marketing scholars. He authored one of the seminal papers in marketing field, "Possessions and the Extended Self."

Russ Belk is the co-founder of the Association for Consumer Research Film Festival and has over 550 publications. He is currently on the editorial boards of 20 journals and is Associate Editor of the Journal of Consumer Research. He is past president of the Association for Consumer Research and the International Association of Marketing and Development and is a fellow in the Association for Consumer Research and the American Psychological Association. He has received the Paul D. Converse Award, two Fulbright Fellowships, Society of Marketing Advances Distinguished Marketing Scholar Award, and honorary professorships on four continents. In 2005 he received the Sheth Foundation/Journal of Consumer Research Award for Long Term Contribution to Consumer Research. Besides York, he has also taught at the University of Utah, University of Illinois, Temple University, Claremont Graduate University, and universities in Eastern and Western Europe, Asia, Africa, New Zealand, and Australia.

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Our Guest Speaker - Professor Freya MacMillan



Prof. Freya is Associate Pro Vice-Chancellor Research and Professor in Interprofessional Health Science at Western Syd U, where she develops and implements strategies to increase research quality and performance. She is also an International Union for Health Promotion and Education registered Health Promotion practitioner in Australia. Her research focuses on the prevention of diabetes, promotion of health and wellbeing and prevention of road injury/mortality in young adults, for which she uses community and stakeholder engaged approaches to co-design and implement interventions.



Our Guest Speaker - Professor Janice Aldrich-Wright



Prof. Janice Aldrich-Wright obtained her BAppSc (Hons) from University of Technology, Sydney and PhD from Macquarie University, Sydney. Subsequently she was awarded the Cornforth Medal, for the best PhD in Chemistry in Australia (1993). From 1993- till present she has been an associate lecturer, Lecture, Senior Lecture, Associate Professors and now a Professor in Chemistry and Deputy Dean of the Graduate School at the University of Western Sydney. She is a fellow of the Royal Australian Chemical Institute and a Fellow of the Royal Society of Chemistry. Taught chemistry but quickly established a strong foundation in research and in this capacity, student mentorship.

Janice's work is internationally recognised in the field of anticancer chemistry and pharmacology and she has published widely. Innovative bioinorganic molecular design, elegant synthesis, comprehensive characterisation (including X-ray analysis at the synchrotron) and the biophysical analysis of the interactions of these compounds with DNA using, for example synchrotron radiation circular Dichroism (SRCD - Aarhus, Denmark), exemplify her research while creating a vibrant, productive and collaborative environment for her research students.



Our Panel Speakers



Professor Hari Bapuji, University of Melbourne, Australia

Dr. Hari Bapuji is a Professor in the Department of Management and Marketing, Faculty of Business and Economics, The University of Melbourne, Australia. He has published numerous scholarly articles in many leading management journals, including Academy of Management Annals, Business & Society, Harvard Business Review, Human Relations, Journal of Business Ethics, Journal of International Business Studies, Journal of Management, Journal of Management Studies, Journal of Operations Management, MIT Sloan Management Review, and Organization Studies. Dr. Bapuji has won a number of awards and grants for his research and has authored cases used by thousands of students around the world. He serves as a co-editor of Business & Society, and on the editorial boards of top-tier journals including Organization Studies and Journal of Management Studies.



Associate Professor Sanjoy Kumar Paul, University of Technology Sydney , Australia

Sanjoy Kumar Paul is an associate professor of operations and supply chain management at the University of Technology Sydney (UTS), Sydney, Australia. He has received several recognitions and awards in his career, including the Research with Relevance award, the top 2% of scientists (three times based on citations in 2020-2022) in author databases of standardized citation indicators, the ASOR Rising Star Award, Excellence in Early Career Research Award, the Stephen Fester prize for most outstanding thesis, and high-impact publications award for publishing articles in top-tier journals. He is an associate editor of Business Strategy and the Environment and Global Journal of Flexible Systems Management. He is also an editorial board member and guest editor of several other top- ranked journals.



Our Panel Speakers



Associate Professor Matthew Pepper, School of Business, University of Wollongong, Australia.

His recent research and consultancy activities focus on lean thinking, six sigma based process improvement and supply chain design and optimisation. He has undertaken research and consultancy across a range of industry sectors, including the manufacturing and process industries as well as local government. Most recently, his work has focused on the implementation of continuous improvement in service environments. He is a member of the Editorial Advisory Boards for the Journal of Manufacturing Technology Management, the International Journal of Lean Six Sigma, and the International Journal of Information and Operations Management Education. He is also an Associate Editor for the Global Journal of Flexible Systems Management and the IIMK Society and Management Review Journal.



Professor Lucy Taksa, Department of Management, Deakin Business School, Deakin University

Professor Lucy Taksa is Deputy Director of the Deakin Centre for Refugee Employment Advocacy Training and Education, a Senior Fellow with the Centre for Unframed Thinking at Rennes Business School and a member of Toulouse Business School's International Research Advisory Board both in France and of the Scientific Advisory Committee of the Centre on Global Migration at Gothenburg University in Sweden. She is Editor-in-Chief (with Prof. Amanda Pyman) of the Journal of Industrial Relations, based at Deakin Business School and on the editorial boards of Economic and Labour Relations Review, Equality, Diversity and Inclusion, Relations Industrielles/Industrial Relations, Labour History and Journal of Management History. Prof. Taksa has been an assessor for the Australian Research Council (ARC) since 1998 and was member of the ARC College of Experts (2014-16). She has assessed research grants for funding bodies in Australia, Belgium, Canada, The Netherlands and Poland.

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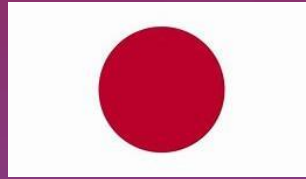
Welcoming Our Researchers from Across the World!



Australia



Canada



Japan



Indonesia



Pakistan



Norway



Lithuania



Sweden



New Zealand



Spain



Ethiopia



China



Vietnam



India



Bangladesh



South Africa



Taiwan



Italy



Malaysia



Sri Lanka

Conference Program

DAY 1: Thursday, 7 November 2024

Onsite Location: Level 9, Parramatta City Campus, 169 Macquarie Street, Parramatta NSW 2150

8:30am - 9:30am	Registration and welcome drinks on arrival
9:30am - 10:30am	Welcome Session Onsite Location: Level 9, Conference Room 2 Zoom Details: https://uws.zoom.us/j/81746952312?pwd=q3XtNda6BVuyL3mHejY0JfDbzzgbG.1&from=addon Meeting ID: 817 4695 2312, Password: 096026 Welcome - Dr Aila Khan (Academic Program Advisor, School of Business, Western Sydney University) and Ms Isha Kharub (Doctoral candidate, School of Business, Western Sydney University) Acknowledgement of Country - Mrs Korinne Bargiel Opening Address - Associate Professor Dilupa Nakandala (Associate Dean - Graduate Studies, School of Business, Western Sydney University) Keynote Address - Professor Freya Macmillan (Associate Pro Vice-Chancellor Research, Western Sydney University) Graduate Research School Dean's Address - Professor Janice Aldrich-Wright (Interim Dean of Graduate Studies, Graduate Research School, Western Sydney University) School of Business Dean's Address - Professor Meg Smith (Interim Dean, School of Business, Western Sydney University)
10:30am - 11am	Morning Tea Onsite Location: Level 9 Foyer Area
11am - 12:30pm	Parallel Paper Sessions - STREAMS 1 to 5
11am - 12:30pm	STREAM 1: Team Motivation and Management Practices Towards Performance Chair: Associate Professor Premaratne Samaranayake Discussants: Dr Abdul Babar and Associate Professor Premaratne Samaranayake

HDR Assistant: Dr Lil Rodriguez-Serna

Onsite Location: Level 9, Conference Room 1

Zoom Details: <https://uws.zoom.us/j/83586729797?pwd=fFF5tvVHPudweMAPObSRyj4KyVIPmr.1>

Meeting ID: 835 8672 9797, Password: 080699

➤ **Paper ID #2449: Exploring the Impact of Gamification on Team Motivation**

Author(s): Dovile Valantiejiene (Kaunas University of Technology, Lithuania), Lina Girdauskiene

➤ **Paper ID #2431W: Linking Sustainable Corporate Strategies with Sustainable Human Resource Practices: The Role of Composition of Board of Directors**

Author(s): Muhammad Haq (Western Sydney University, Australia), Dr Youqing Fan (Western Sydney University, Australia) and Dr Thomas Klikauer (Western Sydney University, Australia)

➤ **Paper ID #2445: A mix-method approach for examining the relationship between Project Management Practices and IT Project Success**

Author(s): Kaniz Fatima (University of Dhaka, Bangladesh), Dr Md. Rakibul Hoque

11am - 12:30pm

STREAM 2: Technology, Culture and Entrepreneurial Performance

Chair: Associate Professor Tendai Chikweche

Discussants: Dr Sabreena Amin and Associate Professor Tendai Chikweche

HDR Assistant: Niranga Silva

Onsite Location: Level 9, Conference Room 2

Zoom Details: <https://uws.zoom.us/j/82559265785?pwd=Xs89BjizkFooJlaMSDtOcqOoZBloB0.1>

Meeting ID: 825 5926 5785, Password: 779423

➤ **Paper ID #2418W: Collaborative Entrepreneurship and Technology Opportunism for Entrepreneurial Success of Tech-Based Startups**

Author(s): Bimali Ranasinghe (Western Sydney University, Australia), Associate Professor Dilupa Nakandala (Western Sydney

	University, Australia) and Associate Professor Tendai Chikweche (Western Sydney University, Australia) ➤ Paper ID #2438: Exploring the Incubation Process Framework (IPF) and Entrepreneurial Culture Development Mechanism (ECDM) for University Based Incubators (UBIs) in Four South African Universities Author(s): Vuyani Rens (University of Cape Town, South Africa) ➤ Paper ID #2422: Effects of Entrepreneurial Orientation on Impact Investing Performance of JSE Listed Companies in South Africa: Moderating Role of Absorptive Capacity Author(s): Mwila Saini (University of Witwatersrand, South Africa), Dr McEdward Murimbika and Professor Bhekinkosi Moyo
11am - 12:30pm	STREAM 3: Workplace Challenges: Negotiations and Adaptations Chair: Professor George Lafferty Discussants: Dr Khalil Al Jerjawi, Dr Ushi Ghoorah Hurrychurn and Professor George Lafferty HDR Assistant: Deshika Nainanayake Nainanayake Pathirannahalage Onsite Location: Level 9, Conference Room 3 Zoom Details: https://uws.zoom.us/j/81376502061?pwd=8nmpauAZfEp8MTOzPPMWPPSkcaOlZa.1 Meeting ID: 813 7650 2061, Password: 876125 ➤ Paper ID #2450W: Reflections on Conducting Photo-Elicitation Interviews to Explore Work-Life Negotiations in Dual-Career Migrant Households Author(s): Erum Sana Nawab (Western Sydney University, Australia), Professor George Lafferty (Western Sydney University, Australia), Dr Sarah Duffy (Western Sydney University, Australia), Dr Michelle O'Shea (Western Sydney University, Australia) and Dr Ayda Succarie (Western Sydney University, Australia) ➤ Paper ID #2455: Sustainable Workplace Adaptations for Menopausal Women: Enhancing Wellbeing and Fostering Decent Work through Organizational Support Author(s): Vanshika Singh (Chandigarh University, India), Kamalpreet Kaur Paposa ➤ Paper ID #244: Philanthropy and Female Labour Force Participation in South Africa

	Author(s): Richard Bobie Manu (University of Witwatersrand, South Africa)
11am - 12:30pm	STREAM 4: Marketing and Consumer Behaviour Chair: Dr Jess Richards Discussants: Professor Siva Muthaly and Dr Jess Richards HDR Assistant: Dr Joe Chen Onsite Location: Level 7, Learning Studio 65 (PC-01.7.65) Zoom Details: https://uws.zoom.us/j/86576140876?pwd=weyxgoWHzFJ8pcSBtqiOx4vjtj8awr.1 Meeting ID: 865 7614 0876, Password: 196163 ➤ Paper ID #2452: Meme Marketing using Ephemeral Content: A PLS-SEM Approach Author(s): Souvik Roy Choudhury (Central University of Jammu, India), Giulia Nevi (Polytechnic University of Marche-Piazzale Martelli, Italy) and Upkar Singh (Indian Institute of Management, India) ➤ Paper ID #2446: Is Podcasting the Antidote to Digital Overload for Building Authentic Brand Relationships? Insights from an Emerging Economy Author(s): Upkar Singh (Indian Institute of Management Jammu, India), Rambabu Lavuri and Souvik Roy Choudhury (Central University of Jammu, India) ➤ Paper ID #2427: An examination of mortgage stress with an advanced machine learning approach: Evidence from Australia Author(s): Yunhe Cheng (University of New South Wales, Australia), Professor Chyi Lin Lee (University of New South Wales, Australia)
11am - 12:30pm	STREAM 5: Sustainable Tourism Chair: Associate Professor Hassan Gholipour Fereidouni Discussants: Dr Pauline Ross and Associate Professor Hassan Gholipour Fereidouni HDR Assistant: Isha Kharub Onsite Location: Level 7, Learning Studio 78 (PC-01.7.78)

	Zoom Details: https://uws.zoom.us/j/89251316834?pwd=0Wgh7v4rVn8drmgglCs2s9seTbMSxB.1 Meeting ID: 892 5131 6834, Password: 748962 ➤ Paper ID #2444: From Awareness to Action: The Role of Self-Determination Theory in Ecotourism-Induced Behavioural Change Author(s): Kaiqiao Zhang (Curtin University, Australia) ➤ Paper ID #2416: A Sustainable Community-Based Agro-Ecotourism (CBAET) Development Model in West Java Indonesia Author(s): Endah Djuwendah (Universitas Padjadjaran, Indonesia), Eliana Wulandari (Universitas Padjadjaran, Indonesia), Tuti Karyani (Universitas Padjadjaran, Indonesia) and Pradono Pradono (Institut Teknologi Bandung, Indonesia) ➤ Paper ID #2423: Modelling Night Occupancy of Domestic Tourists in the South Coast of Sri Lanka Author(s): Udaya Banda Konarasinghe (University of Peradeniya, Sri Lanka)
12:30pm - 1:30pm	Lunch Onsite Location: Level 9 Foyer Area
1:30pm - 3pm	Parallel Paper Sessions - STREAMS 6 to 10
1:30pm - 3pm	STREAM 6: Food Production and Technology Chair: Associate Professor Maria Estela Varua Discussants: Associate Professor Dilupa Nakandala and Associate Professor Maria Estela Varua HDR Assistants: Bimali Ranasinghe and Niranga Silva Onsite Location: Level 9, Conference Room 1 Zoom Details: https://uws.zoom.us/j/81304478235?pwd=x4urE7baGmXgoN9s7jqG4QETR2nyj0.1 Meeting ID: 813 0447 8235, Password: 280429 ➤ Paper ID #2440W: A New Framework for Adopting Genetic Technologies for Food Security Author(s): Riesma Andiani (Western Sydney University, Australia), Associate Professor Alexie Papanicolaou (Western Sydney University, Australia) and Associate Professor Dilupa Nakandala (Western Sydney University, Australia) ➤ Paper ID #2434: Novel food Processing technology adoption in regions: A preliminary study from Tasmania

	Author(s): Lydia Hana (University of Tasmania, Australia), Gemma Lewis, Maria Yanotti and Roger Stanley ➤ Paper ID #2441: Design, Development and Evaluation of Smart Vertical Soilless Farming System for Saffron Cultivation (<i>Crocus Sativus</i> L.) Author(s): Maliqa Majid (Sher-e-Kashmir University of Agricultural Sciences & Technology, India), Junaid N Khan (Sher-e-Kashmir University of Agricultural Sciences & Technology, India), Areeb Majeed (RMIT University, Australia), Shahid Rasool (CSIR-Indian Institute of Interactive Medicine, India), Khalid Masoodi (Sher-e-Kashmir University of Agricultural Sciences & Technology, India) and Haleema Bano (Sher-e-Kashmir University of Agricultural Sciences & Technology, India) ➤ Paper ID #2414: Unravelling the Factors Influencing the Adoption of Extended Producer Responsibility for Fishing Gear: A Multiple-Case Study Author(s): Diana Giovanni Magnano (Norwegian University of Technology, Norway), Associate Professor Siv Marina Flo Grimstad and Associate Professor Richard Glavee-Geo
1:30pm - 3pm	STREAM 7: Gender Related Issues and Challenges Chair: Dr Louise Ingersoll Discussants: Dr Terri Mylett and Dr Louise Ingersoll HDR Assistant: Dr Hannah Cheng Onsite Location: Level 9, Conference Room 2 Zoom Details: https://uws.zoom.us/j/87573276767?pwd=SbOF3SSmLjTibeDcobsRgFfLm0dWzR.1 Meeting ID: 875 7327 6767, Password: 383598 ➤ Paper ID #2442: An Internal-Outsider: An Intersectional and Standpoint Perspective on #MeToo Movement and Sexual Harassment Law in Pakistan Author(s): Sana Mukarram (Macquarie University, Australia), Professor Alison Pullen and Dr. Senia Kalfa ➤ Paper ID #2454: From Stigma to Support: Rethinking Workplace Wellbeing for Women Navigating Gynaecological Health Author(s): Vanshika Singh (Chandigarh University, India), Kamalpreet Kaur Paposa

	➤ Paper ID #243: Giving and Financial Inclusion among Women in Ghana Author(s): Shaibu Salifu (University of Witwatersrand, South Africa)
1:30pm - 3pm	STREAM 8: Business Education Chair: Dr Edward Mariyani-Squire Discussants: Dr Abdul Babar and Dr Edward Mariyani-Squire HDR Assistant: Muhammad Salman Asif Onsite Location: Level 9, Conference Room 3 Zoom Details: https://uws.zoom.us/j/89566866114?pwd=CG40anRjXaDLHbxqfJWpOAGs0ECals.1 Meeting ID: 895 6686 6114, Password: 467096 ➤ Paper ID #246: Impact of AI on Students' Self-Regulated Learning and Academic Performance Author(s): Minh Hoang (Western Sydney University, Vietnam campus), Ngoc Tran, Linh Tran, Han Nguyen and Luan Nguyen ➤ Paper ID #2443: A Conceptual Exploration of Motivation Types as Antecedents to Subsequent Tertiary Learning Outcomes Author(s): Maria (Masha) Neledva (University of Adelaide, Australia), Ankit Agarwal and Dean Wilkie ➤ Paper ID #2448W: Nudging Soft Drink Consumers towards Sugar-Free Options: An Online Experiment Author(s): Sana Yousaf (Western Sydney University, Australia), Dr Michael Lwin (Western Sydney University, Australia) and Dr Aila Khan (Western Sydney University, Australia)
1:30pm - 3pm	STREAM 9: SME Performance Chair: Associate Professor Tendai Chikweche Discussants: Dr Munir Hossain and Associate Professor Tendai Chikweche HDR Assistant: Dr Lil Rodriguez-Serna Onsite Location: Level 7, Learning Studio 65 (PC-01.7.65) Zoom Details: https://uws.zoom.us/j/83451384470?pwd=sXmN6o1iGwD4FCMg97JxKnYebVTGfD.1 Meeting ID: 834 5138 4470, Password: 169460

- **Paper ID #2420:** The Impact of Entrepreneurial Coaching on Small Business: A Case of Business Incubation in South Africa
Author(s): Sandra Ncube (University of Witwatersrand, South Africa), Dr Jabulile Galawe
- **Paper ID #2410:** The Impact of Climate Variability on Poverty Vulnerability Among Smallholders in Ethiopia: Empirical Evidence from Panel Data
Author(s): Desalegn Dawit Chamma (Addis Ababa University, Ethiopia and Visiting Scholar at Jonkoping University, Sweden)
- **Paper ID #249:** Evaluating Industry 4.0 Adoption Towards Sustainable Practices within the Canadian SME Manufacturing Sector
Author(s): Jonathan Parkes (University of Guelph, Canada), Kalinga Jagoda (University of Guelph, Canada), Associate Professor Premaratne Samaranayake (Western Sydney University, Australia) and Sev Nagalingham (University of South Australia, Australia)

1:30pm - 3pm

STREAM 10: Social Robotics

Chair: Associate Professor Felicitas Evangelista

Discussants: Dr Jess Richards and Associate Professor Felicitas Evangelista

HDR Assistant: Deshika Nainanayake Nainanayake Pathirannahalage

Onsite Location: Level 7, Learning Studio 78 (PC-01.7.78)

Zoom Details: <https://uws.zoom.us/j/81687113637?pwd=79sOCaIqBgKYgGpz6nbcuCPpkvaKbv.1>

Meeting ID: 816 8711 3637, Password: 331169

- **Paper ID #2430W:** What's in a Face? Exploring the Aesthetic Qualities of Social Robots Among Older Adults
Author(s): James Sadler (Western Sydney University, Australia), Dr Michael Lwin (Western Sydney University, Australia), Dr Aila Khan (Western Sydney University, Australia) and Dr Omar Mubin (Western Sydney University, Australia)
- **Paper ID #2426W:** Social Robot Interactions: Confirmatory Factor Analysis of Willingness to Accept Social Robot Recommendations
Author(s): Isha Kharub (Western Sydney University, Australia), Dr Michael Lwin (Western Sydney University, Australia), Dr Aila Khan (Western Sydney University, Australia) and Dr Omar Mubin (Western Sydney University, Australia)
- **Paper ID #2439W:** Social Robot Interactions: Typology of Social Robot Mimicry in Purchase Decisions
Author(s): Muhammad Hassan Khan (Western Sydney University, Australia), Dr Michael Lwin (Western Sydney University, Australia),

	Dr Aila Khan (Western Sydney University, Australia) and Dr Omar Mubin (Western Sydney University, Australia)
3pm - 3:30pm	Afternoon Tea Onsite Location: Level 9 Foyer Area
3:30pm - 5pm	Doctoral Workshop 1: THESIS WRITING Onsite Location: Level 9, Conference Room 2 Zoom Details: https://uws.zoom.us/j/88117148733?pwd=lcl9gcEaFPX0v6xocDaw4tLO4CExab.1&from=addon Meeting ID: 881 1714 8733, Password: 214700 Facilitator: Dr Jason Downs from On the Reg <i>Participant Requirements (as requested by the facilitator): All participants should bring some writing with them that they would like to improve. You must have something that you can work on, as the facilitator will be leading exercises for participants. For this session, please ensure that you have access to a laptop or computer (rather than a mobile phone or small tablet) as larger devices are easier to use for writing.</i>
5pm	DAY 1 Wrap up Onsite Location: Same as Above Zoom Details: Same as Above
6:30pm onwards	Conference Dinner Restaurant Location: Sahra by the River, 2/76 Phillip St, Parramatta NSW 2150 Australia

DAY 2: Friday, 8 November 2024

Onsite Location: Level 9, Parramatta City Campus, 169 Macquarie Street, Parramatta NSW 2150

9am - 10am	Registration and welcome drinks on arrival Onsite Location: Level 9 Foyer Area
10am - 11am	Keynote Address - Professor Russell W. Belk Onsite Location: Level 9, Conference Room 2 Zoom Details: https://uws.zoom.us/j/83788697869?pwd=UL0GJhc1vtFasYVRRguSoa6bq9mBDe.1&from=addon Meeting ID: 837 8869 7869, Password: 433973
11am - 11:15am	Morning Tea Onsite Location: Level 9 Foyer Area
11:15am - 12:45pm	Parallel Paper Sessions - STREAMS 11 to 14
11:15am - 12:45pm	STREAM 11: Climate Change, Public Administration and Circular Economy Chair: Professor Kevin Daly Discussants: Dr Mamta Chowdhury and Professor Kevin Daly HDR Assistant: Dr Hannah Cheng Onsite Location: Level 9, Conference Room 1 Zoom Details: https://uws.zoom.us/j/88513110032?pwd=SHmwNjyiKONv3okfAvfcaOFQncjsxA.1 Meeting ID: 885 1311 0032, Password: 183955 ➤ Paper ID #2435: Public Firm Political Lobbying Behaviour and International Climate Change Reporting Standards: The Case of the ISSB's IFRS S2 Author(s): Jin Tang (University of Tasmania, Australia) ➤ Paper ID #2451: Corruption, Political Instability, Climate Change, and Economic Growth: Analysing Causality in Sub-Saharan African Countries

	Author(s): Desalegn Dawit Chamma (Addis Ababa University, Ethiopia and Visiting Scholar at Jonkoping University, Sweden) ➤ Paper ID #2424: Rethinking Cultural Heritage Management: A Circular Economy Perspective Author(s): Alaa Ababneh (Autonomous de Barcelona University, Spain), Ahmad Ababneh (Autonomous de Barcelona University, Spain) and Ahmad Ababneh (Universitat Politecnica de Valencia, Spain)
11:15am - 12:45pm	STREAM 12: Agribusiness and Agri Innovations Chair: Associate Professor Dilupa Nakandala Discussants: Associate Professor Maria Estela Varua and Associate Professor Dilupa Nakandala HDR Assistant: Erum Sana Nawab Onsite Location: Level 9, Conference Room 2 Zoom Details: https://uws.zoom.us/j/83104983210?pwd=Cp64JKoMDZlI3k4kHg5TRnj7iaObTN.1 Meeting ID: 831 0498 3210, Password: 961067 ➤ Paper ID #2415: The Role of Institutions in Fulfilling the Pillar Principles Seed System: Vegetable Farmer Experience in West Java, Indonesia Author(s): Zumi Saidah (Padjadjaran University, Indonesia), Eliana Wulandari (Padjadjaran University, Indonesia), Hepi Hapsari (Padjadjaran University, Indonesia), Raden Trizaldi Prima Alamsyah (Padjadjaran University, Indonesia), Nono Carsono (Padjadjaran University, Indonesia), Shigekazu Kawashima (Miyagi University, Japan) and Sueng Won Kang (University of Tsukuba, Japan) ➤ Paper ID #2417: Understanding Farmers' Behavior Towards Risk Management Practices: Evidence from Chili Farms in West Java, Indonesia Author(s): Eliana Wulandari (Universitas Padjadjaran, Indonesia), Zumi Saidah (Universitas Padjadjaran, Indonesia), Emah (Universitas Padjadjaran, Indonesia), Syukur (Universitas Padjadjaran, Indonesia), Nono Carsono (Universitas Padjadjaran, Indonesia), Shigekazu Kawashima (Miyagi University, Japan) and Sueng Won Kang (University of Tsukuba, Japan) ➤ Paper ID #2419: Rural Entrepreneurship and Diffusion of Agricultural Innovations: A Systematic Review

	Author(s): Trisna Mulyati (University of Technology, Sydney, Australia)
11:15am - 12:45pm	STREAM 13: Investment and Fund Management Chair: Associate Professor Anil Mishra Discussants: Dr Walid Bakry and Associate Professor Anil Mishra HDR Assistant: Dr Joe Chen Onsite Location: Level 7, Learning Studio 65 (PC-01.7.65) Zoom Details: https://uws.zoom.us/j/85773790282?pwd=XnbT8nOdSb5v0H0JlmxklVcintC3Yn.1 Meeting ID: 857 7379 0282, Password: 903145 ➤ Paper ID #2437: Investigating Statistical and Machine Learning Techniques Applied in Time Series Forecasting of Carbon Credit Financial Products Author(s): Tzu-Chi Liu (Fu Jen Catholic University, Taiwan); Kuo-Ching Kao (Fu Jen Catholic University, Taiwan), Pei-Rung Wen (Tamkang University, Taiwan), I-Fei Chen (Tamkang University, Taiwan), Chi-Jie Lu (Fu Jen Catholic University, Taiwan) ➤ Paper ID #2411: Hajj Funds Management in Indonesia Author(s): Muhammad Hafiz Lidinillah (Western Sydney University, Australia) ➤ Paper ID #2447: Price Efficiency or Noise: HFT Impact on Corporate Investment Author(s): Jun Liu (University of Tasmania, Australia)

11:15am - 12:45pm	STREAM 14: Region Based Dynamics Chair: Associate Professor Girijasankar Mallik Discussants: Dr Sabreena Amin and Associate Professor Girijasankar Mallik HDR Assistant: Bimali Ranasinghe Onsite Location: Level 7, Learning Studio 78 (PC-01.7.78) Zoom Details: https://uws.zoom.us/j/89942441728?pwd=eEvOLW2zCdMEIruw5dWL8e9mpcUN9A.1 Meeting ID: 899 4244 1728, Password: 964955 ➤ Paper ID #2433: Residential Construction and Disruptive Events in the Greater Christchurch Region: A Study of the Factors Affecting the Interplay between Timber Framing and Steel Framing Author(s): Himali Wijesinghe (Lincoln University, New Zealand), David Dyason, Tim Baird ➤ Paper ID #2413: Integrating Adaptive Leadership and Ubuntu in South African Public Administration: A Model for Innovation and Inclusivity Author: Lerato Sono (University of Pretoria, South Africa) ➤ Paper ID #2428: Meaning in The Material World: The Effect of Long-Term Orientation and Spirituality on Eudaimonic vs. Hedonic Purchase Motivation Author(s): James Keene (University of Technology Sydney, Australia)
12:45pm - 1:45pm	Lunch Onsite Location: Level 9 Foyer Area
1:45pm - 3:15pm	Parallel Paper Sessions - STREAMS 15 to 18
1:45pm - 3:15pm	STREAM 15: Online Marketing and E-commerce Chair: Associate Professor Felicitas Evangelista

Discussants: Dr Michael Lwin and Associate Professor Felicitas Evangelista

HDR Assistant: James Sadler

Onsite Location: Level 9, Conference Room 1

Zoom Details: <https://uws.zoom.us/j/8715644431?omn=83237413957>

Meeting ID: 871 564 4431, Password: 2125

- **Paper ID #2453:** Exploring Stakeholder Perspectives on Risks of E-Commerce Product Recommendations: A Mixed Methods Study
Author: Eranjana Kathriarachchi (Massey University, New Zealand), Shafiq Alam (Massey University, New Zealand), Salman Rashid (Massey University, New Zealand), Kasuni Weerasinghe (Auckland University of Technology, New Zealand) and David Pauleen (National Chung Cheng University, Taiwan, Republic of China)
- **Paper ID #245:** Artificial Intelligence Adoption and its Effects on Online Retail Marketing Performance in Emerging Markets
Author(s): Takunda Chivizhe (University of Witwatersrand, South Africa)
- **Paper ID #2432:** Exploring Silent Engagement: The Role of Lurkers in Online Brand Communities
Author(s): Lisa Rohanek (University of Technology Sydney, Australia); Associate Professor Daniela Spanjaard (University of Technology Sydney, Australia), Dr Jess Richards (Western Sydney University, Australia) and Associate Professor David Waller (University of Technology Sydney, Australia)

1:45pm - 3:15pm

STREAM 16: Green Innovations and Technologies

Chair: Associate Professor Premaratne Samaranayake

Discussants: Dr Walid Bakry and Associate Professor Premaratne Samaranayake

HDR Assistant: Muhammad Salman Asif

Onsite Location: Level 9, Conference Room 2

Zoom Details: <https://uws.zoom.us/j/81766909906?pwd=9eCUMsuvF3Lfzb2EJt4Autrb6nFgGM.1>

Meeting ID: 817 6690 9906, Password: 993830

- **Paper ID #2412W:** Use of Solar Panels and Life Satisfaction: Evidence from Rural Areas of Pakistan

Author: Mubasher Nazir (Western Sydney University, Australia), Associate Professor Hassan Gholipour Fereidouni (Western Sydney University, Australia) and Dr Aila Khan (Western Sydney University, Australia)

➤ **Paper ID #2436:** Green Electricity Forecasting using Interval-Valued-Based Multi-Step Ahead Scheme and Augmented Features
Author: Tzu-Chi Liu (Fu Jen Catholic University, Taiwan); Kuo-Ching Kao (Fu Jen Catholic University, Taiwan), I-Fei Chen (Tamkang University, Taiwan) and Chi-Jie Lu (Fu Jen Catholic University, Taiwan)

➤ **Paper ID #242:** The Impact of Enterprise Digital Transformation on Green Innovation: A More Comprehensive Perspective
Author: Xinwen Lin (University of Malaya, Malaysia), Yuze He (University of Malaya, Malaysia), Angathevar Baskaran (University of Malaya, Malaysia) and Hongwei Li (University of Malaya, Malaysia and North China Institute of Aerospace Engineering, China)

1:45pm - 3:15pm

STREAM 17: Online Marketing

Chair: Dr Aila Khan

Discussants: Dr Munir Hossain and Dr Aila Khan

HDR Assistant: Isha Kharub

Onsite Location: Level 7, Learning Studio 65 (PC-01.7.65)

Zoom Details: <https://uws.zoom.us/j/87897209580?pwd=waJxBFold4PKW0brUXabK1oUNQHtoa.1>
Meeting ID: 878 9720 9580, Password: 945973

➤ **Paper ID #2421:** Understanding Presumption in Online African Fashion Communities and how it influences Online Purchase Intentions
Author(s): Tendai Mbumbwa (University of Cape Town, South Africa), Professor Nkosivile Madinga and Dr. Nqobile Bundwini

➤ **Paper ID #247:** Factors that lead SMMEs to Adopt Paid Facebook Advertising in South Africa
Author(s): Sendra Mathithibane (University of Cape Town, South Africa); Sendra Dimakatso Mashego and Dr. Nqobile Bundwini

➤ **Paper ID #241:** Traditional Advertising vs. Influencer Marketing in Fashion: Examining the effects of Brand Image and Purchase Intentions
Author(s): Areeba Tariq (FAST National University of Computer and Emerging Sciences, Pakistan), Ayesha Siddiq, Syeda Farheen

	Akhtar and Zoya Akbar
1:45pm - 3:15pm	STREAM 18: Tourism and Cultural Heritage Management Chair: Professor George Lafferty Discussants: Dr Terri Mylett and Professor George Lafferty HDR Assistant: Erum Sana Nawab Onsite Location: Level 7, Learning Studio 78 (PC-01.7.78) Zoom Details: https://uws.zoom.us/j/82027645221?pwd=ApNksavvtiBOS4dS54aecyjluafBsW.1 Meeting ID: 820 2764 5221, Password: 369724 ➤ Paper ID #2425W: Supply Chain Network Centrality and Corporate Greenwashing Behaviour: Evidence from China Author(s): Peipei Sun (Western Sydney University, Australia), Yongqing Li (Western Sydney University, Australia), Kunkun Xue (Zhengzhou University, China) and Xiaoxiao Chen (Zhengzhou University, China) ➤ Paper ID #244W: Measuring Digital Maturity of Organizations in the H&T Industry of Sri Lanka Author(s): Dr Samantha Konarasinghe Wiriththamulle Gamage (Western Sydney University, Australia), Dr Edward Mariyani-Squire (Western Sydney University, Australia) and Dr Francine Garlin (Western Sydney University, Australia) ➤ Paper ID #2429: Not-For-Profit (NFP) Personality and Well-Being in Volunteer Tourism Author(s): Qihao Xiong (Curtin University, Australia), Associate Professor Vanessa Quintal and Professor Ian Phau
3:15pm - 3:30pm	Afternoon Tea Onsite Location: Level 9 Foyer Area
3:30pm - 4:30pm	Doctoral Workshop 2: MEET THE EDITORS: TURNING YOUR THESIS INTO JOURNAL ARTICLES Onsite Location: Level 9, Conference Room 2 Zoom Details: https://uws.zoom.us/j/82586373494?pwd=cZA5RIK1FtfdoQEAvMgYapb2iFx9Ve.1&from=addon Meeting ID: 825 8637 3494, Password: 896898 Panel Speakers:

	Professor Hari Bapuji (University of Melbourne, Australia) Associate Professor Sanjoy Kumar Paul (University of Technology Sydney, Australia) Associate Professor Matthew Pepper (School of Business, University of Wollongong, Australia) Professor Lucy Taksa (Department of Management, Deakin Business School, Deakin University, Australia)
4:30pm	Closing Remarks Onsite Location: Same as Above Zoom Details: Same as Above

INTERNATIONAL DOCTORAL BUSINESS RESEARCH CONFERENCE 2024
PROCEEDINGS EXTENDED ABSTRACTS

Abstract Order

1. Ababna, Alaa - Rethinking Cultural Heritage Management - A Circular Economy Perspective
2. Andiani, Riesma - A new framework for adopting genetic technologies for food security
3. Chamma, Desalegn Dawit - Corruption, Political Instability, Climate Change, and Economic Growth - Analyzing Causality in Sub-Saharan African Countries
4. Chamma, Desalegn Dawit - The Impact of Climate Variability on Poverty Vulnerability Among Smallholders in Ethiopia - Empirical Evidence from Panel Data
5. Cheng, Yunhe - An examination of mortgage stress with an advanced machine learning approach - Evidence from Australia
6. Chivizhe, Takunda Victor - Artificial Intelligence Adoption and its Effects on Online Retail Marketing Performance in Emerging Markets
7. Djuwendah, Endah - A Sustainable Community-Based Agro-ecotourism (CBAET) Development Model in West Java Indonesia
8. Fatima, Kaniz - A mix-method approach for examining the relationship between Project Management Practices and IT Project Success
9. Hana, Lydia - Novel food Processing technology adoption in regions - A preliminary study from Tasmania
10. Hoang, Minh - Impact of AI on Students' Self-Regulated Learning and Academic Performance
11. Kathriarachchi, Eranjana - Exploring Stakeholder Perspectives on Risks of E-Commerce Product Recommendations - A Mixed Methods Study
12. Keene, James - Meaning in The Material World - The Effect of Long-Term Orientation and Spirituality on Eudaimonic vs. Hedonic Purchase Motivation
13. Khan, Muhammad Hassaan - Social Robot Interactions - Typology of Social Robot Mimicry in Purchase Decisions
14. Kharub, Isha - Social Robot Interactions - Confirmatory Factor Analysis of Willingness to Accept Social Robot Recommendations
15. Konarasinghe, Udaya Banda - Modelling Night Occupancy of Domestic Tourists in the South Coast of Sri Lanka
16. Konarasinghe, Wiriththamulle Gamage Samanthi - Measuring Digital Maturity of Organizations in the H&T Industry of Sri Lanka
17. Kunkun, Xue - Supply chain network centrality and corporate greenwashing behavior - Evidence from China
18. Lidinillah, Muhammad Hafiz - Hajj Funds Management in Indonesia
19. Lin, Xinwen - The Impact of Enterprise Digital Transformation on Green Innovation - A More Comprehensive Perspective
20. Liu, Tzu-Chi - Green electricity forecasting using interval-valued-based multi-step ahead scheme and augmented features

21. Liu, Tzu-Chi - Investigating statistical and machine learning techniques applied in time series forecasting of carbon credit financial products
22. Liu, Jun - Price Efficiency or Noise - HFT Impact on Corporate Investment
23. Magnano, Diana Giovanni - Unravelling the Factors Influencing the Adoption of Extended Producer Responsibility for Fishing Gear - A Multiple-Case Study
24. Majid, Maliqa - Design, development and evaluation of smart vertical soilless farming system for saffron cultivation (*Crocus sativus* L.)
25. Manu, Richard Bobie - Philanthropy and female labour force participation in South Africa
26. Mashego, Sendra Dimakatso - Factors that lead SMMEs to adopt paid Facebook advertising in South Africa
27. Mbumbwa, Tendai - Understanding presumption in online African fashion communities and how it influences online purchase intentions
28. Mukarram, Sana - An Internal-Outsider- An Intersectional and Standpoint Perspective on #MeToo Movement and Sexual Harassment Law in Pakistan
29. Mulyati, Trisna - Rural Entrepreneurship and Diffusion of Agricultural Innovations - A Systematic Review
30. Nawab, Erum Sana - Reflections on Conducting Photo-Elicitation Interviews to Explore Work-Life Negotiations in Dual-Career Migrant Households
31. Nazir, Mubasher - Use of Solar Panels and Life Satisfaction - Evidence from Rural Areas of Pakistan
32. Ncube, Sandra - Entrepreneurial Coaching on Small Business - A Case of Business Incubation in South Africa
33. Neledva, Maria (Masha) - A conceptual exploration of motivation types as antecedents to subsequent tertiary learning outcomes
34. Parkes, Jonathan - Evaluating Industry 4.0 adoption towards sustainable practices within the Canadian SME manufacturing sector
35. Ranasinghe, Bimali - Collaborative entrepreneurship and technology opportunism for entrepreneurial success of tech-based startups
36. Rens, Vuyani - Exploring the Incubation Process Framework (IPF) and Entrepreneurial Culture Development Mechanism (ECDM) for University Based Incubators (UBIs) in Four South African Universities
37. Rohanek, Lisa - Exploring Silent Engagement - The Role of Lurkers in Online Brand Communities
38. Roychoudhury, Souvik - Meme Marketing using Ephemeral Content - A PLS-SEM Approach
39. Sadler, James - What's in a Face - Exploring the Aesthetic Qualities of Social Robots Among Older Adults
40. Saidah, Zumi - The Role of Institutions in Fulfilling the Pillar Principles Seed System - Vegetable Farmer Experience in West Java, Indonesia
41. Saini, Mwila - Effects of entrepreneurial orientation on impact investing performance of JSE listed companies in South Africa: moderating role of absorptive capacity
42. Salifu, Shaibu - Giving and Financial Inclusion among Women in Ghana

43. Singh, Vanshika - From Stigma to Support - Rethinking Workplace Wellbeing for Women Navigating Gynaecological Health
44. Singh, Upkar - Is podcasting the antidote to digital overload for building authentic brand relationships - Insights from an emerging economy
45. Singh, Vanshika - Sustainable Workplace Adaptations for Menopausal Women - Enhancing Wellbeing and Fostering Decent Work through Organizational Support
46. Sono, Lerato - Integrating Adaptive Leadership and Ubuntu in South African Public Administration - A Model for Innovation and Inclusivity
47. Tariq, Areeba - Traditional Advertising vs. Influencer Marketing in Fashion - Examining the effects of Brand Image and Purchase Intentions
48. Valantiejiene, Dovile - Exploring the Impact of Gamification on Team Motivation
49. Wijesinghe, Himali - Residential construction and disruptive events in the Greater Christchurch region - A Study of the Factors affecting the interplay between timber framing and steel framing
50. Wulandari, Eliana - Understanding Farmers' Behavior Towards Risk Management Practices - Evidence from Chili Farms in West Java, Indonesia
51. Xiong, Qihao - Not-For-Profit (NFP) Personality and Well-Being in Volunteer Tourism
52. Yousaf, Sana - Nudging Soft Drink Consumers towards Sugar-Free Options - An Online Experiment
53. Zhang, Kaiqiao - From Awareness to Action - The Role of Self-Determination Theory in Ecotourism-Induced Behavioural Change

Rethinking Cultural Heritage Management: A Circular Economy Perspective

Alaa Ababneh ¹, Ahmad Ababneh ²

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Introduction

The concept of the circular economy has gained significant attention in recent years as a means to address the environmental and sustainability challenges faced by various industries. The cultural heritage sector is not exempt from these concerns, and there is growing interest in exploring how the principles of the circular economy can be applied to the preservation, management, and reuse of cultural assets.

Review research examines the ways in which the circular economy can be integrated into the cultural heritage sector. The circular economy in this context refers to the implementation of strategies and practices that aim to extend the life cycle of cultural assets, minimize waste, and promote the reuse and recycling of materials and resources. This approach is particularly relevant as the cultural heritage sector often deals with the conservation, restoration, and adaptive reuse of historic buildings, artifacts, and other cultural resources.

The research discusses key aspects of the circular economy in cultural heritage, including the adaptive reuse of historic structures, the reuse and recycling of materials, the adoption of sustainable conservation practices, and the role of digital technologies in documenting and preserving cultural assets. The review research highlights the importance of community engagement and education in fostering a circular economy approach within the cultural heritage sector.

The integration of circular economy principles into the cultural heritage sector offers a holistic approach to the preservation, management, and reuse of cultural assets, which can contribute to the broader goals of environmental sustainability and resource conservation. This review research provides a comprehensive understanding of the current state of research and practice in this emerging field and identifies potential areas for further exploration and implementation.

Literature Review

Existing research on the circular economy in the context of cultural heritage highlights several key aspects of this emerging field. Studies have examined the potential for adaptive reuse of historic structures, as this approach can preserve the embodied energy and resources used in the original construction, reducing the need for new materials and energy-intensive demolition (Plevoets & Van Cleempoel, 2011; Hassan, 2023). Additionally, scholars have explored the reuse and recycling of materials, such as stone, wood, and metals, during the conservation and restoration of cultural assets as a means to minimize waste and the environmental impact of new material extraction (Vashishth & Goel, 2023; Munaro et al., 2020). The literature also emphasizes the importance of adopting sustainable conservation practices, including the use of eco-friendly materials and techniques, the implementation of energy-efficient building systems, and the development of maintenance and repair strategies that extend the lifespan of cultural assets (O'Grady et al., 2021; Salim et al., 2021). Researchers have investigated how digital technologies, such as Building Information Modeling (BIM), virtual reality, and 3D scanning, can contribute to the circular economy in cultural heritage by enabling accurate documentation, preservation, and virtual reuse of cultural resources (Nobre & Tavares, 2021; Tobiasz et al., 2019).

The review of the literature also highlights the importance of community engagement and education in fostering a circular economy approach within the cultural heritage sector. By

involving local communities in the conservation, reuse, and interpretation of cultural assets, the sector can promote sustainable stewardship and resource management practices (Munaro et al., 2020; Munaro et al., 2020).

The integration of circular economy principles into the cultural heritage sector offers a holistic approach to the preservation, management, and reuse of cultural assets, which can contribute to the broader goals of environmental sustainability and resource conservation. The current body of research provides valuable insights into the challenges, strategies, and best practices in this emerging field, while also identifying potential areas for further exploration and implementation.

Methodology

The research methodology will involve a comprehensive literature review of scholarly articles, case studies, and industry reports related to the application of circular economy principles in the cultural heritage domain. The review aimed to identify the key aspects, challenges, and best practices in this emerging field.

Results

The research discusses key aspects of the circular economy in cultural heritage, including the adaptive reuse of historic structures, the reuse and recycling of materials, the adoption of sustainable conservation practices, and the role of digital technologies in documenting and preserving cultural assets. The review also highlights the importance of community engagement and education in fostering a circular economy approach within the cultural heritage sector.

Implications to Theory and Practice

The integration of circular economy principles into the cultural heritage sector offers a holistic approach to the preservation, management, and reuse of cultural assets, which can contribute to the broader goals of environmental sustainability and resource conservation. This review research provides a comprehensive understanding of the current state of research and practice in this emerging field and identifies potential areas for further exploration and implementation.

Conclusion

The findings of this review research will suggest that the application of circular economy principles in the cultural heritage sector can lead to more sustainable and resource-efficient practices, contributing to the long-term preservation and adaptive reuse of cultural assets. The research highlights the need for continued interdisciplinary collaboration and the development of innovative strategies to fully realize the potential of the circular economy in the cultural heritage domain.

Keywords: Circular economy, Cultural heritage, Sustainability, Adaptive Reuse, Digital technologies, Conservation practices.

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A new framework for adopting genetic technologies for food security

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Introduction

The increasing complexity of global challenges, exacerbated by climate change, requires innovative solutions across multiple sectors, including agriculture (Intergovernmental Panel On Climate Change, 2022). The threat of emerging pathogens and expanding pest ranges demands the adoption of new technologies, some which, like genetic engineering, may be controversial (Anderson, 2019). While genetic technologies offer promising solutions, their adoption in agriculture has been slow and controversial due to its negative image related to its health and environmental risk for the public (Graff et al., 2009; Qaim, 2020).

As shown from the opposing views of the United States and European Union, the complexity of genetic technologies contributes to decision-makers not being able to reach a consensus on adopting genetic technologies (Koralesky et al., 2023; Twardowski & Małyska, 2015). To address this, a new framework that fosters transparency and collaboration for informed decision-making is needed. The proposed framework emphasises the importance of co-engaging related stakeholders, including researchers, producers, regulators, and consumers, in a co-creation process that promotes addresses concerns during the research and development phase of products in order to facilitate the development of socially adoptable and sustainable solutions for agriculture.

Literature review

In developing a new framework for controversial technologies, we expand on the Innovation Decision Process and Consequences of Innovation framework by Rogers (1995) and the Theory of Planned Behaviour by Ajzen (1991). The Innovation Decision Process framework outlines the stages of introducing and adopting an innovation of Knowledge, Persuasion, Decision, Implementation, and Confirmation. The studies on Consequences of Innovation include three dimensions: desirability about the effects resulted by introducing a technology; directness about the immediacy of the effect of using the technology; predictability, about the broader consequences, whether they could be anticipated or unanticipated. The Theory of Planned Behaviour explains that stronger intentions to engage in a behaviour are associated with more favourable attitudes towards behaviour, subjective norms, and perceived behavioural control.

Methodology

In this stage of our research, we applied the Theory Synthesis method, which integrates and reconciles multiple theoretical perspectives to create a new framework that adds value beyond existing theories (Pound & Campbell, 2015) and modelled the consequences component that decision makers use to adopt a new technology.

Results

By incorporating the theories mentioned in the second section of this paper, we synthesised a framework of how decision makers creating their intention to adopt or use a product based on the consequences of the product. Our argument is that in the decision making process, the knowledge is created when researchers discovered technologies that can be utilised to develop products to be delivered to the decision makers to adopt. Each technology and product has their own set of properties and consequences, which become the consideration to decide, are resulted from those properties. However, the complexity may arise if decision makers are not

well informed about the properties and consequences of technology and its product. Their decision may deviate because they label the consequences interchangeably. The knowledge vacuum in the side of decision makers may resulted inaccurate decision since the decision makers may perceive it as not aligned with their personal values encompassing prejudices, subjective norms, and perceived behavioural control, can further influence the decision-making process. Eventually, the limited knowledge accessible to decision-makers can lead to a failed persuasion stage and hinder their intention to adopt.

To support our consequences-based framework, that is basically combining the components that can be designed, regulated, and controlled, we recognise various interconnected components play crucial roles. The process, which involves steps to achieve a desired outcome, is determined by the technology (a discovery to be applied) and specification (the traits designed to be attached to the product). This process, incorporated to a species, leads to an actual product that can be available in the market. The product creation is aimed to address challenge and ones the product has been established, based on a particular practice relevant to the local context, we will be able to apply the product. As a result, we can assess the impact of product application, which we refer to as consequences. In conclusion, we could define the overarching relationship as: Consequences = f (species, technology, specification, practice, challenge).

Implications to theory and practice

Our novel framework will be integrated into a new model of agricultural extension and contribute to understand how the adoption of controversial innovations can be better managed.

Conclusion

With our new framework, decision makers can make better technology adoption decisions by understanding the properties of different technologies and their potential consequences. Ensuring decision makers have access to this knowledge is crucial in encouraging their willingness to adopt new technologies.

Keywords: genetics; controversial technologies; innovation adoption; consequences; science technology and society studies

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Corruption, Political Instability, Climate Change, and Economic Growth: Analyzing Causality in Sub-Saharan African Countries

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Introduction

The importance of understanding the relationship between climate change, institutional quality, and economic growth has grown significantly, particularly in the context of Sub-Saharan Africa (SSA). SSA is among the most climate-vulnerable regions, with its economies largely dependent on sectors such as agriculture, which are directly affected by changing climate patterns (Sono et al., 2021). Simultaneously, the region is often characterized by weak institutional frameworks, marked by high levels of corruption and political instability, further hindering sustainable economic development and slowing economic growth (Bruinshoofd, 2016; d'Agostino et al., 2016; Fosu, 1992). Against this backdrop, investigating how these dynamics influence growth is not only timely but critical for shaping policies that foster resilience in the face of environmental and governance challenges.

Motivated by the growing recognition of the intertwined nature of these issues, this study explores the dual impact of climate change factors, such as CO₂ emissions, and institutional qualities, like corruption and political instability, on economic growth in SSA. Previous research has typically examined these relationships in isolation, leaving a gap in understanding how they interact in regions particularly prone to economic and environmental vulnerabilities. By addressing this gap, this study aims to contribute to academic and policy discussions, offering insights into how governments and stakeholders can approach economic development in a manner that considers institutional strength and environmental sustainability.

Literature review

The relationship between economic growth, institutional quality, and environmental factors has garnered significant attention in recent literature. Various studies have investigated how corruption and political instability affect economic growth, particularly in developing regions like Sub-Saharan Africa (SSA). According to Acemoglu et al. (2012), weak institutions—characterized by corruption and political instability—hinder economic progress by undermining trust and deterring investment. Additionally, the Environmental Kuznets Curve hypothesis suggests that economic growth initially increases pollution until a certain income level is reached, after which cleaner technologies and stronger regulations reduce environmental degradation (Balsalobre-Lorente et al., 2022; Grossman & Krueger, 1995). However, this pattern has not always been clear for SSA, where institutional weaknesses often exacerbate environmental and economic challenges (Asongu, 2013)

Stern et al. (2006) and Chamma (2024) emphasizes that climate change negatively affects growth, particularly in vulnerable regions like SSA, which depend heavily on agriculture and fossil fuel energy, implying the rising concerns about CO₂ emissions and their effects on development. Moreover, institutional quality plays a crucial role in mitigating the impacts of climate change. Studies by Nordhaus (2019), Zhang et al. (2022), Khan and Rana (2021), and others suggest that countries with stronger governance can better adopt policies that mitigate climate impacts. At the same time, regions with weaker institutions, such as the SSA, face greater environmental and economic risks.

Methodology

Methodology combines structural equation modeling (SEM) with the estimation of the two-step system-generalized method of moments (System GMM). Panel data from 43 Sub-Saharan

African (SSA) countries were used from 1996 to 2019, with economic variables averaged over two-year intervals to reduce short-term volatility and capture long-term trends. SEM was used to capture the complex interrelationships between variables such as GDP per capita, CO₂ emissions, corruption, political instability, temperature, capital, and labor. The two-step GMM technique was applied to address potential endogeneity issues, ensuring robust and efficient estimates. System GMM includes both level and difference equations, allowing for better handling of persistence in the variables. Various diagnostic tests were conducted to validate the model's reliability, including the Hansen test for instrument validity and the Arellano-Bond test for serial correlation. The results indicated that the first-order autocorrelation (AR(1)) was significant at 0.001, while the second-order autocorrelation (AR(2)) was found to be 0.56, suggesting that there is no significant second-order autocorrelation. Additionally, the Hansen test yielded a p-value of 0.13, indicating that the instruments used in the model are valid.

Results

Results show the dynamic interplay between economic growth, institutional quality, and Sub-Saharan Africa (SSA) climate change. The following results are plausible: the lagged dependent variable for GDP per capita (0.46) reveals positive persistence over time, indicating that previous levels of economic performance significantly influence current levels. Similarly, CO₂ emissions (0.16) positively and significantly affect economic growth, highlighting the region's reliance on fossil fuel-intensive energy sources. In contrast, political instability contributes to a decrease in growth by a factor of -0.38 , while corruption lowers growth by -0.73 , underscoring the detrimental impact of weak governance. Moreover, the level and differenced equations estimate the nuanced relationships, showing that temperature has a marginal negative effect on GDP per capita, although not statistically significant, while institutional instability persists over time. On the other hand, a 1% increase in corruption levels in the previous period results in a 0.9% increase in corruption levels in the current period. In comparison, the previous political instability decreases the current political instability by 0.3%. This suggests that prior instances of political instability tend to reduce the intensity of current political instability.

Implications to theory and practice

The findings of this study have important theoretical and practical implications for economic development, governance, and environmental management in Sub-Saharan Africa (SSA). From a theoretical perspective, the study confirms the critical role of institutional quality—specifically corruption and political instability—in shaping economic growth, which aligns with institutional economic theories like those of North (1990) and Acemoglu et al. (2001). The persistence of economic conditions over time, as highlighted by the positive relationship between GDP per capita and its lagged value, supports endogenous growth theories showing how weak institutional frameworks hinder SSA's ability to transition toward cleaner economic activities, suggesting a modified Environmental Kuznets Curve dynamic in these contexts.

In practice, the study underscores the need for governance reforms to stimulate economic growth and environmental sustainability. Policies targeting corruption and political instability could attract foreign investment and reduce the reliance on carbon-intensive growth models by decoupling growth from CO₂ emissions through promoting renewable energy, which is essential for SSA's sustainable development.

Conclusion and Policy Recommendation

This study highlights the significant impact of institutional quality, such as corruption and political instability, on economic growth in Sub-Saharan Africa (SSA), emphasizing that weak institutions are a primary impediment to sustainable development. The results show that corruption and instability hinder growth, while persistent economic conditions and CO₂

emissions have a more complex but critical relationship with institutional factors and environmental sustainability.

Moreover, the findings reveal that improving and strengthening governance structures—by ensuring transparency, accountability, inclusiveness, and a focus on sustainability—is crucial for driving economic growth while simultaneously reducing the carbon intensity of that growth. This approach functions effectively by creating an environment where clear regulations are enforced, corruption is minimized, and political instability is reduced. In such a setting, resources are managed efficiently, and sustainable practices are incentivized, leading to increased investment in green technologies and reduced emissions. Policymakers in SSA must address governance reforms alongside climate change adaptation strategies to foster long-term, sustainable development and resilience in the face of environmental and economic challenges.

Keywords: Institutional Quality; Climate Change; Economic Growth; SSA

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The Impact of Climate Variability on Poverty Vulnerability Among Smallholders in Ethiopia: Empirical Evidence from Panel Data

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Introduction

Climate variability significantly affects economic growth and increases poverty vulnerability in sub-Saharan Africa and other developing regions, particularly impacting agriculture and water resources (Herrera et al., 2018; Nakamura et al., 2020). In Ethiopia, increased temperature, low rainfall, and extreme weather events like increased temperature, droughts, and floods have drastically reduced agricultural productivity, pushing millions into poverty, with smallholder farmers being especially hard-hit (Pardoe et al., 2018; Singh et al., 2016). In association with other factors, these conditions lead to higher consumption volatility and recurrent poverty among smallholders, influenced by both idiosyncratic (e.g., household member illness, unemployment, disease and loss of livestock, crop failure) and covariate (e.g., economic changes, climate events) shocks. These shocks' specific effects on Ethiopia's poverty require a more detailed study (Günther & Harttgen, 2009; Nakamura et al., 2020).

While studies on poverty vulnerability are extensive (Abeygunawardena et al., 2004; Chaudhuri et al., 2002; Dercon & Krishnan, 2000; Günther & Harttgen, 2009; Imai et al., 2011; Williams et al., 2018), the specific roles of socioeconomic and demographic factors among smallholders—those cultivating less than two hectares of land—in rural and small-town Ethiopia remain insufficiently examined. Moreover, previous studies have often neglected the impact of climate variability, which plays a crucial role in exacerbating the challenges faced by these communities.

Thus, this study aims to investigate how climate variability impacts households' vulnerability to poverty, specifically through its effects on per capita consumption, while accounting for idiosyncratic and covariate shocks and comparing the relative contributions of climate variability and other socioeconomic factors to households' vulnerability to poverty, distinguishing the specific impacts of climate-related variables from non-climate-related factors. Furthermore, this study enhances the literature by using a two-level random coefficient model for detailed household and regional analysis, employing short panel data to track changes over time, and integrating climate factors to address challenges smallholders face in Ethiopia.

Literature review:

Vulnerability is a system's susceptibility or inability to respond to climate change, variability, and extreme events (Brooks, 2003). Climate variability refers to short-term changes in temperature and precipitation and extreme weather events like floods and droughts (IPCC, 2018). This makes poor households more vulnerable to poverty and food insecurity, especially among those near the poverty line, as they are more susceptible to both idiosyncratic and covariate shocks (Thornton et al., 2014). As a result, changes in food prices can adversely affect household consumption (Skoufias et al., 2012).

Deressa et al. (2009), demonstrating that increased climate variation significantly impacts household livelihoods, especially in lowland areas, with high rainfall variability having a more severe effect on consumption levels than pests or insects, for instance, in the case of Ethiopia (Hill & Porter, 2017). Thus, managing covariate shocks requires a holistic approach, while local efforts and indigenous knowledge are effective for idiosyncratic shocks (Günther & Harttgen, 2009). Agricultural shocks reduce household income and exacerbate poverty, although off-farm income activities can help mitigate these effects.

Method:

The estimation mechanism for measuring household-specific and region-level shocks builds on previous work on poverty vulnerability by analyzing per capita consumption (Chaudhuri et al., 2002). Using a multilevel (two-level) random coefficient model with hierarchically structured panel data, it assesses variables at different levels (Hox et al., 2017). At level 1, household-level data is analyzed, while level 2 focuses on region-level data. This method estimates the expected mean and variance of per capita consumption at both levels, ultimately determining poverty vulnerability.

Data and Variables

The study uses three-wave panel data from the Ethiopian Socioeconomic Survey (ESS) that was collected by the World Bank Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA) and the Ethiopian Central Statistical Agency (CSA) every two years in 2011/12, 2013/14, and 2015/16 by revisiting the same households in all waves. Climate variability data was obtained from the Ethiopian National Meteorological Agency and aligned in two-year intervals to match the ESS intervals. Average temperature and precipitation variation were constructed to correspond with the ESS data, and the two data sets were linked using available geo-location data: latitude and longitude. Finally, this study used 3,313 balanced panel households to estimate the effects of climate variability on per capita consumption and, in turn, poverty vulnerability. Household-level variables considered in this study include demographic, economic, and other factors, while region-level variables include climate variability, price fluctuations, and agroecological conditions.

Results

The study demonstrates that climate changes, including increased temperatures and precipitation variability, significantly reduce households' per capita consumption by lowering agricultural productivity. Additionally, agroecological conditions, such as being in lowland areas, further decrease consumption levels and increase volatility due to high temperatures combined with low precipitation. Other factors such as increased adult equivalent household size, dependency ratio, lack of access to credit, and age are negatively associated with the per capita household consumption and all aggravated vulnerability to poverty. The finding shows that about 23% of the households are vulnerable to poverty in the next three or more years, with a likelihood of 20.6% falling below the poverty line. Regarding the magnitude of the shocks, the idiosyncratic (household level) vulnerability is 13.2%. In comparison, the covariate (regional level) vulnerability is 19.1%, with a 20.6% probability of falling below poverty in the following three or more years. Regarding the sources of vulnerability, such as poverty and risk, the former is more predominant than the latter.

Implications to theory and practice

The study offers important theoretical implications by integrating socioeconomic and climate factors into the analysis of poverty vulnerability among smallholders, contributing to a more comprehensive understanding of rural poverty dynamics (Adger et al., 2003; Gelman, 2007). From a policy perspective, the findings emphasize the need for customized interventions that address the unique challenges faced by smallholders, such as implementing climate adaptation and mitigation strategies to enhance resilience against environmental shocks and strengthening the capacity of vulnerable smallholders to adapt to changes in their economic conditions and social environments. Furthermore, the study suggests improving credit access, promoting off-farm activities, and strengthening social safety nets to enhance resilience and reduce poverty vulnerability.

Conclusion

This study shows how climate variability and socioeconomic issues affect household per capita consumption and increase poverty risk, especially in arid regions and for female-headed households. Factors such as high temperature, dependency ratios, and limited rainfall and credit access intensify poverty vulnerability, with covariate shocks having a more substantial effect than idiosyncratic ones. Thus, Ethiopia's primary vulnerability lies in climate variability, surpassing other factors. The findings call for effective adaptation strategies and more research on climate's long-term impact on consumption and poverty.

Keywords: Climate variability, Poverty Vulnerability, Consumption Dynamics, Multilevel, Idiosyncratic shock, Covariate shocks

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An examination of mortgage stress with an advanced machine learning approach: Evidence from Australia

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Introduction

The United Nations (2023) indicates that 1.6 billion individuals are currently experiencing housing stress worldwide, projected to soar to 3 billion by 2030. Mortgage stress is the prerequisite for mortgage default. However, the performance of the prevailing mortgage stress prediction model is severely compromised due to overlooking early mortgage stress, non-financial variables, dynamic of those variables and utilisation of machine learning (ML). Using machine learning, the study identifies key attributes of at-risk borrowers, highlighting non-financial factors that traditional models have often overlooked. It also examines how these attributes have shifted before and after COVID-19, providing new insights into evolving risks in the Australian mortgage market. This holistic approach enhances the early detection of at-risk borrowers, informs the creation of robust housing policies, and ultimately contributes to greater financial stability and resilience among homeowners.

Literature Review

Extensive studies have examined the most influential borrower attributes in mortgage defaults, with differing views on the importance of equity (e.g., Foster and Van Order 1984) versus liquidity (Lambrecht et al. 1997). Moreover, option-based models were explored by Foster and Van Order (1984). Mortgage stress, involving psychological challenges related to affordability and liquidity, differs significantly from mortgage default, which arises when these issues escalate (e.g., Bullock 2018). However, research predominantly focuses on mortgage default determinants, overlooking early predictors of mortgage stress. Moreover, while traditional studies have concentrated on equity and liquidity, recent research emphasises the significant impact of non-financial variables on mortgage stress, particularly during and after COVID-19 (e.g., Barro et al. 2020). This highlights a dynamic interaction between multiple variables. However, current research largely adheres to a static analysis framework and overlooks the non-financial variables.

Importantly, the dynamics of mortgage stress indicate the presence of non-linearity in its determinants. This necessitates a comprehensive assessment model similar to credit scoring but includes non-financial variables. ML has shown significant effectiveness in modelling non-linearity determinants (Medeiros Assef and Arns Steiner 2020). However, few studies have leveraged ML to model mortgage stress precisely, although ML has been applied for credit scoring that largely ignores non-financial variables (e.g., Thomas et al. 2017).

Method & Feasibility

Methodology

The Household, Income, and Labour Dynamics in Australia (HILDA) Survey (Department of Social Services 2023) is identified as an ideal data source. Initially, 196 variables are manually selected based on the key borrower attributes identified from the literature review, covering both financial and non-financial attributes. Logistic regression (LR) is then used to identify the significant variables in mortgage stress prediction. Critical variables that are either representative or statistically significant in the preliminary test will be included in the subsequent final evaluation. A combination of homogeneous and heterogeneous ensemble models further analyses the correlation of selected variables with mortgage stress. LR is used as the meta-learner, with neural networks (NNs) (Multi-Layer Perceptron (MLP)) and decision trees (DTs) (XGBoost) as base-learners. Techniques like Synthetic Minority Oversampling Technique (SMOTE), One-Hot Encoding, Hyperparameter Optimisation, and Cross-Validation

enhance model precision. SHapley Additive exPlanations (SHAP) analysis decodes the impact of variables, aiming to precisely evaluate their influence and address vulnerabilities in borrower cohorts, particularly in the dynamic context of the COVID era. The weight assigned to each base-learner will be examined to compare the impacts of financial and non-financial borrower attribute groups.

Results & Implications

Results

Firstly, cohorts at heightened risk of mortgage stress include those with higher credit card debt, more spending on cigarettes and communication services, and lower expenditures on clothing, education and insurance. These cohorts also feature higher CLTV or DSR, lower household net worth, gross wages, or financial assets, secure mortgages from smaller institutions, or variable interest rates. Non-financially, they are often unmarried, male, in poorer health, not employed full-time or in managerial/professional roles, concerned about job loss, have lower educational levels, live in resource-scarce areas, and exhibit traits such as being sloppy, fretful, and less orderly.

There has been a shift post-COVID, where non-financial variables now exhibit stronger correlations with mortgage stress than financial variables, marking a significant change from the pre-COVID period when the impact was more balanced. Specifically, non-financial base-learners play a dominant role in meta-learner prediction in the post-COVID period.

Lastly, in post-COVID, there are noticeable shifts in the predictors of mortgage stress. Household gross income and expenditures on clothing, footwear, insurance, and communication services have become more critical. Interest rate types, particularly fixed and mixed rates, now show a clearer negative correlation with mortgage stress, while the CLTV ratio demonstrates a more explicit positive correlation. Increased non-linearity in health-related variables suggests that simple linear algorithms may no longer suffice. Additionally, employment status and traits like efficiency, fretfulness, and sympathy have become more significantly associated with mortgage stress.

Implications

Firstly, this study pioneers the integration of both financial and non-financial borrower characteristics. Secondly, it is the first to examine the dynamics of mortgage stress determinants across pre- and post-COVID conditions. Lastly, this study makes significant methodological contributions by employing advanced ML techniques, capturing non-linear relationships in mortgage stress determinants for the first time. These insights enhance the understanding of mortgage stress dynamics and guide the development of holistic assessment tools and policies. They hold invaluable implications for policymakers, financial institutions, and individuals.

Keywords: Mortgage Stress; Non-Financial Borrower Attributes; COVID-19; Machine Learning; Ensemble Model.

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Artificial Intelligence Adoption and its Effects on Online Retail Marketing Performance in Emerging Markets.

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Introduction and Background

The rapid advancement of artificial intelligence (AI) technologies has profoundly transformed various sectors, including the online retail sector (Reddy & Singh, 2022). This empirical quantitative study is positioned in the digital marketing field and it examines, Artificial Intelligence adoption and its effect on online retail marketing performance in emerging markets. The study explores the effect of four key AI digital assistants, chatbots, semantic analysis, voice recognition, and image recognition, on non-financial marketing performance metrics, specifically service quality and customer satisfaction, in the emerging markets of Africa, Kenya, Nigeria, and South Africa.

The adoption of AI in online retail has been heralded as a game-changer, promising customer satisfaction and improved service quality (McLean & Ose-Frimpong, 2019). However, the extent to which these technologies influence service quality and customer satisfaction in emerging markets remains underexplored (Noor et al., 2022). This research aims to fill this gap by providing empirical evidence on the subject, thereby contributing to the growing body of knowledge in AI.

Literature Review

The existing literature highlights the transformative potential of AI in enhancing various aspects of retail marketing (Maduku et al, 2023). Chatbots, for instance, have been shown to improve customer service by providing instant responses to queries and facilitating transactions (**Luo et al., 2019**). Semantic analysis enables retailers to better understand customer sentiments and preferences through natural language processing, leading to more targeted marketing strategies (**Kumar, 2021**). Voice and image recognition technologies further enhance user experiences by enabling more intuitive and accessible interactions (**Zhang, 2021**).

Previous studies have established a positive correlation between the adoption of these AI technologies and improved marketing performance metrics such as customer satisfaction and service quality in developed markets (Li et al, 2021; Omar, 2015; Sharma et al, 2020).

Although AI is being used in digital marketing, its benefits are yet to be analysed (Verma, Sharma, Deb & Maitra, 2021). Despite the enormous opportunities offered by the emerging markets in Africa, it is largely ignored in scholarship as a study context (Boshoff, Adeola & Hinson, 2022; Zoogah & -Peng, 2015). Furthermore, the effect of AI adoption on non-financial metrics, such as service quality and customer satisfaction, in these markets remains largely unexamined (Marketing Science Institute, 2021; Shahid and Li 2019). Addressing these gaps will provide a comprehensive understanding of the effect of AI on online retail marketing performance in emerging markets.

Methodology

This study employs a quantitative research approach. Data was collected through surveys with the decision makers within the online retail sectors in Kenya, Nigeria, and South Africa. Quantitative data was analysed using statistical techniques to identify significant relationships between AI constructs and marketing performance metrics.

Results

Preliminary findings carried through a pilot study in the South African market, indicate that the adoption of AI digital assistants positively impacts both service quality and customer satisfaction. Decision makers report that customers are experiencing higher satisfaction levels due to improved response times, personalised interactions, and enhanced user experiences facilitated by chatbots, semantic analysis, voice, and image recognition technologies.

Implications for Theory

The findings of this research contribute to the theoretical understanding of service quality and customer satisfaction in the context of AI adoption. The study extends the SERVQUAL model by incorporating the influence of AI technologies on service dimensions. Additionally, it enriches the Expectation Confirmation Theory by highlighting how AI-driven interactions shape customer expectations and satisfaction in online retail settings.

Implications for Practice

For practitioners, this research underscores the importance of integrating AI digital assistants into online retail strategies to enhance service quality and customer satisfaction. Retailers in emerging markets should invest in AI technologies and tailor their implementation to the local context to maximise benefits. The study also provides insights into potential challenges and strategies to mitigate them, such as improving digital infrastructure and customer education on AI tools.

Conclusions

The adoption of AI digital assistants significantly enhances online retail marketing performance in emerging markets by improving service quality and customer satisfaction. This research fills a critical gap in the literature by providing empirical evidence from Africa and offers valuable insights for both theory and practice. As AI continues to evolve, its strategic implementation will be crucial for retailers aiming to thrive in the competitive online marketplace of emerging economies.

Keywords: Artificial Intelligence, Market Performance, Online Retail, Emerging Markets

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A sustainable Community-Based Agro-ecotourism (CBAET) Development Model in West Java Indonesia

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Abstract

The development of agro-ecotourism has become an integrated part of the management of community-based tourism (Community-Based Tourism), so it is expected to maintain cultural values and the environment and improve community welfare. However, Indonesia's potential for agro-tourism and ecotourism needs to be better managed in its development. This study aimed to design a model for the development of sustainable community-based agro-ecotourism in West Java. This research design uses a mixed method (quantitative and qualitative). The sampling technique used Cluster Random Sampling with 237 agro-tourism managers as respondents. Data was processed using the Structural Equation Modeling (SEM)-Partial Least Square (PLS) method approach. The study showed that the results can be used as considerations for policymakers to develop community-based agro-ecotourism. It is necessary to strengthen community resources, supporting institutions, and agro-tourism resources, as well as the role of stakeholders who can support agro-ecotourism so that rural tourism based on agriculture is well sustainable.

Introduction

The development of agricultural resources as a tourist attraction aligns with the trend of alternative tourism, offering opportunities for ecotourism, agrotourism, and rural tourism, which create a synergy between agriculture and tourism (Yoeti, 2008; Utama, 2018; Hadiwijoyo, 2018). Agro-ecotourism, as defined by Tuzon et al. (2014), integrates ecotourism and nature-based agrotourism to preserve culture and nature while promoting sustainable tourism. Nurfaida (2020) highlighted that agro-ecotourism in Indonesia is part of community-based tourism, aiming to maintain cultural values, protect the environment, and improve community welfare. However, literature on Community-Based Agro-ecotourism (CBAET) is limited. This study aims to design a sustainable CBAET model in West Java, contributing positively to rural tourism development in the region.

Literature Review

Agroecotourism is the development of agrotourism and ecotourism that provides visitors with an experience in various agricultural activities in rural areas (Budiasa, 2020). Agroecotourism is agricultural tourism that applies the principles of ecotourism, namely nature-based tourism, emphasizes learning about human interaction with resources, is not consumptive, contributes to conservation, is managed ethically, and has a low impact on the environment, initiative, control, and benefits for the local community (Cavaliere, 2007). According to Chatkaewnapanon & Kelly (2019), Community-Based Tourism (CBT) focuses on environmental, social, and cultural sustainability, serving as a tool for community development and environmental conservation. The diversity of community activities and socio-culture offers unique potential as tourist attractions. Natural resources suitable for tourism include natural wonders, flora and fauna diversity, wildlife, natural vegetation, untouched ecosystems, water recreation, nature walks, megalithic objects, and favorable climate conditions (Damanik and Weber, 2006). The main aspects of tourist destination development are attraction, accessibility, amenities, and ancillary services (Spillane & Kenney, 2012). Hadiwijoyo (2018) identified factors for successful tourist areas as scarcity, naturalism, uniqueness, community

involvement, land use optimization, area arrangement, and learning about environmental and cultural conservation.

Methodology

The research was conducted in five tourist villages in West Java: Alam Endah (Bandung Regency), Cibuntu (Kuningan Regency), Sukalaksana (Garut Regency), Suntenjaya (West Bandung Regency), and Pasanggarhan (Purwakarta Regency). Data were collected from January to April 2023 through in-depth interviews, questionnaires, and focus group discussions. A total of 237 respondents were selected using Cluster Random Sampling. The community-based agro-ecotourism development model was analyzed using the Structural Equation Model (SEM)-PLS.

Result and Discussion

The Influence of Community, Institutions and Tourism Resources on Agro-Ecotourism Performance

Community resources, supporting institutions, and tourism resources have simultaneous and partial influence on the performance of agro-ecotourism in West Java. Education indicators (X1.2), main job (X1.3), and experience (X1.5) can explain the community resource variable. Government policy indicators (X2.1), stakeholders (X2.2), community support (X2.3), social capital (X2.4), and community participation (X2.5) can explain the supporting institutional variables. Agro-tourism resource variables are measured by indicators of natural conditions (X3.1), tourist attractions (X3.2), accessibility (x3.3), amenities (X3.4), other supporting services (X3.5), and technology (X3.6). Based on cultivation and conservation efforts, agro-ecotourism is oriented towards preserving natural resources, communities, and local culture (Suwantoro, 2007).

The Influence of Agro-Ecotourism Performance on the Development of Sustainable Community-Based Agro-Ecotourism in West Java

Agro-ecotourism performance is measured by naturalness (Y1.1), uniqueness (Y1.2), direct participation (Y1.3), land use (Y1.4), area planning (Y1.5), and conservation education (Y1.6) which have partial and aggregate effects on the development of sustainable community-based agro-ecotourism (Y2). Agro-ecotourism performance affects the development of sustainable community-based agro-ecotourism with a value of 0.463. Thus, agro-ecotourism performance is a determining factor in developing sustainable community-based agro-tourism.

Implication to Theory and Practice

The research results are expected to be a reference in developing community-based agro-ecotourism as a sustainable alternative to tourism. Practically, the research results are expected to contribute to related stakeholders in managing rural tourism based on the characteristics and potential of local resources.

Conclusion

The sustainable community-based agro-ecotourism model in West Java reveals that human resources, supporting institutions, and agro-ecotourism resources significantly impact agro-ecotourism performance and sustainable development. Community resources, supporting institutions, and agro-ecotourism resources directly and significantly influence sustainable development through performance, which in turn significantly affects sustainable agro-ecotourism development.

Keywords: Agro-ecoturism; Community, Sustainability; Indonesia.

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A mix-method approach for examining the relationship between Project Management Practices and IT Project Success

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Project management drives organizational success and fosters innovation across industries (Santos- Vijande et al., 2021). Despite their importance, IT projects often face higher failure rates due to scope creep, budget overruns, and missed deadlines (Bezdrob et al., 2020). Over the past decade, Bangladesh has significantly embraced digital transformation, investing heavily in IT infrastructure, software development, and digital services. The IT services market is expected to grow at an annual rate of 12.27% from 2024 to 2029 (Statista, 2024), making Bangladesh a hub for digital innovation and technology-driven development. Given the strategic importance of IT projects to Bangladesh's development, understanding what drives their success is critical. Successful IT projects significantly impact a nation's digital transformation, service delivery, and economic growth, while failures can lead to wasted resources and missed opportunities.

The current study is important for many other reasons besides the above scenario. First, IT project success is understudied compared to other industries like healthcare, software development, and construction. Second, since the success of the IT sector depends on effective project management practices, successful completion of IT projects relies on project managers' mastery of management techniques. Third, the success factors of IT projects are well-documented in countries like Pakistan, Indonesia, the Middle East, and Europe. Nevertheless, there is a lack of this kind of research in Bangladesh. Therefore, this research aims to explore the impact of Project Management Practice (PMP) on IT project success in Bangladesh, focusing on the mediating roles of project risk management (PRM) and stakeholder engagement (SE), as these practices are critical to ensuring successful outcomes despite the complexity of IT projects. Risk management and stakeholder engagement are crucial for project success, requiring team along with stakeholder awareness and understanding of their impact on project objectives and potential risks.

Recent research on project success in Bangladesh has been limited, with studies focusing on critical project management factors (Datta et al, 2023) and the impact of ICT for development (ICT4D) projects (Hoque, 2020). While studies have been conducted in various fields, such as construction (e.g. Kineber et al., 2023), healthcare (e.g. Gavurova et al., 2023; Sguanci et al. 2023), manufacturing (e.g. Moschko et al., 2023; Abdul-Talib & Keung, 2024), software development (e.g. Leong et al., 2023), information systems (e.g. Rashid & Haron, 2024), ICT (e.g. Wang et al., 2023), ICT4D (e.g. Kimaro et al., 2024), and IT (e.g. Yang et al., 2024), few have given serious thought to IT endeavors, particularly in terms of project success. Studies on project success (PS) have explored factors such as project complexity (e.g. Sultan, 2023), project manager competencies (Bhatti & Durrani, 2024;), stakeholder characteristics (Alkilani & Loosemore, 2024), engagement (Blak Bernat et al., 2023), communication management and scope clarification (Muneer et al., 2022), risk management practices (Kallow et al., 2023), leadership styles (Haider, 2021), knowledge management (Blak Bernat et al., 2023), sustainable practices (Wu et al., 2023), organizational culture (Muneer et al., 2022), and knowledge-oriented leadership (Latif et al., 2021). Some scholars argue that success or failure can be attributed to the interaction of these variables, while others use these factors as moderators or mediators. Studies have shown that factors such as entrepreneurial orientation, knowledge-oriented leadership, inclusive leadership, humble leadership, project complexity, and psychological factors significantly impact the success of IT projects in Pakistan (Latif et al., 2021). Another research highlighted humble leadership to enhance IT project success in

China along with the mediation of team-building and moderating role of upper management support (Ali et al., 2021). Further research is needed to understand efficient project management practices and their impact on IT project success in Bangladesh.

This study used a hybrid methodology that included qualitative and quantitative elements. Ten to fifteen Bangladeshi IT companies meeting specific criteria regarding the number of personnel, the year of inception, and the capacity to complete at least small-scale IT projects were selected by non-probabilistic purposive judgmental sampling. Later, a survey was sent to 250 individuals, including project managers, technical managers, software engineers, computer engineers, and stakeholders from those selected firms to gather quantifiable data. Qualitative information was collected as IT project managers, team members, and stakeholders participated in semi-structured interviews and focus groups. The quantitative data was analyzed using structural equation modeling (SEM) and descriptive statistics. The interview data was subjected to thematic analysis to find recurrent themes and insights.

Project success was found to be positively impacted by scope, cost, schedule, and quality management. Stakeholder involvement and risk management mediate several project management strategies and project success.

This research explores the impact of PMPs on IT project success in Bangladesh, focusing on PRM and SE. This study explores the lack of a clear methodology for assessing IT project success in Bangladesh, aims to fill this knowledge vacuum, and advances theoretical understanding of project success in the IT field. Moreover, it seeks to bridge the knowledge gap in the literature by looking at the mediating roles of PRM and SE. Again, the study makes a methodological contribution by using structural equation modeling and a mixed-method approach to contribute to understanding IT project success. Finally, it provides practical insights for IT organizations to improve project outcomes.

Keywords: IT project; project management practices; project success; stakeholder engagement; risk management; mediating role.

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Novel food processing technology adoption in regions: a preliminary study from Tasmania

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Introduction and Background

The adoption of innovation and technology is crucial for regional areas aiming to diversify their economy by transitioning from primary production to value-added products. Food processing technologies such as advanced preservation methods and automation can extend a product's shelf-life, enhance its quality, convenience, sensory and nutritional characteristics and generate production process efficiencies. However, the adoption of new food processing technologies in regional areas is often hampered by challenges, such as lack of financial capital, high costs of technology, limited access to technology among small food producers, and geographic distance from urban centres (Priyadarshini et al., 2019; Losacker et al., 2022). This doctoral research aims to identify the key drivers and barriers of the adoption of new food processing technologies by regional food processors, within the island state of Tasmania.

Literature Review

Prior research suggests that firms adopt new food processing technology to increase productivity, enhance product quality, reduce cost, increase revenue and profits and achieve competitive advantages (Priyadarshini et al., 2019). However, few studies have examined the adoption of such technologies in regional areas, where the barriers are likely to be different to those experienced by firms in major urban areas (Capello & Lenzi, 2023; Endrődi-Kovács et al., 2024). In this study, Rogers' (2003) Diffusion of Innovations theory, which analyses the characteristics of the technology itself, is integrated with the Technology-Organisation-Environment (TOE) framework, which investigates the organisational influences of the adoption process (Tornatzky & Fleischer, 1990). In addition, the Regional Innovation System (RIS) theory by Cooke (2001) is drawn upon to investigate what drives or hinders technology adoption in regional food processing environments.

Methodology

To address the aims of my PhD, qualitative data were collected in two phases. The first phase, which commenced between July and November 2023, comprised semi-structured interviews with 15 industry informants, including policymakers, industry stakeholders, government representatives and academics. These participants were selected based on their expertise and involvement in the Tasmanian food processing industry. Phase 2 was completed between March and August 2024 and involved semi-structured interviews with 32 Tasmanian food producers and/or processors¹. Interviews' recordings were transcribed and are being analysed using NVivo software for coding and thematic analysis to identify and validate key themes and patterns in the data. This study's qualitative approach has enabled an in-depth exploration and analysis of factors that influence technology adoption decisions in the regional context.

Results

Preliminary findings from phase one indicate that several factors influence regional technology adoption, and these can be broadly categorised into technological, organisational,

¹ Food producers are individuals or companies involved in producing crops, livestock, seafood, dairy, and other primary food products.

Food Processors are individuals or companies who add value by transforming raw agricultural products into products that are ready for consumption through using processing techniques such as cooking, freezing, packaging, and preserving to enhance products' quality and extend their shelf-life.

environmental and regional factors. More specifically, the drivers for organisations to adopt food processing technology new to them include perceived economic benefits, pressure to meet changing consumer demand and preference, automation and desire to improve product quality and extend product shelf-life. Key barriers to the adoption included concerns about initial investment costs, limited access to capital, uncertainties about return on investment, and a lack of skilled labour to operate and maintain new technologies.

Implications to Theory and Practice

The preliminary findings of this study have the potential to contribute to the theory and knowledge on technology adoption by highlighting how existing theories (i.e. DOI, TOE and RIS) interact to explain technology adoption in a unique setting (i.e. regional areas). From a practical perspective, our overall findings will hopefully benefit local producers and processors by supporting policy makers and leaders of the Tasmanian food processing industry in recognising which factors to focus on during the uptake of new food processing technologies, ultimately fostering regional economic development.

Conclusion

In conclusion, analysis of data from phase one suggests that regional food producers are likely to exhibit a stronger motivation to value-adding through utilising novel food processing technologies. The factors influencing their adoption are diverse and can be categorised into technological, organisational, environmental and regional factors, underpinning the complexity of the decision-making process when adopting novel technologies in regional contexts. The next step is to analyse data from phase two and triangulate the findings with the preliminary insights from phase one to provide a more nuanced understanding of technology adoption in regional areas from the perspective of the producers and firms themselves.

Keywords: Innovation; novel technology; technology adoption; regional development; innovation diffusion

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Impact of AI on Students' Self-Regulated Learning and Academic Performance

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Introduction

Artificial Intelligence (AI) technologies, such as AI-powered chatbots, have created many new opportunities to enhance students' self-regulated learning and academic performance, such as supporting them in writing English essays, providing real-time feedback, and playing the role of virtual learning assistants. However, it also poses several challenges and risks, such as decreased personal abilities in creativity, critical thinking, and independent thinking. AI applications in education are still new, and the number of studies in this area is limited (Chiu, 2024; Crompton & Burke, 2023). Thus, we aim to explore and examine the impacts of AI on students' self-regulated learning and academic performance. Our research objectives are as follows:

Identify the impact of AI on students' self-regulated learning and academic performance from the literature review.

What are AI tools used in education?

What is the impact of AI on self-regulated learning?

What are the side effects of AI on self-regulated learning?

To address this research objective, we conduct a systematic literature review about students' self-regulated learning in the AI context from 2015 to 2024 (10 years).

Explore the use of AI applications to support self-regulated learning and academic performance from students', instructors', and managers' perspectives.

We plan to conduct semi-structured interviews of students, instructors, and managers to explore their use of AI applications to support self-regulated learning and academic performance. From there, we identify the pedagogical and psychological aspects they perceive as necessary to effectively utilize those AI applications to enhance self-regulated learning and academic performance.

Examine the impacts of AI on students' self-regulated learning and academic performance.

We plan to conduct an experiment to compare self-regulated learning and academic performance of two groups of students: one group is allowed to use AI technologies (e.g., ChatGPT) to complete assignments, and another is not allowed.

Literature Review

Self-regulated learning

Self-regulated learning is defined as the ability to monitor one's thoughts, manage one's motivation, and control one's actions to attain the desired learning objectives (Zimmerman, 2001). It consists of three phases: forethought, performance, and self-reflection (Zimmerman & Moylan, 2009). According to Panadero (2017)'s literature review of six models, Zimmerman and Moylan (2009)'s self-regulated learning model is the most popular.

Unified Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT aims to explain user intentions to use an information system and subsequent usage behavior (Venkatesh et al., 2003). The theory holds four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions.

Our proposed Research Model is as follows:

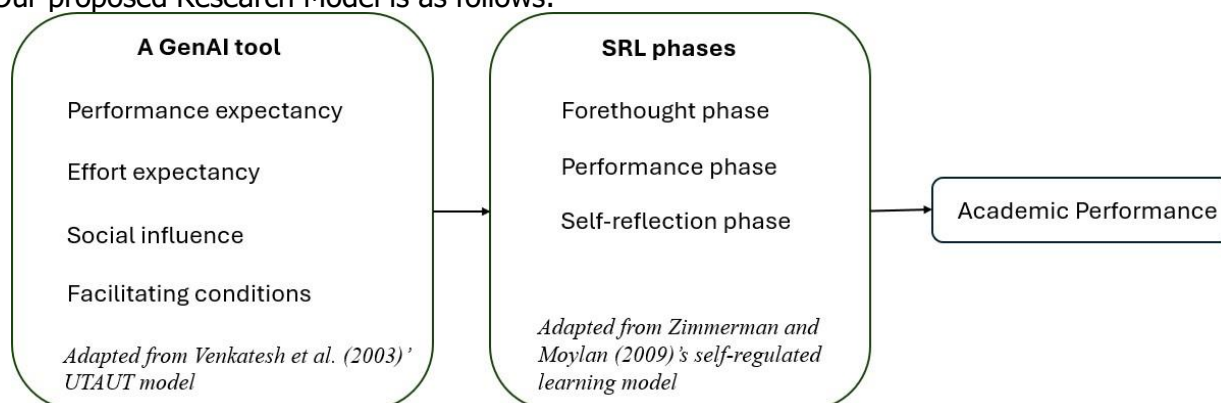


Figure 1: Proposed Research Model

Research Methodology

Phase 1: Systematic Literature Review

We developed keywords and searched the articles. We shortlisted 79 potential articles based on the predetermined criteria. After examining these articles, 28 articles remained for further analysis. We used Nvivo to analyze the themes.

Findings

Phase 1: Systematic Literature Review

Use of AI tools in Education: The shortlisted articles in this study focused on three types of AI tools: launched AI tools such as ChatGPT, self-built AI tools, and language learning platforms with AI applications such as Duolingo, Mosetech.

Impact of AI on self-regulated learning: In the forethought phase, AI tools collected students' wants and/or past behaviors in learning management systems, then supported students in setting goals and planning to reach them. In the performance phase, AI tools supported students in executing the task, such as providing answers to questions in hand, creating new content, providing feedback on the task, or providing extra instructional materials. In the self-reflection phase, AI tools supported students to assess their performance on the task, making attributions about their success or failure.

Side-effects of AI on self-regulated learning: Some side effects that these articles mentioned include excessive reliance on AI tools, such as stifling creativity and communication, discouraging independent thinking, and fostering an attitude of waiting to be spoon-fed; lack of discipline-specific reflective prompts for scaffolding students' metacognitive activities during problem-solving; a preference for human support for motivation due to trust relationships built with instructors; ethical issues on data privacy; potential inaccuracies on providing feedback, especially in unforeseen situations due to AI tools' reliance on predetermined rules.

Discussion and Conclusion

We provide the theoretical framework to examine the impact of AI on self-regulated learning. Further research on the impact of AI learning on students from different disciplines, from various perspectives (i.e., students, instructors, managers), and from different culture (i.e. Vietnam and Australia) can guide educators in promoting effective AI education strategies and enhancing students' learning experiences.

Keywords: AI; education; self-regulated learning; higher education

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Exploring Stakeholder Perspectives on Risks of E-Commerce Product Recommendations: A Mixed Methods Study

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Introduction

The global e-commerce market is expanding rapidly with an ever-increasing number of businesses and customers using it. Worldwide e-commerce revenue stood at US\$ 5.7 trillion for the year 2022 and is expected to grow to US\$ 8.1 trillion by the end of year 2027 from the 2022 level of US\$ 5.8 trillion (Chevalier, 2024). E-commerce websites such as Amazon, eBay offer a dynamic shopping experience to customers and personalised product recommendations are an essential element of it. Recommender Systems (RS) deployed in e-commerce websites (hereinafter referred to as e-commerce RS) are powerful personalisation tools that utilise user data to provide personalised product recommendations (Moradi & Hamidi, 2023). Although RS have been successful in personalising customer experience, there are several risks associated with the product recommendations provided by e-commerce RS. This study is aimed at exploring the perceptions of these risks from multi-stakeholder perspective.

Literature review

E-commerce RS develop user profiles to which are based on customer behaviour, needs and habits to provide user-tailored recommendations. As a result, e-commerce RS have enabled companies to enhance revenue generation, customer satisfaction, and loyalty (Budzinski et al., 2022; Mican et al., 2020). However, researchers have identified several risks of product recommendations such as, biased product recommendations, negative user experiences, and privacy issues (Glover & Benbasat, 2010; Jannach & Bauer, 2020). Gunwardana et al. (2022) are of the opinion that risk is an important aspect that need to be evaluated in examining the impact of RS. In this direction, the extant research on RS have either (i) looked at the value of RS from the view of receivers of recommendations (i.e., customer) or (ii) have excessively looked at improving the accuracy of the recommendations overlooking the deeper impact of those recommendations. However, some researchers (Abdollahpouri et al., 2020; Jannach & Bauer, 2020; Milano et al., 2020) have problematised these dominant approaches emphasising the need to adopt a multi-stakeholder approach to investigating the impact of RS on users. Even though significant scholarly attention received, there's a lack of empirical investigations exploring the diverse perspectives on risks of e-commerce RS. Hence this study attempts to address this gap by exploring risk perceptions of two key stakeholders of e-commerce RS namely customers and managers.

Methods

This study adopts a Mixed Methods Design. The first phase of this study involves a scoping review of the literature to take account of hazards associated with e-commerce RS. The second phase consists of a survey to examine customers' risk perceptions on the hazards identified in the previous phase of the study. In the third phase interviews are conducted to explore how managers perceive and manage the risks of e-commerce RS. The data will be collected in the New Zealand context.

Contributions

The extant research informing risk perceptions of e-commerce are either conceptual (Jannach & Bauer, 2020) or lacks comprehensiveness in the hazards and specific focus on RS (Gabriel & Nyshadham, 2008; Glover & Benbasat, 2010). This study will address this issue by examining the risk perceptions using a comprehensive taxonomy of hazards associated with the e-commerce product recommendations. This thesis is also expected to contribute to the ongoing scholarly dialogue on examining the impact of RS from a multi-stakeholder perspective. From a practical perspective, this finding of this study will help managers to understand consumers' interpretations of the risks associated with e-commerce RS. Hence, this study will be important for managers to evaluate their approach to the management and communication of e-commerce RS related risks.

Conclusion

Even though the risks associated with e-commerce product recommendations have been discussed in the literature, exploring those from the perspective of customers and managers have received scant attention. This research is aimed at addressing this gap by exploring risks associated with e-commerce recommender systems from a multi-stakeholder perspective.

Keywords: E-commerce; recommender systems; risks; multi-stakeholder perspective

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Meaning in The Material World: The Effect of Long-Term Orientation and Spirituality on Eudaimonic vs. Hedonic Purchase Motivation

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Introduction

Consumer behaviour oscillates between immediate gratification and long-term, meaningful goals (Pearce et al., 2020). While research has extensively explored utilitarian and hedonic motivations (Strahilevitz & Myers, 1998; Hirschman & Holbrook, 1982), eudaimonic motivation, that is consuming for meaning and purpose, remains understudied. Based in psychology (Waterman, 1993; Ryan & Deci, 2001), this concept has gained limited attention in consumer behaviour studies (Jain et al., 2023).

Past research considers the characteristics of consumers motivated by eudaimonic goals, which often require long-term commitment such as saving money, getting fit or pursuing further education (Eccles & Wigfield, 2002; Lens et al., 2009). This study extends the understanding of eudaimonic consumer motivation by investigating how consumers' long-term orientation (LTO) influences eudaimonic consumption and whether spirituality moderates the preference for eudaimonic products among long-term-oriented consumers.

Literature Review

Eudaimonia emphasises living in accordance with one's "true self" (Norton, 1976) and focuses on meaning, purpose, and virtue (Waterman, 1993), contrasting with hedonia, which prioritises pleasure and absence of pain (Ryan & Deci, 2001). While distinct, these concepts can overlap, sharing aspects of happiness from a contextual perspective (Kashdan et al., 2008). Eudaimonic consumption, arises from the experiential perspective of consumer behaviour (Hirschman & Holbrook, 1982), explores meaningful choices associated with higher purpose and long-term goals (Aaker, 2014; Baird et al., 2021), extending beyond momentary satisfaction (Bhattacharjee & Mogilner, 2014).

Long-term orientation (LTO), a holistic view of time valuing both the past and future through values such as planning and tradition motivates the individual to focus on future rewards, and contrasts with short-term orientation which emphasises immediate obligations (Bearden, 2006). Future-oriented individuals tend to set and pursue goals despite short-term costs (Lens et al., 2012), while present-focused individuals prioritise immediate gratification (Baird, 2021). Given this connection between long-term orientation and eudaimonic motivations, we hypothesise:

H1: Long-term oriented (vs. short-term oriented) consumers are likely to be higher on eudaimonic (vs. hedonic) motivation.

Spiritual beliefs and practices shape global meaning and life understanding (Park 2013; James & Wells, 2003) providing motivation, goals for living, and guiding the achievement of these goals through a deep sense of purpose (Park 2013). Although in the early stages of research, spirituality's impact on consumption has demonstrated to reduce conspicuous consumption (Stillman 2012; Hu et. al. 2018) and motivated a desire to express spirituality through various forms of consumption (Belk et al., 1989; Skousgaard, 2006; Stoll, 1989). Ultimately, Spirituality as a meaning-making system (Park 2005) may engender positive expectations about the long-term future (Villani et al. 2019), leading to the hypothesis:

H2: The effect of LTO on willingness to buy eudaimonic (vs. hedonic) offerings will be positively moderated by spirituality.

Methodology

In Study 1 (n=294), we measured LTO using Bearden scale (2006) and assessed eudaimonic and hedonic motivations using HEMA Scale (Huta & Ryan 2009). In Study 2 (n=316), participants were primed with LTO (vs. control) through a writing task before eudaimonic and hedonic motivations were measured using HEMA Scale. In study 3 (n=301) participants were presented with a eudaimonic description of a book and their attitude and purchase intent were measured. Spirituality was assessed using SHALOM scales (Fisher 2010) and LTO was measured using the Bearden scale (2006). Likert scales were used and final analysis excluded participants who failed manipulation checks.

Results and/or Discussion and Contributions

Study 1: Participant's ratings on LTO were initially scored on each of the two factors, Tradition (M = 4.60; SD = 1.61; $\alpha = 0.919$) and Planning (M = 5.65; SD = 0.99; $\alpha = 0.825$) then aggregated into a single measure of LTO (M = 5.12; SD = 1.09; $\alpha = 0.860$). Hedonic and eudaimonic motivation item scores were combined to create hedonic (M = 4.98; SD = 1.11; $\alpha = 0.874$) and eudaimonic (M = 5.63; SD = 0.86; $\alpha = 0.753$) factor scores. Participants who were higher in LTO were more likely to demonstrate eudaimonic motivations ($p < 0.001$) than hedonic motivations ($p = 0.258$).

Study 2: Eudaimonic motivation was found to be significantly stronger in subjects primed with long-term orientation (M = 5.50; SD = 1.13) compared to the control condition (M = 4.91; SD = 1.29) ($\beta = 0.59$; SE = 0.14; $p < 0.001$; $\alpha = 0.872$). Results were reversed for hedonic motivation such that this was weaker in subjects primed with LTO (M = 4.86; SD = 1.16) compared to the control group (M = 5.34; SD = 1.01) ($\beta = -0.48$; SE = 0.12; $p < 0.001$; $\alpha = 0.863$). Results replicate our initial findings in that when participants are primed with LTO (vs. control), they are more likely to demonstrate meaningful rather than pleasurable motivations.

Study 3: We obtained a significant interaction of long-term orientation and spirituality on the willingness to purchase the eudaimonic book ($b = 0.26$, $t = 1.85$, $p = 0.067$) with purchase intentions being greater for those high in LTO as well as spirituality. Additional analysis of LTO showed that the interaction of long-term orientation and spirituality was significant for planning ($b = 0.41$, $t = 2.63$, $p = 0.009$), but not for tradition ($b = 0.12$, $t = 1.13$, $p = 0.261$). Analysis for the different types of spirituality showed that transcendent spirituality drove the moderating effect on intention to buy ($b = 0.21$, $t = 2.56$, $p = 0.011$).

Implications and Conclusion

Our research extends our understanding of LTO's impact on consumer behaviour, particularly in relation to meaningful consumption choices. We provide insights for marketers looking to promote meaningful consumption choices by leveraging LTO and spirituality. These results also highlight the importance of future-focused LTO in eudaimonic consumption, suggesting that consumers base meaningful choices more on future aspirations than past experiences. Finally, our research offers a new perspective on the interplay between spirituality, LTO, and consumer decision-making, which can inform both theoretical frameworks and practical marketing strategies and suggests potential avenues for encouraging more conscious and meaningful consumption trends in society.

Keywords: Long-Term Orientation, Eudaimonia, Spirituality

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Typology of Social Robot Mimicry in Purchase Decisions

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Introduction

Social robots are humanoid robots that possess the ability to operate independently and adjust to different situations. They are specifically designed to engage in interactions, communicate, and provide services to consumers (Wirtz et al., 2018:909). Presently, approximately 40% of the retail sector has used automation, with a significant proportion of warehouse operations being automated e.g., Amazon's warehouse. Previously researchers have used social robots for providing suggestions (Okafuji et al., 2024) and answering queries but there is no model to understand how much robot needs to mimic customers in retail. In order to understand robotic mimicry, it is important to explore the literature on consumer psychology. Mimicry in consumer psychology refers to the act of imitating or replicating a person's verbal and non-verbal behaviour, as described by Hess et al. (1999). Human mimics other humans by (1) Head movement, (2) Body movement, (3) Voice, (4) Facial Expression and (5) Mannerism (Oberman et al., 2007) where as social robots also mimic other humans by nodding, pointing fingers, tone and mannerisms (Burgoon JK et al., 2021). Robots are increasingly integrated into our daily lives so robots need to understand the user and act accordingly. Scholars are currently investigating how social robots should adopt human-like features and interactions (Fox, 2021). Human to robot mimicry will be tested in this research and will examine the robotic mimicry by experimenting different scenarios.

Literature review

Mimicry in consumer psychology refers to the act of imitating actions, gestures, and facial expressions of others, nurturing a sense of belonging, empathy, and social cohesion (Hess et al. 1999). Based on hypothesis, same like human's, robots also need to mimic another's actions in order to establish social bonds (Hess, 2021). When someone smiles at you, you are instinctively inclined to reciprocate with a smile because you develop positive attitude towards them (Chartrand and Bargh, 1999). Social robots have the ability to establish social ties with consumers in a manner similar to how humans perform (He et al., 2023). An extensive review of the literature has shown that there is a lack of an empirical model to understand how different levels of mimicry can impact purchase intention in a retail setting. This model will test whether mimicry in social robot can influence person's attitude, subjective norms, behaviour control, trust and empathy towards making a purchase. Level of involvement decision is defined as the degree of intensity of interest that a buyer shows for a specific product in a particular purchase decision (Greenwald & Leavitt, 1984), or in other words, it is the individual's interest in the product (Palacios & Farooq, 2017). For highly involved consumers, finding their product's ideal version requires a lot more search. For low-involvement consumers, low-level search is required before making a purchase.

Methodology:

A PIMPI (Predictive influence of mimicry on purchase intention) model will be developed to establish the communication between robot and customers using experimental methodology. The data is collected using a convenience sampling method from university students. To conduct the research a 2 x 2 x 2 (low involvement vs high involvement) x (low mimicry vs high mimicry) x (robot vs human) between subject experiment will be undertaken. Fictitious brands will be used to control prior knowledge and experience with the selected brands (Sheffet, 1983).

Results

This study used the experimental research design to identify the effect of robotic mimicry on consumer purchase intention in two different involvement scenarios. We have run the Pre-test for testing the Mimicry levels (High and Low) and Involvement conditions (High and Low) by showing the video of interaction between human and sales robot and data shows that robot was able to demonstrate high mimicry with avg score of 5.25 on bipolar scale and low mimicry avg score of 3.73 and consumer also respond differently in high (avg score 5.73) and low involvement scenarios with score of 3.40.

Implications for Theory and Practice

This study builds to the existing literature by conceptualizing the PIMPI framework to understand the influence of robotic mimicry on consumers' purchase intention. As there is no model to determine whether social robots can be deployed in the retail sector, this model will be an extension of the Theory of Planned Behaviour (TPB). This study will investigate how much should robot mimic consumers in the retail environment. The research will assist managers determine the optimal level of robotic mimicry in the retail setting. Further, the importance of designing robots that displays low vs high mimicry in low vs. high involvement product (how much should social robot mimic or don't mimic customers).

Conclusions:

With the current employee shortage in retail, using social robots as sales assistant, it provides a cost-saving strategy for many small businesses and retailers. This is the first study to offer an empirical model that could assist retail businesses in comprehending consumers' adoption of social robots. The PIMPI model will help show retailers how social robots can be used as customer service agents. To persuade consumers, this research will show how robots should mimic humans in a low and high involvement retail settings.

Keywords: Social Robots; Robotic Mimicry; Purchase Intention; Involvement Decision.

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Confirmatory Factor Analysis of Willingness to Accept Social Robot Recommendations

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Introduction

Humanoid robots have proved to be a beneficial technology in frontline service settings as they can meaningfully engage with customers using their anthropomorphic characteristics (Mende et al., 2019). They have been used as servers, porters, tour guides, helpers, concierges and recently, for providing recommendations such as movie recommendations, food recommendations, clothing recommendations, etc. (Cervone et al., 2015; Herse et al., 2018). While researchers have used social robots for providing recommendations, an extensive literature review has shown that efforts to understand Willingness to Accept Social Robot Recommendations (WASRR) have been limited. It is important to understand willingness as the real success of using social robots to provide recommendations can be truly measured when customers delightfully accept these recommendations. Once accepted, these can lead to higher customer satisfaction and sales (Yoon et al., 2013). Previous researchers have also called for more empirical work that assesses human responses and participation in human-robot interactions (Reeves & Hancock, 2020). Thus, the research will develop a scale to measure Willingness to Accept Social Robot Recommendations be measured?

Literature Review

Previous studies have shown that social robots can more meaningfully engage customers as customers perceive them as another social entity, more engaged than tablet kiosks (Breneman et al., 2021) or chatbots (De Carolis et al., 2024). They have a positive impact on customer's attitudes as they are easy to relate to due to their anthropomorphic characteristics (Mende et al., 2019). However, past research has not evaluated WASRR in a fine-dining restaurant. Most of the studies either focused on system design (e.g., De Carolis et al., 2020; Woiceshyn et al., 2017) or robot modalities to understand the acceptance of recommendations (e.g., Okafuji et al., 2024; Shiomi et al., 2013). Furthermore, most of the studies use a behavioural measure consisting of yes/no measurements. Models such as sRAM and scales such as SRIW (Lu et al., 2019; Wong & Wong, 2024), have also been developed to measure the acceptance of social robots. While some scales measure technology acceptance and can be adapted to measure social robot acceptance, it is essential to remember that accepting social robots in services does not mean customers will also accept recommendations from these social robots. Therefore, it is important to develop a scale to measure WASRR specifically.

Methodology

WASRR can be defined as customers' willingness to accept social robots' recommendations. The procedure for scale development has been taken from Churchill (1979) and DeVillis (1991). In stage 1, an extensive literature review across IT, marketing, retail, hospitality, tourism and healthcare led to the generation of 42 items. After the thesaurus search in stage 2, 20 more items were added, making the initial pool of items 62. In stage 3, expert panel interviews were conducted online to test the content validity of 62 items. After the expert panel discussion, all the items were combined, removed, or revised to fit the WASRR scale, leaving 12 items in the initial pool. In stage 4, an exploratory factor analysis (EFA) was conducted followed by the confirmatory factor analysis (CFA) in stage 5 to evaluate dimensionality and factorial validity. To conduct EFA for the WASRR scale, undergraduate business students from a large university in Australia were recruited. To conduct CFA, undergraduate and postgraduate business students were recruited from the same university.

The respondents interacted with the social robot Pepper in class, who delivered product recommendations. After the interaction, they were asked to complete an anonymous and confidential online survey.

Results

Through the EFA, a total of 118 responses were collected, and after data cleaning, the sample size consisted of 99 responses, which is considered appropriate for EFA (44% males, 53% females). 97% of the sample was within the age bracket of 18-24. IBM SPSS Statistics 29 was used to conduct the exploratory factor analysis. The EFA results showed the KMO was 0.876 and the BTS was 648.77 ($p < .001$), showing the sample was appropriate for a factor analysis. The factor analysis showed that the eigenvalue was above 1, and 63% of the variance was predicted by one factor, making the scale unidimensional. The reliability test showed that Cronbach's Alpha was 0.926 for WASRR.

The CFA was conducted in AMOS 29. The measurement model was tested using the maximum likelihood estimation method. The total number of responses collected was 145 and after data cleaning, the sample size was 127. 73% of the respondents were between 18-29, with 29.9% males and 53.5% females. The initial model showed poor model fit ($\chi^2 = 60.745$, $\chi^2/df = 2.250$, GFI = .902, CFI = 0.944, TLI = 0.925, RMSEA = 0.100). However, after analysis that included removing an item and covarying items, the final model fit improved significantly ($\chi^2 = 16.181$, $\chi^2/df = 1.156$, GFI = 0.962, CFI = 0.995, TL = 0.993, RMSEA = 0.035.) The AVE of all factors was .571, indicating adequate convergence (Fornell & Larcker, 1981), and composite reliability was .902, much higher than the cut-off level of 0.70.

Implications for Theory and Practice

This scale is important for both researchers and managers as it provides them with a unidimensional scale to help measure WASRR before deploying robots in customer-facing roles. It is critical to measure WASRR because willingness is the strongest predictor of actual customer behaviour and will reduce failure in deployment. The scale's psychometric properties are also a key contribution as they can be used to understand consumer behaviour in various contexts.

Keywords: Willingness to accept social robot recommendations; exploratory factor analysis; services; scale development; social robot interactions.

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Modelling Night Occupancy of Domestic Tourists in the South Coast of Sri Lanka

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Introduction

The South Coast of Sri Lanka is the highest night occupancy area by domestic tourists (SLTDA, 2021). It is one of the most popular destination for domestic tourists to spend their leisure time because of its beautiful beaches and unique villages. Due to of the travel restrictions for international tourists during the pandemic, growing domestic tourism was the best option to maintain the momentum of the tourism industry (Karunaratne et al, 2021).

Literature Review

Konarasinghe (2018) has forecasted domestic guest nights in Ancient cities of Sri Lanka using a Hybrid approach of linear-ARIMA and growth curve-ARIMA. The study concluded that both models are suitable for forecasting occupancy guest nights. Domestic guest nights in Hill Country of Sri Lanka was also forecasted using the SARIMA model and was found appropriate. (Konarasinghe 2018). A further search of the literature however indicates that although there were studies done to forecast guest nights on the South Coast of Sri Lanka most are on foreign guests and only very few attempted to forecast domestic guest nights.

Objective of the Study

To forecast the night occupancy of domestic tourists on the South Coast of Sri Lanka.

Methodology

Monthly domestic night occupancy data of Sri Lanka for the period from January 2008 to December 2020 was obtained from the Sri Lanka Tourism Development Authority (SLTDA). According to the pattern of night occupancy, the Sama Circular Model (SCM) and Seasonal Auto-Regressive Integrated Moving Average (SARIMA) models were used for forecasting. Auto Correlation Function (ACF) and the Anderson-Darling normality test were used for model validation. Both relative and absolute measurements of errors were used to assess the forecasting appropriateness of the model (Konarasinghe et al., 2015).

Results

Both models were significant and satisfied all model validation criteria. The measurements of errors in both models were very low indicating that the actual data and fits are very close. However, errors of SARIMA were higher than SCM under the verification. Besides, the SARIMA model shows one seasonal behaviour with 3 months whereas, SCM shows 3 seasonal behaviours of 3, 4, and 12 months with one cyclical behaviour of 13 months consecutively. The model summary is presented in Table 1. The model summary shows that the SCM specification is better than SARIMA.

Table 1: Model Summary

Model	Model Fitting		Model Verification	
$Y_t = Y_{t-1} + 0.0604 \sin 2.25\omega t - 0.0676 \cos 2.75\omega t - 0.0678 \cos 4.75\omega t$	MAPE	1.32355	MAPE	0.58022
	MSE	0.03935	MSE	0.00595
	MAD	0.14618	MAD	0.06379
	Normality	P = 0.053		
	Independence of Residuals	Yes		
ARIMA (1,0,0) (1,1,1) ₃	MAPE	1.33686	MAPE	7.49033
	MSE	0.03595	MSE	1.68146
	MAD	0.14752	MAD	0.69282
	Normality	P = 0.202		
	Independence of Residuals	Yes		

Conclusion and Recommendation

It is concluded that SCM is the best-fitted model in this study to forecast the night occupancy of domestic tourists on the South Coast of Sri Lanka. The fitted SCM model is as follows:

$$Y_t = Y_{t-1} + 0.0604 \sin 2.25\omega t - 0.0676 \cos 2.75\omega t - 0.0678 \cos 4.75\omega t \quad (1)$$

Forecasted SCM shows a tiny trend with heavy volatility of night occupancy of the domestic tourists in the South coast of Sri Lanka for the next four years. The results of this study can be used to develop strategies to further enhance the performance of the tourism industry. Further, it is recommended to forecast the night occupancy of domestic tourists in other districts and provinces.

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Measuring Digital Maturity of Organizations in the H&T Industry of Sri Lanka

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Introduction

Digital Transformation is a process of using digital technologies to create new business or modify existing business processes, culture, and customer experiences to meet changing business and market requirements. Digital Maturity (DM) is the measurement used to assess the degree of adoption and application of digital technologies in an organization.

Literature Review

Westerman et al (2014) developed a conceptual model to measure the DM of an organization using two variables: digital capabilities and leadership capabilities, they also developed a matrix to compare to the DM of organizations, but some studies shown that the DM of an organization depends on the digital literacy of the management (AlBar & Hoque 2019, Calli, Ozhain, Koskun & Arik 2022). However Westerman *et al* (2014) does not consider DL as a dimension of DM, also the method is unable to measure the DM and its dimensions quantitatively.

Objectives of the Study

To develop a conceptual model and a mathematical model to measure the DM of an organization

To measure the DM of Organizations of the Hospitality and Tourism (H&T) industry of Sri Lanka

Methodology

The study is based on the 'Dynamic Capability (DC) theory' (Helfat & Peteraf, 2009, Teece 2019) and definitions of 'Vector Spaces' (Oliveira, 2022). Variables of the study were identified by the literature review. A conceptual model and a mathematical model were developed to measure the DM of an organization. The accommodation sector of the H&T industry of Sri Lanka is the population of the study, Hambantota district is selected for the pilot survey of the ongoing study and a random sample of twenty six organizations were selected for the data collection. A structured questionnaire was used to obtain the data from owners/ CEO's of the organizations. The Sama Radial Indicator (Konarasinghe 2023, Konarasinghe & Mariyani-Squire 2023) was used to measure the outcomes of random variables.

Results

The DM of an organization is modelled as a function of three main variables: Digital capabilities (X), Leadership Capabilities (Y) and Digital Literacy (Z). The properties of the 3-D vector space is used to develop a model to measure the DM of an organization, and named as '3-D Digital Maturity Model (3D-DMM).

Data Analysis

The '3-D scatter plot' and the 'Contour plot' were used to visualize the dimensions of the DM. The Anderson Darling normality test confirmed the normality of random variables: X , Y , Z and DM . The summary statistics of the analysis is in Table 1;

Table 1: Summary Statistics

Variable	Mean	Median	95% CI for mean
Digital Capability- X	115.23	127.25	(96.64, 132.82)
Leadership Capability- Y	120.81	128.25	(105.16, 136.45)
Digital Literacy- Z	117.13	125.58	(96.47, 137.79)
Digital Maturity- DM	208.62	214.90	(182.35, 234.88)

One-Way ANOVA test revealed that there is no significant difference between the digital capabilities, leadership capabilities and digital literacy of the organizations.

Implications to Theory and Practice

The '3-DDMM' is a theoretical development which help the organizations to understand their position with respect to each capability as well as the DM. These capabilities are time sensitive, which means an organization could acquire more of these capabilities. This method helps them to monitor their performance over time. This also allows the organizations to compare their capabilities, leadership capabilities and digital literacy within and between industries.

Conclusion and Recommendation

It is concluded that the 3-DDMM is a suitable model to measure the DM of organizations. It is recommended to extend the study for more districts and more companies in the Sri Lankan context.

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Supply chain network centrality and corporate greenwashing behavior: Evidence from China

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The prevalence of the concept of sustainable development puts forward new requirements for the green behavior of enterprises. The 20th National Congress of the Communist Party of China proposed to promote green development, facilitate harmonious coexistence between humans and nature, and actively advance the realization of the carbon peaking and carbon neutrality goals. The concept of green development has garnered significant attention from various sectors of society, leading to more and more companies embracing environmental protection principles, actively disclosing environmental information, and effectively fulfilling their environmental responsibilities. However, due to the long investment cycle and significant cash outflows associated with environmental projects, some companies engage in corporate greenwashing behavior by embellishing environmental information, thereby creating a false image of environmental friendliness (Kim and Lyon, 2015). The increasing prevalence of corporate greenwashing has become a major obstacle to achieving high-quality economic development. Therefore, addressing the widespread phenomenon of corporate greenwashing behavior has become a hot topic of common concern in both academia and practice.

Corporate greenwashing behavior is being imitated by companies eagerly due to its characteristic of achieving high green returns at relatively low costs. However, if left unaddressed, greenwashing, as intentionally initiated false environmental propaganda by companies, will significantly increase social costs (Yu et al., 2020). Furthermore, corporate greenwashing behavior adversely affects various aspects of a company such as reputation (Leonidou et al., 2013), financial performance (Walker and Wan, 2012), and stock performance (Du, 2015). Based on this, academia has initiated extensive discussions on how to govern corporate greenwashing behavior. Studies have been conducted to explore the factors affecting corporate greenwashing behavior in terms of environmental regulation (Hu et al., 2023), technological change (Xie et al., 2023; Lu et al., 2023), and corporate governance (Yu et al., 2020; Liu et al., 2023; Yue and Li, 2023). However, as companies operate within complex supply chain networks, there is still no clear answer from existing studies on how supply chain network relationships affect corporate greenwashing behavior.

The supply chain network refers to a collection of companies, including core enterprises and those with direct or indirect supply and sales relationships. It more intuitively reflects the intricate supply relationships among companies, with those occupying central positions in the supply chain network termed as supply chain network centrality firms (Borgatti and Li, 2009). As an integral component of a company's social network, the supply chain network also influences its daily operational activities and strategic decisions. Existing studies have found that supply chain network position affects firm financial performance (Carnovale et al., 2019), innovation performance (Potter and Wilhelm, 2020), investment efficiency (Shi et al., 2020), risk-taking behavior (Lv et al., 2023), and competitive positioning (Yu et al., 2022). Theoretically, companies situated at central positions within the supply chain network have more direct and indirect connections with supply chain partners, thereby enhancing both supervisory pressures (Kim et al., 2011) and possessing resource, information, and control advantages (Granovetter, 1985; Salman and Saives, 2005). Consequently, they may influence non-economic values such as sustainable development. Therefore, from the perspective of

researching corporate greenwashing behavior, we explore the impact of supply chain network centrality on corporate greenwashing behavior.

Specifically, we selected Shanghai and Shenzhen A-share listed companies from 2009 to 2022 as the initial sample. Based on the two-level business relationships of each listed company, we constructed annual supply chain networks and calculated the network position characteristics of supply chain network centrality. We then examined the impact of supply chain network centrality on corporate greenwashing behavior. Furthermore, we conducted robustness tests (including Two-Stage Least Squares, Heckman two-stage model, Propensity Score Matching, and placebo tests), mechanism tests, and heterogeneity analyses.

The results found that supply chain network centrality reduces corporate greenwashing behavior. The mechanism test finds that companies at the center of the supply chain network suppress corporate greenwashing behavior by alleviating corporate financing constraints and inhibiting managerial myopia. In addition, it is found that the suppression effect of supply chain network centrality on corporate greenwashing behavior is more pronounced in companies in heavily polluting industries, industries with weak competition, and companies with high transaction costs.

Compared to previous studies, this paper contributes in several aspects. Firstly, it advances research on supply chain characteristics, particularly the structural features of supply chain networks. The existing research primarily focuses on the impact of supply chain network position on firm performance, corporate innovation, competitive positioning, investment efficiency, and risk-taking behavior, with insufficient attention given to corporate green practices. By concentrating on the structural features of supply chain networks and examining their impact on corporate greenwashing behavior, we broaden the scope of research related to supply chain networks. Secondly, this paper enriches the study of factors influencing corporate greenwashing behavior and the research framework thereof. Existing studies on the influencing factors of corporate greenwashing behavior are mainly conducted from the aspects of environmental regulation, technological change, and corporate governance. We, on the other hand, explore the impact of supply chain network centrality on corporate greenwashing behavior from the perspective of corporate networks, expanding the influencing factors of corporate greenwashing behavior to the level of supply chain network relationships. Moreover, we find that companies occupying central positions in the supply chain network suppress corporate greenwashing behavior by alleviating corporate financing constraints and inhibiting managerial myopia. These research findings further deepen our understanding of corporate greenwashing behavior. Lastly, from a practical point of view, as enterprises are embedded in a wider supply chain network, enterprises at the center of the supply chain network should actively promote green practices while enjoying a positional advantage. This is of great significance in promoting the sustainable development of enterprises in China.

Keywords: Corporate greenwashing behavior; Supply chain network; Network centrality; Financing constraints; Managerial myopia

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Hajj Funds Management in Indonesia

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Introduction

This thesis explores the management of hajj pilgrimage funds in Indonesia, focusing on their efficiency and effectiveness from the pilgrims' perspective. Despite reforms aimed at reducing corruption, significant issues remain. The first issue is the potential for rent-seeking in hajj disbursement, particularly in accommodation and air transportation, where lack of transparency leads to overcharging. The second issue is the misuse of the *Maslahah* Program funds, which are sometimes allocated to non-hajj activities, offering little benefit to pilgrims. These problems persist due to the Ministry of Religious Affairs' (MoRA) involvement in hajj fund administration and interference with the Hajj Funds Management Agency (BPKH)'s operations. The thesis suggests further reforms, including transforming the BPKH into an independent hajj bank and ensuring compliance with good governance, optimum investment results and *sharia* principles.

Performing the hajj in Indonesia involves more than just purchasing a ticket to Makkah. Pilgrims must complete a special registration process, which can take 11 to 39 years depending on the program and location. The waiting list has grown longer due to COVID-19 restrictions, with the current wait time being 14 to 46 years. During this waiting period, payments made to BPKH are invested to generate returns that will help cover the cost of the hajj. This raises questions about whether pilgrims are receiving the best possible returns on their investments and value for money for the services they pay for in Saudi Arabia and Indonesia.

Literature review

One of BPKH's objectives is to maximize the return on investment to help cover hajj costs, operating as a non-profit entity regulated by Law No. 34 of 2014 on hajj financial management. However, according to a significant body of academic literature, not-for-profit organizations differ from for-profit organizations in two keyways: (1) Their primary goal is to pursue a "social mission" rather than profit maximization (Agyemang, O'Dwyer, & Unerman, 2019). (2) They must not distribute any surplus to individuals outside their "social mission." Therefore, although managers and staff members of not-for-profit organizations may receive compensation, it should not be tied to the creation of a surplus (Ghoorah, 2017). This rule aims to remove the incentive for managers and staff to prioritize surplus generation over their social mission (Yasmin & Ghafran, 2021). Additionally, transforming BPKH into an Islamic bank operating under the Basel III standard is considered more secure. Implementing the Basel III standard would enable the bank to prevent systemic failures during financial crises (King & Tarbert, 2011). Given BPKH's unique status as a non-profit organization, it could be argued that transforming BPKH into an Islamic bank would better equip it to handle financial stress. Indeed, Islamic banks are capable of managing financial crises when operating under the Basel III standard (Boumediene, 2011).

Methodology

This thesis employs a doctrinal and comparative approach to evaluate whether Indonesia's hajj funds are managed effectively and efficiently, adhering to good governance principles and Sharia compliance. It scrutinizes the effectiveness and efficiency of hajj programs, particularly in managing funds to support pilgrims' expenses. The thesis posits that there is a significant risk of corruption in fund management due to pilgrims' low education levels and limited financial resources, coupled with minimal accountability for the government bodies overseeing substantial hajj fund accounts. It explores (a) how such threats have been

historically addressed through court decisions; (b) whether institutional reforms have mitigated corruption risks by assessing the robustness of relevant laws and current practices; and potential further reforms to combat ongoing corruption for the benefit of pilgrims. For, a comparative analysis will be conducted, examining Malaysia's Tabung Haji alongside Indonesia's hajj fund investment policies.

Results

The misused of The Masalahah Program Funds is for the political vote-buying in particular voting areas across provinces in Indonesia which is managed by the BPKH. Moreover, for the management of Hajj fund investment is handled by an entity that is not a bank. As a result, the investment policies for these funds lack supervisory and support entities. Moreover, significant findings indicate that Hajj spending is influenced by rent-seekers, particularly in Saudi Arabia procurements such as logistics for accommodations and transportation. Additionally, the investment policies yield below-average income because the investment strategies are not adequately protected by law. This impacts policymakers in allocating the funds across various investment drivers."

A Comparative Legal Analysis of Indonesia's BPKH and Malaysia's Hajj Funds Agency (*Tabung Haji/TH*), provides new insights into the possibility of future reforms to Indonesia's hajj funds management system. Although the TH and the BPKH exhibit some strong similarities – especially in the *wakalah* contract, state *sukuk* investment, and the occurrence of some hajj-related scandals – some significant data points of difference are worthy of consideration for Indonesia too, such as a government guarantee of the hajj funds if an 'unhealthy' balance occurs, and the introduction of a Sharia compliance committee that might be supervised by Indonesia's Sharia Supervisory Board (Dewan Pengawas Syariah). Moreover, the consistency of hajj payments under the TH, which have not changed for more than five years and which are the same in every state, is another point of comparison that is suggestive of positive reforms that could be made in the Indonesian context.

Implications to theory and practice

This thesis significantly enhances knowledge in two main areas. Firstly, from an academic perspective, it addresses a gap in the current literature on the Hajj in Indonesia. While existing studies on the Hajj are extensive and diverse, they lack substantial focus on the funding, expenditure, and beneficiaries of the pilgrimage. The existing literatures avoid a critical examination of its underlying principles. Specifically, it does not thoroughly address how Hajj funds should be classified—whether they should be considered private or public funds. If they are deemed public funds, what is the nature of the relationship between the pilgrims and the government agency managing these funds? This question has not been critically explored in the existing literature.

Secondly, from a practical standpoint, it highlights ongoing issues in the management of Hajj funds in Indonesia and suggests reforms that could benefit millions of pilgrims. Focusing on the practical significance of this research, it reveals several fundamental weaknesses in the current institutional arrangements for Hajj management, particularly regarding income generation and expenditure. It examines the BPKH's decisions on investment strategies and regulations for Hajj fund management, the statutory framework of the BPKH, and the operational costs of the Hajj, with a special emphasis on accommodation and air transportation expenses.

Conclusion

To manage Hajj funds more effectively, efficiently, and equitably, the management structure needs reform including the transparency of the hajj logistics disbursements. There are several ways to establish an Indonesian Hajj Bank in relation to the BPKH: (1) acquiring an existing

bank (or banks) to be managed by the BPKH as a subsidiary; (2) merging the BPKH with a state-owned Islamic bank; or (3) transforming the BPKH itself into a bank. Regardless of the approach, the bank would need to comply with the Basel III framework, the Financial Service Authority (Otoritas Jasa Keuangan or OJK), and Bank Indonesia regulations. Additionally, it would require a Sharia Supervisory Board overseen by the DSN (Sharia Supervisory Board) to ensure Sharia compliance. The OJK, Bank Indonesia, and the DSN, as independent agencies, would oversee the bank's policies regarding efficiency, effectiveness, and Sharia compliance, particularly in investment choices, disbursements, and prudential matters. These regulatory agencies exercise public authority but are not hierarchically subordinate to elected politicians.

Keyword: Hajj; Funds; Bank

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The Impact of Enterprise Digital Transformation on Green Innovation: A More Comprehensive Perspective

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Introduction

In rapid globalisation and technological advancement, digital transformation and green innovation have become crucial pathways for enterprises to achieve sustainable development. The World Economic Forum's "2024 Global Risk Report" highlights that half of the top ten global risks in the next decade will be environmental. China has become the world's largest energy consumer and carbon dioxide emitter. Additionally, while digital transformation provides tools and platforms to promote green innovation, it also introduces new environmental challenges, such as increased energy demand and electronic waste issues, which could offset some benefits. Therefore, the relationship between them is not straightforward.

Literate Review

Digital Transformation and Green Innovation

Digital transformation enhances productivity, enabling them to produce more and greener products with fewer resources and energy inputs, thereby improving resource efficiency and green innovation ([Wang et al., 2023](#)).

Digital Transformation, Intermediary Path and Green Innovation

Enterprises can leverage digital technologies for market analysis and demand forecasting, thereby reducing uncertainties and risks in the R&D process and lowering the costs of R&D failures ([Adama et al., 2024](#)). Enterprises' digital transformation can enhance ESG performance, which in turn can further drive green innovation through improved ESG outcomes ([Sun et al., 2024](#)). Enterprises can timely and accurately disclose financial data, operational status, and project progress through digital tools. Transparent and high-quality information disclosure sends positive signals to the market, enhancing corporate credibility and investment attractiveness ([Sun and Du, 2024](#)) and improving financing capability. Digital transformation can leverage information technology to enhance operational transparency, making information between shareholders and management more symmetric ([Wu et al., 2023](#)). Through real-time data analysis and information sharing, firms can more effectively monitor management's actions, reducing the supervision costs caused by information asymmetry.

Methodology

This study focuses on Chinese A-share listed enterprises from 2012 to 2021. Data is sourced from the China Stock Market & Accounting Research (CSMAR) database.

This paper combines the mediation model with the IV method, avoiding endogeneity issues and yielding more accurate causal effects. The specific mediation model is as follows,

$$GI_{it} = \alpha_0 + \alpha_1 DT_{it} + \gamma Controls_{it} + \omega_i + \pi_t + \varepsilon_{it} \quad (1)$$

$$M_{it} = \theta_0 + \theta_1 DT_{it} + \gamma Controls_{it} + \omega_i + \pi_t + \varepsilon_{it} \quad (2)$$

$$GI_{it} = \mu_0 + \mu_1 \widehat{DT}_{it} + \mu_2 M_{it} + \gamma Controls_{it} + \omega_i + \pi_t + \varepsilon_{it} \quad (3)$$

In Equations (1) - (3), GI_{it} represents green innovation, which is the dependent variable. DT_{it} represents the firm's digital transformation, which is the independent variable. $Controls_{it}$ are the control variables. M_{it} is the mediating variable.

Conclusions and Implications

This paper evaluates digital transformation's direct and indirect impacts on green innovation, using data from Chinese-listed companies spanning 2012 to 2021. The results indicate that while the level of digital transformation among enterprises is relatively high, green innovation remains lower and has shown a downward trend during the pandemic. Meanwhile, their development levels are uneven across provinces. Importantly, our findings reveal that digital transformation has a positive direct influence on green innovation. This positive impact varies significantly across size, ownership, and region. Furthermore, the paper employs a mediation model incorporating the instrumental variable approach to investigate the underlying mechanisms. The results confirm that R&D, ESG performance and financing constraints are significant mediating mechanisms through which digital transformation fosters green innovation. In enterprises with better corporate governance, reducing agency costs emerges as a crucial intermediary pathway for enhancing green innovation. The conclusions contribute to more scientific and practical decision-making references for enterprises and policymakers.

Keywords: Digital Transformation; Green Innovation; Intermediary Path Analysis.

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Green electricity forecasting using interval-valued-based multi-step ahead scheme and augmented features

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Introduction

Supplying green electricity (GE) is challenging as the natural resources are often found to be random, uncertain, instantaneous or season-dependent [1,2]. Moreover, GE output is often unstable and has a wide range of an interval-valued. Interval-valued data refers to data within specific time or space intervals, representing the range of possible data values which the commonly used expression are Upper-Lower method (UL) or Center-Radius method (CR). Forecasting interval-valued GE output provides maximum and minimum electricity estimates, helping power grid managers monitor supply and make decisions. Managers also often require information well in advance, as situations take time to respond to. Therefore, both interval-valued and multi-step ahead forecasting are essential for managing GE supply [3].

Literature review

Most existing studies use basic features for interval-valued forecasting, relying on models that only consider time lags from the target variable. Ma et al. [4] use optimization to reduce solar power forecasting errors, while Gupta et al. [5] apply a Wavelet-ARIMA model for wind power. However, these studies consider UL or CR, but only capture the interval's overall boundary. Augmented features (AFs) like the five-number summary, skewness, and kurtosis can be extracted from the original interval-valued data providing information regarding the distribution or shape of the interval, potentially improving model performance. Additionally, few studies address multi-step ahead forecasting for interval-valued data [6]. Hence, this study proposes a multi-step interval-valued forecasting scheme to enhance GE interval predictions by incorporating AFs.

Methodology

GE of wind power (WP) open data from Belgium is used in this study. It contains WP electricity under 15 minutes recording cycle per day between 2013 to 2017. Models of GRU, LSTM and TCN are built while using mean ratio of exclusive-or (MRXOR) for evaluation.

Results

Table 1 presents the MRXOR comparison between models. GRU-S, LSTM-S and TCN-S are the models trained without using AFs and is the benchmark for performance evaluation. As shown in the table, performance of the models with AF in each step ahead all outperform their corresponding benchmark. Additionally, comparing the mean MRXOR of each model evaluates the overall performance, which GRU-AF is the best performed one. Overall, results in table 1 indicates the promising potential of the proposed scheme.

Table 1. Model performance comparison

Model	1 step ahead	2 step ahead	3 step ahead	Mean
GRU-S	0.6709	0.8476	0.8801	0.7995
LSTM-S	0.7003	0.8436	0.8884	0.8108
TCN-S	0.9209	1.0411	1.4269	1.1296
GRU-AF	0.6604	0.8440	0.8673	0.7906
LSTM-AF	0.6916	0.8432	0.8701	0.8016
TCN-AF	0.7025	1.0370	1.3283	1.0226

Implications to theory and practice

The scheme demonstrates the potential ability to provide more accurate multi-step ahead interval-valued forecasting on GE. Power grid managers can utilize this information knowing what to expect day ahead which gives them more time to prepare and allocate resources.

Conclusion

Incorporating AFs derived from interval-valued data improves the accuracy of models in GE interval forecasting. This highlights the potential for leveraging information within interval-valued data to enhance model performance.

Keywords: green electricity; multi-step ahead forecasting; interval-valued; augmented feature

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Investigating statistical and machine learning techniques applied in time series forecasting of carbon credit financial products

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Introduction

Carbon credit financial products (CCFP) incentivize enterprises to reduce emissions by pricing carbon, making them crucial in addressing climate change. Carbon emission futures (CEF), a type of CCFP, allow participants to trade emission rights at a set future price, helping companies manage risks and improve market transparency [1]. As CEF is a niche and emerging market, identifying accurate forecasting algorithms is essential for companies to gain a competitive edge. Additionally, events like the Ukraine-Russia war (Uk-Ru war) have increased price volatility in the carbon market [2], underscoring the need for exploring the stability and adaptability of CEF price forecasting models.

Literature review

Su et al. [3] conducted a bibliometric analysis using the Web of Science core database, examining CCFP-related works from 1992 to 2021, showing a rapid increase in publications. This highlights the growing popularity and importance of CCFP. Zhou et al. [4] have shown promising results of forecasting carbon price using machine learning (ML), which shows the potential and value of investigating ML model usage for forecasting CEF.

Methodology

ARIMA and ML models of Classification and Regression Trees (CART), Light Gradient Boosting Machine (LightGBM), Random Forest (RF), and Extreme Gradient Boosting (XGBoost) are evaluated in this study. Before/after beginning of Uk-Ru war is considered to examine the model performance in different war status. CEF price data were sourced from "www.investing.com" covering the period from March 2019 to March 2024. The performances are evaluated using root mean squared error (RMSE), mean absolute percentage error (MAPE), symmetric mean absolute percentage error (SMAPE), median relative absolute error (MdRAE) and mean absolute scaled error (MASE).

Results

Table 1 shows the empirical results comparing ARIMA and the four used ML models in different war status showing that ARIMA performs better than the four ML models.

Table 1. Performance of models in different war status

War status	Model	RMSE	MAPE	SMAPE	MdRAE	MASE
Before the beginning of Uk-Ru war	ARIMA	2.37	2.2	2.18	0.02	0.99
	CART	19.44	18.35	21.49	0.12	9.18
	LightGBM	20.17	19.48	22.91	0.14	9.69
	RF	19.61	18.57	21.77	0.13	9.28
	XGBoost	19.87	19.05	22.36	0.13	9.49
After the beginning of Uk-Ru war	ARIMA	1.56	1.86	1.85	0.02	0.03
	CART	3.79	4.3	4.11	0.02	2.1
	LightGBM	5.84	6.77	6.3	0.04	3.26
	RF	4.76	4.85	4.54	0.02	2.55
	XGBoost	5.58	6.46	6.04	0.03	3.12

Implications to theory and practice

The empirical findings offer valuable insights for companies needing CEF price forecasts, helping them assess model performance expectations.

Conclusion

ARIMA shows promising performance for forecasting CEF price and remains reasonably stable when Uk-Ru war occurs. Not to mentioned that ARIMA usage is simple and straight forward to interpret, it should not post challenge for companies adapting it.

Keywords: ARIMA; machine learning; forecasting; carbon emission future

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Price Efficiency or Noise: HFT Impact on Corporate Investment

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Abstract

This paper investigates the relationship between HFT activity and stock price informativeness, with particular emphasis on its implications for corporate investment decisions. We adopt Mixed Data Sampling (MIDAS) regression models to analyse the intricate interdependence between HFT activities, stock price informativeness, and corporate investment behaviours, based on the U.S. listed firms from 2012 to 2020. MIDAS regression framework, as developed by Ghysels et al. (2006), integrates high-frequency data with lower-frequency corporate financial data, having the advantage of avoiding the loss of information that results from aggregating the data over time. This paper focuses on two measures of stock price informativeness: Price Delay, based on the Boehmer and Wu (2013) modification of the Hou and Moskowitz (2005) method, measuring the speed of information incorporation into the stock prices, and Price Non-synchronicity based on the R^2 measure proposed by Roll (1988) and extended by Morck et al. (2000), measuring the extent of firm-specific information in the stock prices. This dual approach facilitates the examination of HFT effects in relation to the speed and accuracy of information dissemination in the financial markets.

The findings reveal that increased HFT trading activity increases stock price efficiency by reducing the time taken by prices to adjust to the new information available across a market and increasing the variation in return for individual firms. This effect is particularly significant under a higher value of market capitalization and a higher degree of information asymmetry, indicating that the benefits of HFT for price efficiency are not uniformly distributed across the market. The findings also indicate that HFT activity significantly enhances the sensitivity of corporate investment to stock price informativeness. This relationship holds across various measures of corporate investment and is robust to multiple controls and econometric specifications.

The findings further reveal that HFT positively affects investment through two main mechanisms. First, it enhances the informativeness of stock prices, thereby enabling managers to base their investment decisions on more accurate market data, which in turn shapes corporate investment strategies. Second, the influence of HFT is particularly strong among financially constrained firms. This suggests that HFT reduces financing barriers, allowing these firms to respond more actively to accurate price information. Moreover, investment sensitivity to price signals is greater in financially constrained firms with high levels of HFT activity compared to unconstrained firms with less HFT involvement, pointing to HFT's role in improving the efficiency of capital distribution across different firms.

To robust our findings, we examine how HFT impacts managerial decision-making with potential adverse effects on long-term corporate value creation. The findings imply that large corporations make their R&D expenditure in a cyclical manner as a part of strategic financial management while small firms are more sensitive to immediate financial constraints or market situations.

The results of this study have important implications for corporate managers, investors, and policymakers. For managers, our findings underscore the importance of considering how their firm's information environment interacts with HFT activity when making investment decisions. Managers of firms with high information asymmetry and poor information quality stand to benefit more from the informational and financing effects of HFT. For investors, our analysis highlights the role of HFT in facilitating more informationally efficient prices and enabling a more efficient allocation of capital across firms. Finally, our results inform the persistent policy

debate surrounding the regulation of HFT by providing evidence of its effects on corporate investment and capital allocation.

Keywords: High-Frequency Trading; Corporate Investment; Price Informativeness; Managerial Learning; Financial Constraints

JEL Classifications: G14; G31; G32; G41; D82; D83.

**Unravelling the Factors Influencing the Adoption of Extended Producer
Responsibility for Fishing Gear: A Multiple-Case Study**
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Introduction

Marine waste, particularly plastic from fishing and aquaculture products, represents a severe global environmental challenge with significant socio-economic and ecological impacts. Plastic pollution threatens marine life through entanglement and damages tourism, highlighting the inadequacies in current waste management systems (Jorgensen, 2019; Beaumont et al., 2019). To address these issues, policies such as Extended Producer Responsibility (EPR) are advocated, requiring producers to manage their products throughout their lifecycle, including disposal (Charter, 2020). The European Union's Waste Framework Directive supports EPR as a means to enhance waste management and recycling, with a new directive mandating EPR for fishing gear by December 30, 2024, aiming to revolutionize waste management practices in the fishing industry (Niza et al., 2014; Miljødirektoratet, 2022).

Previous research on EPR has focused on various product categories, such as electrical equipment, vehicles, and tyres, providing insights into different aspects of waste management and recycling (Andersen, 2022; Dawson et al., 2021). However, implementing EPR for fishing gear has been explored less, with significant gaps in understanding the factors affecting its adoption. This product category poses unique challenges due to difficulty in tracing gear to individuals and its diverse material composition (Deshpande et al., 2020; Nogueira et al., 2022). There is a need for more empirical and interdisciplinary research to address these challenges and develop effective EPR strategies for fishing gear, emphasizing the importance of investigating the specific factors influencing EPR implementation in this context (Do et al., 2022).

Literature review

The literature review explores the concept of EPR as a crucial economic tool for advancing the CE. EPR, a strategy that holds manufacturers accountable for the entire lifecycle of their products, including disposal and recycling, emerged in the 1990s and has evolved with various policy instruments such as energy efficiency standards, advance disposal fees, and refundable deposits. Globally, countries like Norway, Belgium, and France have implemented EPR frameworks to manage waste more effectively, especially for products like fishing gear and electronic waste. The review highlights that while EPR aims to promote sustainable practices by encouraging producers to manage waste and minimize environmental impact, its effectiveness can be influenced by a range of factors including economic incentives, regulatory frameworks, and stakeholder pressures.

Recent studies on EPR implementation have identified several influencing factors categorized into dimensions like economic, social, and technological aspects. The review emphasizes the importance of integrating theories such as stakeholder theory and resource-based theory to understand the complexities of EPR adoption. Stakeholder theory helps explain how pressures from various stakeholders drive companies to embrace EPR, while resource-based theory focuses on the role of valuable resources and capabilities, such as digital technologies and organizational structures, in successful EPR implementation. This theoretical framework underscores the need for a nuanced approach to understanding EPR, particularly in specific contexts like the fishing gear industry in Norway, where stakeholder engagement and resource management are critical for effective policy outcomes.

Methods

This study employed an exploratory, multiple-case design to investigate factors influencing the implementation of EPR for fishing gear in Norway. The research utilized a combination of theoretical and snowball sampling to select participants, including four fishing gear manufacturers, a waste management provider, a recycler, an NGO, and a government expert. Data were collected through 10 semi-structured online interviews, which were transcribed and analyzed using inductive content analysis. This analysis followed a four-step process: decontextualization, recontextualization, categorization, and compilation, aimed at identifying themes and factors influencing EPR adoption. Additionally, various supplementary data sources such as web pages, firm reports, and sustainability reports were used and triangulated to ensure the accuracy and reliability of the findings.

Result

The study identified three key factors influencing the implementation of EPR: institutional pressure, inter-organizational collaboration, and digital capabilities. Institutional pressure emerged as the most significant factor, driving companies to adopt EPR through regulatory mandates and incentives, though challenges like unclear regulations and bureaucratic hurdles were also noted. Inter-organizational collaboration, including both vertical and horizontal partnerships, was crucial for effective EPR

implementation but faced obstacles such as communication issues, stakeholder engagement, and fragmented supply chains. Digital capabilities were recognized as vital for enhancing traceability and efficiency, though none of the organizations had yet fully utilized advanced technologies like blockchain. Overall, the findings underscore the importance of regulatory frameworks, collaborative networks, and digital tools in advancing EPR practices while highlighting existing barriers and areas for improvement.

Implication to theory and practice

In so doing, the contribution of the current study to the body of knowledge is twofold. Firstly, at the academic level, this study offers valuable insights into the underexplored and under-theorized area of EPR through interviews with major stakeholders. Second, at the practical level, by identifying factors affecting EPR scheme implementation, we aim to enable managers to assess and adopt the EPR scheme and help policymakers focus their efforts on implementing appropriate legislative and institutional reforms. This issue is timely due to the recent publication of the EU directive 2019/904, which aims to reduce the impact of certain plastic products on the environment. The directive includes the proposal of EPR for fishing gear and components of fishing gear containing plastic. The objective is to ensure the separate collection of waste fishing gear and finance environmentally sound waste management, mainly recycling.

Keywords: Extended producer responsibility; Circular economy; Sustainability; Fishing gear industry

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Design, development and evaluation of smart vertical soilless farming system for saffron cultivation (*Crocus sativus* L.)

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Introduction

Agricultural systems are vital for global food security but face a plethora of challenges, including climate change, land degradation, and unpredictable weather, all of which threaten their productivity. Traditional open-field farming, reliant on soil and vulnerable to environmental factors, is increasingly inadequate to meet growing food demands. To address these issues, innovative approaches like protected soilless cultivation offer solutions by enhancing crop productivity, sustainability, and resilience. This technique of crop production is particularly suited to high value crops such as spices, herbs, and ornamentals. Environment-sensitive high-value crops like saffron are usually preferred for protected soilless cultivation to optimize the inputs, maximize the yields and enhance the quality and nutritional status of the produce. This is achieved by leveraging the modern production technologies that help control the components of the crop growth environment and minimize the biotic and abiotic stresses. The focus of the study was to evaluate the adaptability of saffron, a medicinal crop with great economic value, to soilless cultivation. Saffron is traditionally grown in soil under specific climatic conditions, making it susceptible to the environmental challenges. Recognizing the challenges posed by its traditional cultivation methods, the study focused on developing a controlled and efficient approach to saffron production. To achieve this, a smart soilless farming system was designed specifically tailored to saffron production. By integrating advanced technologies like soilless culture, IoT, precision algorithm and smart decision support systems for crop micro-climate control, irrigation, and nutrient delivery, the system aimed to optimize both saffron flower and corm production.

Literature Review

Soilless systems, offering a sustainable solution for crop production amid soil degradation and water scarcity, have gained significant global importance over the past 50 years (Schmilewski, 2007; Savvas *et al.*, 2013). The soilless farming technologies encompass various cultivation techniques such as substrate culture, hydroponics, aeroponics, and aquaponics, all integrated with advanced sensors, data analytics, and automation systems to enhance productivity and resource efficiency. Smart soilless farming offers an excellent alternative for growing high value crops in the areas having scarcity of arable land and water resources. In urban areas, this technology can play a pivotal role as there is scarcity of farming space (Stanghellini, 2013). Compared with soil-based cultivation, soilless production can be more cost-effective (Graziadellis *et al.*, 2000), producing higher yields and early harvests from smaller areas of land (Raviv and Lieth, 2008; Rezaei and Ismaili, 2014). Soilless systems also have generally higher water and nutrient use efficiencies (Van Os, 1999; Savvas, 2003). This farming technology can serve as an effective tool for enhancing crop yields while simultaneously mitigating the environmental impact associated with greenhouses and nurseries. Overall,

these innovative farming technologies hold promise for sustainable agriculture by combining traditional soilless techniques with cutting-edge digital tools. However, challenges remain, particularly in scaling these technologies to large commercial farms. Research continues to focus on improving the economic viability, energy efficiency, and environmental sustainability of these systems, positioning them as vital contributors to future food security in a resource-constrained world. Despite extensive research on soilless cultivation, there is a lack of standardization in methodologies, and critical gaps remain in understanding media-plant interactions and nutrient absorption. More research is needed, especially on high-value crops like saffron, to optimize yields and improve the techno-economic viability of large-scale soilless farming.

Methodology

The study focused on designing, developing, and evaluating a smart soilless farming system for saffron flower and corm production. The first experiment involved the standardization of the soilless growing media for Saffron (*Crocus sativus* L.) corm production using three media types—coco-peat, coco-peat mixed with perlite, and a combination of coco-peat, rockwool, and silica sand—alongside a soil-based control under protected conditions with the aim to produce the quality planting material of saffron which is an essential component with any soilless production system. Trials were conducted over two crop cycles (2019-2021) in polytunnels, testing different fungicide levels to optimize saffron corm growth. The trial aimed to identify the most suitable soilless growing media for optimizing corm production of saffron under protected conditions. The second experiment involved developing a modular vertical farming unit with automated controls for resource optimization, integrating sensors, and a fuzzy rule-based algorithm for regulating environmental parameters and fertigation. The system was designed based on saffron's physiological requirements and aimed to enhance saffron flower and corm production in a controlled environment. To evaluate the performance of saffron in the smart soilless farming unit and to compare it with soil-based cultivation, saffron growth indicators were measured using the destructive technique and quantified. The studied phenological traits included the leaf dry weight, root dry weight, mother corm weight and replacement corm weight. Finally, the productivity assessment of the smart vertical soilless farming system was carried out to evaluate the saffron yields, comparing it with traditional farming. Both quantitative analysis and qualitative analysis of the stigma yield was done by analysing floral attributes over two crop production cycles. Key quantitative metrics included fresh flower weight, weight of stigmas, stigma length, dry stigma yield and number of flowers produced per metre square of the growing space, and qualitative metrics included quantification of crocin, picrocrocin, and safranal content in the spice. A techno-economic analysis using capital budgeting and net present value (NPV) approach was carried out to assess the economic viability of the smart soilless growing system based on production costs and revenues from multiple harvests. A stakeholder survey was also conducted to assess farmer perceptions of the proposed technology and their willingness to adopt it.

Results

The research was carried out over four consecutive years (2019, 2020, 2021, and 2022) to evaluate the feasibility of implementing smart soilless farming technology as a sustainable alternative for saffron production. In the soilless media standardization experiment (2019 – 2020), results were analyzed from two different standpoints, one concerning the mother corm growth and development and the other involving the production of replacement corms from the mother corms. The vegetative analysis showed that saffron corms grown in the G3 soilless medium (coco-peat, rockwool, and crushed silica sand) with 0.36% fungicide in circular polytunnels (P1F2G3) had the best vegetative growth, producing the highest number of leaves and leaf dimensions. Coco peat alone was insufficient for optimal growth, leading to smaller leaf areas. The superior performance of G3 is attributed to its ideal water retention, aeration,

and drainage properties, resulting in heavier, larger corms compared to treatments using only coco peat or soil. Coco peat as a standalone substrate was unsatisfactory for the vegetative growth of saffron corms and this inadequacy was reflected by the lowest leaf areas produced per corm for the treatments that used coco peat as the growing substrate. The P1F2G3 treatment, which includes a circular polytunnel and 0.36% fungicidal amendments, led to higher corm yields, making it a viable technique for saffron cultivation in controlled environments. In contrast, treatments using only coco peat or soil resulted in lower corm performance due to suboptimal growing conditions.



Leaf growth in P1F2G3
(Circular Polyunnel +
0.36% Carbendizime &
Mancozeb + Coco-peat,
Rockwool & Crushed Silica
Sand)



Corm yield from P1F2G3
(Circular Polyunnel + 0.36%
Carbendizime & Mancozeb +
Coco-peat, Rockwool & Crushed
Silica Sand)



Difference in corm size
between the soil-based and
soilless growing media

To evaluate the performance of saffron corms grown using smart soilless farming technology, the foliage, root, and bud growth trends were studied. The study found that saffron corms grown using smart soilless farming technology showed superior growth and biomass accumulation compared to traditional soil-based cultivation. The soilless system provided a more favorable environment and better nutrient availability, resulting in significantly higher bulb dry weight and overall plant growth. The productivity assessment of the smart soilless farming technology revealed significant differences in growth, yield, and quality traits in comparison with the traditional soil-based farming method. Saffron flowers from the smart soilless system had higher average flower weights (0.4375 g for Production Cycle CPC1 and 0.4150 g for Production Cycle CPC2) than the soil-based system (0.3350 g and 0.3375 g respectively). Although the smart soilless system produced lesser flowers per square meter, the stigma yield per square meter was much higher in PS1 (529.4 mg m² in CPC1 and 874.3 mg m² in CPC2) compared to PS2. Additionally, the crop quality analysis showed that saffron grown in the smart soilless farming system (PS1) outperformed the traditional soil-based system (PS2) in terms of key metabolites: crocin, picrocrocin, and safranal. Saffron grown in smart soilless farming system produced higher crocin (37.14 mg/g for CPC1 and 38.14 mg/g for CPC2) and picrocrocin (1.340 mg/g for CPC1 and 1.453 mg/g for CPC2) contents across both crop cycles, while saffron produced using traditional soil-based method showed lower values. Safranal content also favored smart soilless farming system, with improved metabolite concentrations during both crop production cycles (0.2667 mg/g for CPC1 and 0.2767 mg/g for CPC2) due to better control of growing conditions and healthier corms.

The comparative techno-economic evaluation showed that while the initial establishment cost and production costs of the smart soilless farming system (PS1) were much higher than traditional soil-based farming (PS2), the long-term profitability was greater for PS1, with a higher Net Present Value (NPV) of ₹1,93,12,448 compared to PS2's ₹1,17,84,279. However,

PS1 had a longer payback period of 4.3 years, indicating the need for government subsidies to offset the high initial investment. A questionnaire-based study was conducted to examine and understand the farmers' acceptance of the standardized smart vertical soilless farming technology (PS1) compared to traditional soil-based cultivation (PS2). Respondent farmers with smaller land holdings showed a higher inclination to adopt smart soilless farming technology, driven by ease of setup, quality of the planting material and spice produced from the technology, and potential profitability. The analysis revealed that respondents appreciated automation features most, but cited high initial costs as a major barrier. Despite this, all participants supported the technology and agreed on the need for government subsidies and advanced training to facilitate adoption.



Modular Smart Soilless Farming Technology



Flower yield in the level 2 of the Smart Soilless Farming Unit



Fresh stigma yield of the Smart Soilless Farming Unit

Implications to theory and practice

The scientific relevance of this research extends beyond saffron cultivation. The findings could potentially be applied to other high-value crops, offering a scalable solution to global agricultural challenges. Technologically, the development of a smart soilless farming system represents a significant advancement in precision agriculture, incorporating elements of automation, data analysis, and environmental control. From a socio-economic perspective, the successful implementation of such systems could revolutionize agriculture, particularly in regions where traditional farming is becoming increasingly unviable due to environmental degradation. The significance of this research lies in its potential to address the pressing need for sustainable agricultural practices that can withstand environmental stresses while maintaining high levels of productivity. As such, this research is of paramount importance, aligning with global priorities to develop sustainable agricultural systems capable of meeting future food demands.

Conclusions

The research, spanning from 2019 to 2022, focused on developing and evaluating a smart vertical soilless farming system for saffron cultivation. Key findings establish that the soilless media G3 (Coco-peat, Rockwool, and Crushed Silica Sand) introduced with the F2 (0.36 % Carbendizime & Mancozeb) fungicidal amendment under P1 (Semi-circular Poly tunnel) growing environment exhibited the highest potential for successful soilless corm production and outperformed others in terms of vegetative growth and corm development, replacement corm weight, and overall corm yield. The smart soilless farming system demonstrated consistent growth patterns and higher yields compared to traditional soil-based methods, with higher contents of crocin, picrocrocin, and safranal which are the key metabolites in saffron. The system showed economic viability despite a longer payback period, and farmer surveys indicated a preference for the smart technology, particularly among those with smaller farms. The results of the study established smart soilless farming technology as an appropriate and sustainable alternative to conventional soil-based saffron production. Overall, the study

provided valuable insights into optimizing saffron cultivation through innovative soilless methods and suggested promising avenues for future research and application.

Keywords: Soilless culture; Smart farming; Saffron; Vertical farming, Precision agriculture; IoT

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Philanthropy and female labour force participation in South Africa.

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Introduction

In Africa, philanthropy is a significant part of its identity, contributing to its socio-economic growth. However, research investigating its impacts on female labour force participation in South Africa is scarce. Therefore, this study aims to fill this gap by investigating how philanthropy impacts women's economic engagement in rural parts of South Africa. The research adopts qualitative methods to capture the nuanced perspectives of women recipients of philanthropic enterprises.

Literature Review

African philanthropy is associated with different forms such as volunteering, donation, charity and other forms of donations ranging from traditional community-based support to modern institutional philanthropy (Adebawale, 2017; Fowler, 2016). Even though the impact of philanthropy on socio-economic development has been investigated, little attention has been given to its role in enhancing female labour force participation. Over the world, the feminization U-Shape Hypothesis indicates various levels of impacts of marriage and fertility on women's workforce participation, suggesting a decline followed by a rebound in participation rates over the lifecycle (Blossfeld & Huinink, 1991).

Methodology

This study applies a qualitative research design, using convenient as well as purposive sampling techniques to select thirty women from rural communities in South Africa. Data collection includes semi-structured interviews to gather quality information on how philanthropy influences the participation of women in the labour market. Thematic content analysis is utilized to systematically analyse and interpret the qualitative data, ensuring robust insights into the complex dynamics at play (Braun & Clarke, 2006). This is more suitable for this study.

Findings

The primary findings of the study suggest that philanthropy significantly enhances female labour force participation in the rural parts of South Africa. Differing from the feminization U-Shape Hypothesis, which theorises a negative impact of marriage and fertility on women's participation in the labour force, philanthropic activities including skills training, access to education, and microfinance support to empower women to go into sustainable employment or job creation. Participants of the study (women) assert that increased confidence, financial independence, as well as improved social status as supported by philanthropic initiatives, stressing its transformative abilities in marginalised communities.

Discussion

The study confers the implications of these findings for stakeholders in philanthropy, such as policymakers, civil society organizations, corporate foundations, as well as local communities. It is expedient to emphasise that understanding the positive roles of philanthropy in encouraging female economic empowerment underscores the need for battered interventions that improve access to and usage of education, skills development, and entrepreneurial prospects for women in rural parts of South Africa.

Conclusion

In conclusion, this study contributes to the growing body of literature on philanthropy and gender dynamics in Africa. By stressing the positive impacts of philanthropy on female labour

force participation, it underlines the significance of inclusive growth policies that leverage philanthropic resources to economically empower women. Future research should further examine the scalability as well as sustainability of philanthropic benefits in promoting gender equality and socioeconomic growth in different African countries.

Keywords: philanthropy; female labour force participation; qualitative research; South Africa; gender equality

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Factors that lead SMMEs to adopt paid Facebook advertising in South Africa

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Literature Review

South Africa has the highest failure rate of Small, Medium and Micro Enterprises (SMMEs) (Assefa, 2023). Research suggests that inadequate marketing strategies (Enwejeri, 2023; Zulu, Ngwenya & Zondi, 2023) and limited financial resources (Enaifoghe & Ramsuraj, 2023) are among the factors that contribute to SMME failure. According to Ma'aji, Shruballs, and Anderson (2023), marketing skills bring success to the business. However, SMMEs are unable to commit large budgets to marketing (Melo et al., 2023). Social media marketing particularly Facebook advertising is a cost-effective strategy that contributes to finding new customers and remaining connected with the existing client base. These aspects represent revenue generation activities as they lead to positive consumer purchasing behaviour (Zeng et al., 2022). However, little is known about how SMMEs are utilising it and how it impacts revenue and business sustainability, particularly in the context of a less economically developed country like South Africa (Wiese, Martinez-Climent, & Botella-Carrubi, 2020; Nkosana, 2022; Fareed & Tantawi, 2022; Donga, Chimucheka & Jikijela, 2024). This study will embrace the Technological, Organisational and Environment (TOD) framework as the primary theoretical lens and integrate it with the Diffusion of Innovation (DoI) theory to pursue factors that lead SMMEs to adopt paid Facebook advertising. These frameworks are commonly applied to predict the extent of technology adoption by businesses (Qalati et al., 2021; & Ullah et al., 2021; Amini & Javid, 2023; Cheung et al., 2023).

Research Design and Methodology

The study will follow a mixed-method research design as its fundamental approach. The study will adopt the explanatory sequential design where the qualitative design helps explain the quantitative results that include unexpected findings and outliers that are not entirely consistent in more detail (Terrell, 2012; Toyon, 2021). The study will give priority to the quantitative phase, the researcher will first collect and analyse the quantitative data, and then use qualitative methods to gain further explanation and interpretation of the quantitative results obtained in the first phase (Wipulanusat et al., 2020).

Population and Sampling

The study will target SMMEs that have received funding for Manufacturing Programmes from the Small Enterprise Finance Agency (sefa) and the Department of Trade Industry and Competition (the dtic). The Programmes seek to support small businesses within the manufacturing sector. A database of the SMMEs funded through these programmes will be obtained from the two organisations. For the quantitative phase, the study will employ probability sampling using a stratified sampling method. For the qualitative phase, purposively selecting an interview sample that reflects the demographic makeup of the quantitative sample will be done using information about the demographic characteristics gathered in the quantitative data. Following this procedure, survey respondents who were chosen through purposive sampling will participate in semi-structured interviews (Draucker, 2020). A

combination of the highest and lowest adopters of paid Facebook advertising will be selected from the quantitative sample, to compare the qualitative results.

Data Collection Instruments

The researcher will collect the quantitative data directly from a sample using an online custom-designed questionnaire that will be informed by the extensive literature review of tried and

tested instruments. The qualitative data will be collected through face-to-face and online semi-structured interviews with the SMMEs.

Data Analysis

The quantitative data collected will be analysed by using descriptive statistics, to support the findings of the study logically. Data analysis used in this study will include Structural Equation Modelling (CB-SEM). SEM will help understand the direct and indirect relationships among various factors influencing the adoption of paid Facebook advertising. Hair et. al (2010) explain that the goodness of fit, or the reduction of the discrepancy (differences) between the estimated and observed covariance matrices, is the main objective of CB-SEM evaluation. For the qualitative phase, two coders will independently familiarise themselves with the data by reading each transcript, taking notes, and creating additional codes within each main construct. Using an iterative process, the two coders will meet to discuss the initial set of codes and to discuss similarities and differences in each set of codes (Bornhauser, Lotscher & Seifert, 2007).

Reliability, Validity, and Trustworthiness

Cronbach's alpha (α) test will be employed to measure quantitative data reliability. To ensure that the questionnaire is clear, easy to read and understandable, the survey instruments will be reviewed by three academics including an SMME expert with experience in questionnaire design, to check the questionnaire for any possible discrepancies. Following the outcome of their review, the questionnaire will be adjusted to achieve the aim of the study. Triangulation will be used to integrate the quantitative and qualitative data to enable interpretation of the combined findings. Findings from the qualitative phase will be used to explain and provide a more comprehensive contextualisation of findings and interpretations drawn from the quantitative phase (Kroll & Neri, 2009).

Conclusion

This study adopts the TOE Framework and the DoI Theory to investigate factors that would motivate SMMEs to adopt paid Facebook advertising to increase their revenue and enhance business sustainability. It is expected that this study will make theoretical contributions to expand SMME and social media literature and could make a practical contribution to social media implementation by SMMEs in South Africa.

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Understanding prosumption in online African fashion communities and how it influences online purchase intentions

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Introduction

Prosumption, the fusion between production and consumption, is expanding notably in cyberspaces such as social media and other online platforms (Chandler & Chen, 2015; Dusi, 2018). However, the prosumption concept is under-researched and indicates research gaps in understanding the synergies between production and consumption in online communities. Thus, the contribution of this study is to provide contemporary insights by examining further the limited research on prosumption behaviour on user-generated online communities on Facebook dedicated to African fashion in relation to online purchase intention. Prosumption behaviour research continues to be conducted, but there is a dearth of prosumption research on user-generated communities and African fashion. Based on research on online purchase intentions and prosumption, this study investigates the following research questions:

What is the role of prosumption in user-generated online communities?

How does prosumption behaviour relate to online purchase intentions in African fashion online communities?

Literature Review

The concept of prosumption has allowed researchers to enhance the understanding of how goods- dominant-logic and service-dominant logic are connected. The contribution that consumers make to the process undergone for producers to deliver an offering (Ritzer, 2015), together with the consumption that producers undertake to provide a desired outcome to a consumer (Ritzer, 2015) show the interdependence between the two phenomena. As time passes and, more machinery is generated and people are less self-reliant but depend more on firms and organisations to deliver what they need to survive, prosumption still occurs and is impacting customer purchasing choices both online and offline. Online purchase intention research is limited in the context of prosumption, particularly in the context of African fashion online communities. As the digital era emerged, the perspective of consumers reemerged (Ritzer, 2017) and its impact on the market has strengthened both in person and online. Brands continue finding ways to influence consumer choice and virtual communities have been used by brands to connect with consumers and as such tools (Brodie et al., 2013), with added value generated through user-generated communities. African fashion user-generated communities have allowed those who are dedicated to the fashion to share their common interest and even there, brands work to penetrate and connect with the users.

Methodology

The study followed an exploratory research design through a qualitative triangulation approach (Carter et al., 2014) using a blended design directed by grounded theory (Corbin & Strauss, 1990; Heydarian, 2016). The data was collected from three user-generated social media communities dedicated toward African Fashion using the netnography research process (Kozinets, 2015). A thematic analysis was conducted on the data extracted from social media and the findings of the research analysis and bibliometric analysis were used to establish the findings.

Results

The thematic analysis illustrated how the user-generated online communities continue to be prey to brands through the placement of optimising advertisements for offerings or even leaders. Notably, the post creators generated more responses for posts that could trigger

emotional responses, and that the reader could relate to personally. Striking, the users also engaged most with posts that spoke about personal care, unique fashion, marital affairs, spiritual affairs, and financial development or highlighted prospects of underperformance both in connection to African fashion and independent of it.

Implications to Theory and Practice

Marketers should keep in mind the value of security, both in relation to the online platforms and to a buyer's personal life. Online communities are spaces where brands can engage with users but should be careful to respect the aims of the page. The research showed that the pages can stand as the station to inform the consumers about opportunities that brands have, but this needs to be communicated in a manner that connects with the consumer's personal lives.

Conclusion

Prosumption theory has been magnified in the digital age and even more so by the development of AI technologies which are eliminating the difference between a consumer and producer. The buying choices are now in the hands of the buyer, and the degree to which purchasing from others is necessary should continue being reviewed over time. Retailers must optimise on the degree of control that the buyers now enjoy through its incorporation into their marketing and strategies. There is a need for further research on the production and consumption nexus and the significant role that online communities play in the synergies between the two concepts.

Keywords: Prosumption; online purchase intention; user-generated; online communities; African fashion; triangulation.

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An Internal-Outsider: An Intersectional and Standpoint Perspective on #MeToo Movement and Sexual Harassment Law in Pakistan

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Introduction

The #MeToo movement, initiated in 2006 to support women of color facing sexual violence (Rodino-Colocino, 2018), gained global prominence in 2017 following high-profile Hollywood allegations (Levy & Mattsson, 2023). Reaching 85 countries and generating over 12 billion online engagements (Gill & Orgad, 2018), its influence remains predominantly Western and dominated by privileged voices. Critics like Phipps (2021) argue that the movement has overlooked women outside the Western context.

In Pakistan, the 2018 harassment case involving singer Meesha Shafi ignited national discussions (Khurshid, 2021). However, the movement's focus has been criticized for failing to include marginalized groups such as rural women, factory workers, and the LGBTQ community (Nanditha, 2022). Despite recent legal amendments, including the 2022 expansion of protections for women in various sectors, the movement has not significantly benefited these groups (Rafi, 2019; Rizwan et al., 2022).

This study analyzes the #MeToo movement's evolution and impact in Pakistan, a country marked by cultural and economic diversity. Using an intersectional and standpoint framework, it explores the movement's representation of Pakistani women's diverse voices. The research evaluates women's perspectives on #MeToo and the Protection Against Harassment of Women at the Workplace Act 2010, assessing whether the movement addresses their needs. Additionally, it investigates views on the roles of government and employers in enforcing harassment law reforms and identifies desired actions from various stakeholders.

Literature review

The #MeToo movement has driven an empowering process by creating an interaction between individual and collective levels of women's engagement. (Lin & Yang, 2019). Researchers started investigating the movement's social, cultural, organizational, and legal implications worldwide. Google Scholar results on searching "#MeToo movement" shows Fifty-eight thousand two hundred (58,200) results. The movement has been studied from different perspectives in different regions, countries, and cultures. Scholars have given attention specifically to the movement's implications, such as the #MeToo movement's impact on the health of victims who raise their voices (Huseth-Zosel et al., 2021), strategic decision-making of business organizations (Luo & Zhang, 2022), changes in sex education curriculum (Landman, 2006), and legislation (Lamb & Daniel, 2020) and cultural reaction to the movement (Bakht et al., 2021; Rashid, 2019; Saeed, 2019). Many impacts and peripheral actions energized by #MeToo have yet to be fully realized.

In Pakistan, very few scholars have studied the #MeToo movement. Google Scholar research shows 12 published research studies from Pakistan; just a couple are published in international journals. It is observed that in these studies, scholars have studied #MeToo with this preconceived notion that the movement is a Western concept adopted without cultural contextualization. The success and failure of the movement tried to be gauged by its impacts and implications on the country's feminist movement, policy outcomes, and media coverage (Bakht et al., 2021; Rashid, 2019; Saeed, 2019).

Methodology

In examining Pakistani society from a feminist perspective, this study integrates Harding's feminist standpoint theory (1986) with Crenshaw's intersectional approach (1989). It involves

40 in-depth interviews across Islamabad and Lahore, complemented by analyzing public documents and news, such as workplace harassment policies at various levels. Participants include women from diverse groups, including #MeToo activists, academicians, students, journalists, lawyers, and workers (factory, domestic, small business, and schoolteachers). Thematic analysis was employed to manually code and extract themes from Urdu data, with rigorous translation to preserve meaning. Grounded theory allowed themes to emerge naturally, reflecting authentic participant experiences.

Results

I unraveled three key themes based on the interview data and publicly available documents, characterizing the experiences and perceptions of women from diverse socioeconomic backgrounds: experiences of harassment, lack of faith in institutions and tradition, faith, and gender limits.

Implications to theory and practice

This study advances a theory of affective solidarity in women's activism by introducing the concept of "intersectional understanding" to account for the diverse experiences of Pakistani women across class, socio-economic, and educational lines. Applying an intersectional feminist standpoint highlights the need for solidarity that acknowledges these complexities.

Conclusion

This study enriches the #MeToo discourse by exploring Pakistan's unique socio-cultural and economic context, where class, income, and education shape women's harassment experiences and feminist engagement. It highlights gaps in institutional trust and the impact of cultural norms, offering insights into more inclusive and representative feminist movements in Pakistan.

Key Words: #MeToo Movement; Workplace Harassment; Intersectional Perspective

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Rural Entrepreneurship and Diffusion of Agricultural Innovations: A Systematic Review

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The introduction of new technology or innovations to rural entrepreneurs, most importantly the farmers, contributes significantly to the productivity and socioeconomic wellbeing, as well as the sustainability of global food production. Unfortunately, there remain well-known gaps between those who produce an innovation and those who adopt it, especially in the context of rural agriculture and small farmers (Fadeyi et al., 2022), which continue to be the backbone of future food systems and rural economies. This systematic review examines the intersection of rural entrepreneurship and the diffusion of agricultural innovations, synthesising existing research to build both knowledge base and knowledge gaps in this vital yet understudied area. It specifically aims to address the following research question: (1) In the context of rural entrepreneurship, what are the processes, roles and key actors in the stages of innovation diffusion? and (2) What are the different interventions that accelerate or inhibit such diffusion of innovation?

This review paper covers research on rural entrepreneurship characteristics, entrepreneurial ecosystems, innovation adoption and diffusion models, social networks, institutional factors, as well as enablers and barriers to innovation diffusion in agriculture. While valuable insights exist, a comprehensive synthesis with ecosystems view is needed to identify patterns and gaps in understanding how rural entrepreneurship and agricultural innovation diffusion are interconnected.

This study employs a systematic literature review methodology to ensure a comprehensive and unbiased analysis of existing research. The review process follows Tranfield et al., (2003) and Kraus et al., (2020). The process includes search strings development, comprehensive database search, inclusion/exclusion criteria for quality screening, and standardised data extraction. Data analysis are conducted using narrative analysis and thematic analysis. While narrative analysis involves a manual full review of every paper, the thematic analysis was conducted using Atlas.ti software as a tool to help identify, code/label, analyse, and report patterns within the data.

The results from the 145 included articles revealed several key themes as follows: (1) Innovation Brokerage, (2) Social Capital, (3) Gender Dynamics, (4) Complex Policy Environment, and (5) Sustainability Focus. According to Stam (2015), the causal relations within the system and the effects on entrepreneurship and value creation have not yet been studied sufficiently, although it is acknowledged by many that the entrepreneurial ecosystem approach offers valuable elements for an improved performance of regional economies. Such approach emphasises interdependencies to no longer be about maximizing a certain indicator of individual entrepreneurs, but about creating a system in which productive entrepreneurship can flourish.

Rogers (2003) in his seminal Diffusion of Innovation theory explains it as how, why, and at what rate an innovation spread through a social system, which confirms the main significance of "how" and that a social system is highly required. However, there are fewer studies about the DoI processes in context of rural agricultural entrepreneurship especially in the developing countries, despite how many lives depend on farming to support their families or how essential food security is to society.

With at least 70 years of research in the adoption of agricultural innovations, there has been a proliferation of diversity resulted in a lack of convergence in the way adoption and/or diffusion is defined, explained, and measured, causing extension practices and policy to rely

on a body of literature that is often not able to offer clear recommendations on the variables or mechanisms that can be used to design interventions (Montes de Oca Munguia et al., 2021). This calls for consideration of a micro-meso perspective of the farmer's adoption decision as part of his/her interaction with an innovation provider as well as with other actors in their rural entrepreneurial ecosystems.

Previous research mentioned about the higher complexity and need of understanding and paying attention to the system level beyond individual farmer's innovation process as the significance of interactions within social networks has not been investigated as often as one would expect according to researchers (Shang et al., 2021). To the best of author's knowledge, no previous systematic literature review has been found that specifically analysed the rural entrepreneurship concept and its ecosystems in relation to innovation diffusion in agriculture. On top of such knowledge contribution for conducting possibly the first systematic review on this topic, answering "how to improve" question as the side focus of the SLR research would add more values in spirit for practical/empirical contribution.

Keywords: rural entrepreneurship; rural entrepreneurial ecosystem; innovation diffusion; agricultural innovation, Indonesia; systematic review; systematic literature review

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Reflections on Conducting Photo-Elicitation Interviews to Explore Work-Life Negotiations in Dual-Career Migrant Households

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Introduction

Transnational migration is often a stressful event that presents migrant families with a range of different challenges during their settlement and integration in a new country. These challenges are accentuated for dual-career migrant families, where both highly skilled spouses strive to (re)establish their careers and manage work and family responsibilities, in the absence of support networks that were once available to them in their home country. Within the context of these challenges, my PhD research focuses on exploring the settlement experiences and work-life negotiations of Pakistani migrant men and women living in dual-career couple households in Australia.

The research design employs an exploratory qualitative approach and considers individuals' story construction of their life events before and after migration. A multi-method approach to data collection was used including time-use surveys/diaries and photo-elicitation interviews to obtain an in-depth understanding of their lived experiences.

This extended abstract is part of the larger research study and specifically focuses on the use and application of photo-elicitation interviews as a methodological approach, which has the potential to add further depth and richness to the verbal accounts of the participants. The findings highlight that integrating visual and verbal data during research interviews offers a rich and nuanced understanding of participants' experiences and facilitates deeper insights into the complexities of their daily lives post-migration.

Literature Review

Photo-elicitation is the inclusion of photos or images in the research interviews (Harper, 2002). Photo-elicitation interviews can be done by using photos, taken by either the researcher or the participant, to elicit dialogue during an interview and gather richer accounts of the topic under study (Clark-Ibáñez, 2004).

In *researcher-driven photo-elicitation*, the researcher selects and introduces the photo(s) to prompt a discussion during the interview; whereas, in *participant-driven photo-elicitation*, participants are asked to take photos in relation to the research topic, which are then used as an "anchor to dialogue" during the interview (p.232)(Cleland & MacLeod, 2021). Specifically, the *participant-driven* approach has been shown to empower participants to select images that are meaningful to them (Bates et al., 2017). Further, it also enhances the participant's agency in framing the research topic and guiding the conversation about the image during the interview (Ortega-Alcázar & Dyck, 2012). While photos, often taken with a camera provided by the researcher, are the most commonly used medium in photo-elicitation studies, Harper (2002) remarks that other types of visual material such as pictures, drawings, paintings, and other visual mediums can also be used to elicit rich narratives during the interviews.

Recent studies employing photo-elicitation have increasingly adopted digital and online mediums, driven by the rise in technology-mediated social interactions, especially after the COVID-19 pandemic. These include the use of *smartphones* and *tablets* by participants for taking photos relevant to the research topic and sharing it with the researcher via *WhatsApp* (Del Castillo et al., 2024); the use of publicly available images on the internet chosen by either the researcher to prompt a discussion during the interview or by the participants to represent as "metaphors" (p. 251) for their thoughts and experiences (Regoczi & Shanmugam, 2024);

or a combination of publicly accessible internet images and photos taken by participants with their own cell phones, used to express their feelings and perspectives relevant to the research topic (Raby et al., 2018; Salma & Temuri, 2024). These innovative methods not only facilitate rich, nuanced data collection but also promote flexibility and inclusion by reducing barriers to participation.

Photo-elicitation interviewing has been extensively utilized in research involving migrant communities, offering nuanced insights into their lived experiences. It has been instrumental in exploring key areas such as migrant health and well-being (Ortega-Alcázar & Dyck, 2012), precarity of labour for migrant workers (Hamid & Tutt, 2019), transnational caregiving (Cabalquinto, 2020), faith and social connectedness among older migrant women (Salma & Temuri, 2024), notions of home and belonging (Nikielska-Sekula, 2023), and the meaning and experiences of motherhood among migrant women (Liamputtong & Benza, 2019). These studies have generated valuable data to inform policy-making, aiding in the effective settlement and well-being of migrants in their new countries, while also demonstrating the depth and versatility of photo-elicitation methods in capturing the complex realities of migrant communities. This method, however, remains under-explored in studying work-family negotiations among migrant households. The present work aims to fill this gap by deepening our understanding of how skilled migrant families navigate and negotiate their work-family responsibilities in a new cultural context. It is argued that employing Photo-elicitation interviews can allow us to explore their lived experiences in greater depth.

Methodology

The study involved conducting in-depth interviews with highly educated Pakistani men and women, who are married and part of a heterosexual, dual-career couple household. Participants were recruited using snowball sampling. A total of 21 interviews have been conducted thus far, including 15 women and 6 men, who have migrated to Sydney, Australia within the last 10 years, for reasons of work, study, or to join their spouse. All of the participants were either working in professional roles or studying for Higher-degree research at Australian universities. Out of these, 11 women and 3 men also have child-care responsibilities.

For the photo-elicitation component of the interviews, a *participant-driven photo-elicitation* approach was utilised, whereby the participants were asked to elicit any images from the internet that best represented their perspectives on paid work and unpaid household tasks, as well as how they perceived managing their professional commitments alongside household responsibilities after migration. All interviews were conducted on Zoom and the participants shared their screens to speak about their chosen images. The use of publicly accessible images from the internet, instead of taking their own photos, ensured the anonymity of the participants, while at the same time allowing them to share their stories. These images were then used as prompts during the interview to facilitate discussion.

Findings

The images selected by the participants proved to be an effective icebreaker during the interviews and encouraged participants to share their experiences in greater detail. These images provided a 'snapshot' of their daily lives as they tried to balance their career aspirations with their household responsibilities after migration.

The images selected by women often highlighted themes of juggling the competing demands of their multiple roles, showcasing the dual burden they often faced in balancing their work and household commitments. On the other hand, through the images they selected, men frequently discussed the heightened sense of pressure and expectation for men to provide financially for the family. A few men also selected images to express their interactions with household chores after migration which they were not accustomed to doing in their home

country, illustrating a shift in traditional gender roles post-migration. Overall, the use of images enabled the participants to speak about their deeper feelings and emotions and facilitated participant-led dialogue and rapport-building during the interviews.

Conclusion

The findings highlight that the use of *Participant-driven photo-elicitation* method has the potential to add further depth and richness to the verbal accounts of the participants. This study contributes to the literature by demonstrating the effectiveness of photo-elicitation interviews in uncovering the nuanced ways in which migrant couples navigate their daily lives and negotiate gender roles in a new cultural context. While the use of publicly accessible images from the internet raised some unanticipated challenges, such as the issue of copyrights, they were all thoughtfully chosen and allowed to elicit detailed narratives from the participants.

By providing a richer understanding of the challenges faced by highly skilled migrant families, photo-elicitation interviews can contribute to the development of more effective and targeted work-life balance policies tailored specifically to the needs of skilled migrant households.

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Use of Solar Panels and Life Satisfaction: Evidence from Rural Areas of Pakistan

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Introduction:

Life satisfaction is an important factor in people life as it is associated with many positive effects on national as well as individual level (Ngamaba & Soni, 2018). This study aims to measure (post installation) the effect of finance related psychometric factors on the life satisfaction of the people living in rural areas of Pakistan. Financial stress theory and ABC-X Model of Family stress provide theoretical support for this study (Hill, 1958). The variables for this study are life satisfaction (DV), financial stress (IV), financial self-efficacy (IV), financial risk tolerance (IV) and locus of control (mediating variable).

Brief Literature review

Many factors contribute towards life satisfaction. Owing to the rising prices of energy (a financial stress) and increasing environmental concerns across the world, families started shifting towards indigenous and clean source of energy mostly solar panels (Atchike et al., 2022). Many studies have taken into consideration the technical and pre-installation factors related to solar panels like Hua et al., (2022), Memon et al., (2021) and Ullah et al., (2019) proposed optimal angle for maximum output from solar panels (photovoltaic technology). Naveed-ur-Rehman & Siddiqui, (2016) & Rahim et al., (2022) worked on other technical matters like protection from lightning strike, water cleaning mechanism and efficiency. Akhtar et al., (2018) proposed development of solar reflector by proving that they enhance the efficiency of the solar panels when used with them. Elahi et al., (2020) and Yin et al., (2023) proposed thermal efficiency of the solar powered geysers. However there exists a gap in literature related to post installation factors related to solar panels and general perception is that installation of solar panels may lead to less financial burden in terms of cheap and continuous source of energy.

This study aims to measure (post installation) the effect of finance related psychometric factors on the life satisfaction of the people living in rural areas of Pakistan. Financial stress theory and ABC-X Model of Family stress provide theoretical support for this study (Hill, 1958). This study aims to fill this gap by identify whether the use of Solar Panels (Renewable Source of Energy) can bring satisfaction in the lives of the people by providing a financial relief in their routine unavoidable financial expenses.

Methodology

The data will be collected through survey methods from users and non-users of Solar Panels from rural areas of Pakistan. The users are further divided into three subcategories i.e., domestic, agricultural, and industrial with further segregation based on usage in years. Data collection will be performed twice as change in weather has differential effect on perceived financial benefit. The questionnaire is being structured and adapted and a pilot study will be conducted for the validity and reliability of the questionnaire. Instrumental variable regression (IV) will be employed to assess the causal relationship. Instrumental variable regression represents a frequently utilized statistical method aimed at mitigating endogeneity or potential omitted variable bias

Implications

The findings of this research are going to help the policy makers/governments in taking policy decisions. Possible reduction of taxes on solar panels and related electronic equipment. Possible tax benefit to businesses involved in installation and repair and maintenance of solar panels. Specialized economic/agricultural zones to promote solar energy consumption &

production. Policy related to targeted subsidy instead of blanket subsidy to all users of solar panels. Long term policy to convince people from grid to non-grid-based source of electricity. Policy to promote investment in (Local & Foreign) renewable (Solar Panels based) source of energy.

Results/Conclusion

Will be shared once compiled

Key Words: life satisfaction; solar panels; financial stress

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Entrepreneurial Coaching and Small Business: A Case of Business Incubation in South Africa.

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Introduction

Entrepreneurial Coaching (EC) refers to specialised coaching that enhances the entrepreneur's ability to make decisions, solve problems, identify opportunities, and survive the challenges of the entrepreneurial process (Kotte et al., 2021a). Entrepreneurial coaching is an important aspect of the entrepreneurial ecosystem and the field of entrepreneurship as it leads to the development of successful entrepreneurs and their ventures. The ventures considered in this study are small businesses that are formally registered and employ less than a hundred people, which are usually owner-run and may or may not be VAT registered. (DTI n.d). The term small business is used interchangeably with startup in this study. Startups are newly born companies that are still struggling for existence (Shahzad et al., 2021).

Purpose of the study

The primary objective of this research is to evaluate the practice of entrepreneurial coaching and business incubation (BI) in the development of small businesses (SME) in South Africa. This multi-qualitative study aims to develop a comprehensive model that integrates coaching and business incubation in attaining viable small business development. The study explores entrepreneurial coaching with a focus on small businesses in the early growth phase, recognising that entrepreneurial coaching is particularly important for early-stage entrepreneurs (Kotte et al., 2021). It is vital to contextualize the practice of entrepreneurial coaching and business incubation in stimulating sustained small business growth and performance, particularly in the context of a developing nation like South Africa (Schutte, 2019).

Context of the study

The concept of Entrepreneurial coaching has been presented as a catalyst for small business growth particularly for those entrepreneurs going through incubation programs and this study further explores this phenomenon (Schutte, 2019). The noticeable failure of small businesses to take off in developing nations and South Africa, in particular, is of significant concern to the government, policymakers, economic planners, academics, businesses and community who are trying to find sustainable solutions in building the resilience of small businesses or start-ups in comparison to what is happening for example in Europe (Alpenidze & Pauceanu, 2019).

The study is pivotal in South Africa where there are limited studies on Business incubation and entrepreneurial coaching, yet above 80% start-up businesses fail at take off operationally (Mukwarami et al., 2020). This study will add to the limited current empirical research on Entrepreneurship coaching in South Africa.

Statement of the problem

There is a gap in the exploration of the practice of EC within incubator processes and the contribution to effective incubator models that enhance SME development (Hewitt & Van Rensburg, 2020a; Meyers et al., 2016; Msimango-Galawe & Hlatshwayo, 2021). Buys and Mbewana (2007) conducted a case study research and identified key success factors in incubation such as access to expertise and facilities, stringent selection criteria, availability of funding, quality of entrepreneurs, stakeholder support, supportive government policies, competent management, and networking among other factors (Buys & Mbewana, 2007).

In a study conducted in Cairo, it was discovered that going through an incubation program has helped entrepreneurs in various ways, either in terms of know-how or in terms of seed

funding (Attia, 2019). However, entrepreneurs have criticized generic incubation training programs because they require a lot of time and commitment which makes it harder for them to focus on their actual businesses (Attia, 2019). This study seeks to address the notion that BI programs are generic and seem to be of less value to entrepreneurs because they are not tailor-made and do not respond to individual issues which can be achieved through EC. Studies are emergent in developing a comprehensive model to assess the interaction of Business Incubators (BIs) and EC (Allahar & Brathwaite, 2016).

The main research objective is to examine the practice of entrepreneurial coaching in South African (SA) Business Incubators and establish recommendations to improve the practice of Entrepreneurial Coaching in South African Business Incubators.

Literature review

Business Incubation and Ec in South Africa

BI activity started around 1995 in through South Africa Small Business Development Corporation (SBDC) which started what was known as the "hives of industry" (Madlala T., 2018). The actual number of incubators is currently unknown however there are an estimated over 50 incubators in South Africa (Madlala, 2018). There are different types of incubators such as private, public and university-linked. There are three stages of incubation from pre-to post-incubation.

Business Incubation has been identified by the South African Government as a priority project to assist entrepreneurs and owners of small businesses to start and run their enterprises successfully (Lose, 2016). The most common motive for the South African Government to support business incubator programs relates to issues of employment creation, the alleviation of poverty, the transfer of technology, acceleration of business growth, the reduction of the mortality rate of SMEs, the empowerment of specific groups of entrepreneurs, value creation for stakeholders, urban and rural regeneration, and the revitalization of local economies (Masutha & Rogerson, 2014; Schutte, 2019).

Entrepreneurs' responsibility is to select business incubators that meet their support requirements, although this may not always be the case in the South African context (Hewitt & Van Rensburg, 2020). However, issues such as BBBEE (Broad-Based Black Economic Empowerment Act 53 Of 2003), location of incubators, capacity, stringent selection processes, and availability of corporate or government funding may affect the ability of an entrepreneur to select their preferred incubator (Hewitt & Van Rensburg, 2020).

BIs have been accused of architectural rigidity as evidenced by a lack of enterprise-specific interventions (Nair & Blomquist, 2021). Challenges in South African incubators include being staffed by academics and managers who lack entrepreneurial track records, managerial and entrepreneurial skills, passion, and persistence to fully contribute to the success of SMEs, in contrast to incubators in developed countries where business incubators are driven by technology, entrepreneurship, economic growth, innovation and research and design (Lose & Tengeh, 2015; Schutte 2019). Schutte (2019) researched five public sectors and five privately held BIs to determine the role of coaching in BIs and concluded coaching should be offered as a key service to develop the entrepreneur in a BI (Schutte, 2019).

Furthermore, most BIs have stringent selection processes which increases the question of whether BIs pick winners or build them (Baum & Silverman 2004; Ciuchta et al., 2018). In support of BI stringent selection measures, scholars argue the limited resources as a reason for selecting firms that may be suitable for incubation (Nair & Blomquist, 2021). The role of BIs then becomes debatable whether it is to realise potential or merely identify potential because screening practices may affect the critical role of incubators that the BIs are supposed to play.

Entrepreneurial coaching is distinct from entrepreneurial mentoring, executive coaching, life coaching and other types of intervention and has been mapped between classical workplace coaching and start-up consultancy (Kotte et al., 2021). The reason why EC is being used is because it is custom-tailored, active and reflection-oriented which works well with the entrepreneurs' challenging job demands and complex processes (Kotte et al., 2021b). The two-dimensional framework developed by Kotte et al (2021) locates the seven coach functions as it is commonly said that coaches wear multiple "hats" (Diochon et al., 2021). These coaching functions are namely champion, persona sparring partner, skills trainer, business development assistant, advisor, implementation guide and network broker (Kotte et al., 2021).

Mihaela and Irina (2015) identified several factors that affect EC such as the period of coaching, the relationship with the coach, session focus, style of coaching, the roles played by the coach and delivery methods of sessions as some of the key factors that affect the outcome of coaching on SMEs (Mihaela & Irina, 2015). Additionally, other studies have identified entrepreneurs' (coachee) self-reflection, openness to change, and willingness to accept help as predictors of coaching success which in turn affect their business (Kutzhanova et al., 2009; Audet & Couteret, 2012; Kotte et al., 2021). Researchers seem to concur that attitude towards coaching, learning ability and openness affect the success of EC at early stages (Assenova, 2020). In South Africa, diversity, cultural intelligence, and demographics are also other key factors to be considered (Msimango-Galawe & Hlatshwayo, 2021).

This study follows a cluster of theories starting with the cluster theory because it looks at components that make up the venture, entrepreneur and environment and its interconnectedness which creates an impact (Fubah & Moos, 2021). It also follows the process theory and experiential learning because it explains the ongoing process of evolution of organisations, businesses, systems, and individuals over time to acquire resources, knowledge, support and scale (Kayes & Kayes, 2021). This entails the lifecycle process of the business stages and business incubation from inception and the processes of entrepreneurial support interventions such as goal formulation, implementation, and evaluation (Fubah & Moos, 2021).

Further studies can be conducted to better understand the motivations of mentors, coaches and advisors to join a BI or an entrepreneurial ecosystem. A comparison of incubators in terms of their business models and service offerings can be made especially at a national level to find gaps in the ecosystem.

Research methodology

The study employs a multi-qualitative approach and the interpretivism research philosophy. Interpretivism research philosophy acknowledges the relevance of subjective experiences and contextual aspects in comprehending the intricacies of a subject such as entrepreneurship coaching (Saunders, Lewis, & Thornhill, 2012). Multi-qualitative research utilises multiple methods and collaborative research which explores system influences in under-researched settings (Johnson et al., 2017). This method combines two qualitative data collection and analysis (Creswell & Poth, 2016). These are content and reflexive thematic analysis methods. Utilising both methods will compensate for the shortcomings of one singular method and gain in-depth knowledge of a phenomenon (Jenkins et al., 2018).

A purposive selection method will be followed to choose the respondents for this research. The sample population for this research will consist of business incubators in South Africa listed on the SABTIA (South African Business Incubation Association) website. The selection of 10-12 key informants' sample size is common in qualitative research, particularly when employing in-depth interviews (Creswell & Poth, 2016).

Reflexive Thematic analysis will be used to examine the qualitative data gathered from interviews. Content analysis will be used to analyse other relevant sources of data. Content

analysis is more direct and practical, offering a wide range of coding and the possibility of quantification (Humble & Mozelius, 2022).

Using both methods will ensure vigour through ongoing and ever-increasing interaction with data, avoiding “theming” too early, simplistic themes but rather refined, meaningful, conceptual themes (Terry & Hayfield, 2020). This integration approach will improve the trustworthiness validity and reliability of the study findings and give a full grasp of the research topic. This study will follow ethical principles and standards to preserve participants' rights, anonymity, and informed consent. The main disadvantage is generalizability since the sample may have limited representability, biases and lack of validity (Leng, 2013). The shortcomings will need to be closely managed especially since this method provides cross-cultural insights and tracking of trends which is essential to this study (Leng, 2013).

Conclusion

The study will aid in the development of a comprehensive model that integrates business incubation and entrepreneurial coaching; emphasizing a tailored approach based on the unique needs and challenges faced by different types of entrepreneurs and their ventures. The findings of the research will also be used to inform policy and practice in the field of entrepreneurship, as well as contribute to the broader discourse on entrepreneurship development.

Keywords: Business Incubation; Entrepreneurial Coaching; SME

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A conceptual exploration of motivation types as antecedents to subsequent tertiary learning outcomes.

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Introduction

Current educational programs have seen a decrease in student engagement with some researchers even highlight the lack of educator awareness of students' intrinsic and extrinsic motivations as a factor (Diwakar et al., 2023). This paper aims to build on the Means-Ends fusion (MEF) model by integrating extrinsic motivation, and exploring how external influences such as rewards, social approval, and future opportunities contribute to a holistic understanding of student motivation. The adapted model seeks to provide deeper insights into student engagement and learning outcomes, offering practical implications for potential curriculum design and the enhancement of current educational practices.

A Brief Literary Overview

Current literary evidence offers mixed conclusions about extrinsic and intrinsic motivation, namely viewing this as a hierarchy (Taylor, 2015), a short-term vs. long-term orientation (Liu et al., 2019) and as two completely separate motives (Kuvaas et al., 2017). Thus arises an argument for a holistic and equifinal approach to motivation, which will be achieved through adding extrinsic motivation factors to the MEF model. The MEF model examines how activities and goals become linked through four key factors: *repeated activity-goal pairing, pairing uniqueness, perceived similarity of activity-goal pairing, and temporal immediacy* (Kruglanski et al., 2018). Repeated association secures the activity-goal relationship, while a unique connection enhances the likelihood of fusion. The perceived similarity between the activity and the goal fosters a deeper link, and the closer the goal is to being achieved immediately after the activity, the greater the chance of fusion. The MEF model suggests that intrinsic motivation arises from a perceptual fusion between an action (the means) and its outcome (the end) (Fishbach & Woolley, 2022; Woolley & Fishbach, 2023). Despite frequent use of the MEF model, many researchers continue to focus predominantly on intrinsic factors, often overlooking the significance of extrinsic motivation. This limitation highlights the necessity for a broader theoretical integration to fully understand the complexities of motivation, particularly in educational contexts.

Beyond the Inner Drive: an Equifinal Approach to the MEF model

As stated, there have been mixed findings when exploring student motivation. Per the MEF model, intrinsic motivation lies on a continuum defined by the strength of the means-ends connection. In contrast, extrinsic motivation refers to engaging in an activity to achieve a distinct, separable outcome and may vary in autonomy, reflecting either external control or genuine self-determination and involves an activity that achieves a separate, distinguishable outcome (Deci & Ryan, 2000). Typically, this is driven by rewards, social approval, or academic performance (Benabou & Tirole, 2003; Bear et al., 2017). In educational settings, extrinsic motivators may include financial rewards (e.g., grants, stipends, scholarships), the need to pass exams, and the chance of future opportunities (e.g., employment). Additionally, parents, societal pressures, schools, and educators are crucial in shaping individual students' extrinsic motivational values (Sun & Yang, 2009).

Implications for Theory and Practice

From a theoretical perspective, a holistic approach to student motivation will enhance the scope and cross-disciplinary relevance. In addition, this may bring about improved understanding and clarity as well as adaptation to the current learning environments. The

current assumption is a “unifinal” approach—where one means leads to one end—results in a greater intrinsic motivation, than an “equifinal” approach, where multiple means lead to a single goal. This underscores the importance of the addition of extrinsic motivation to the MEF model, resulting in a comprehensive understanding of the model. Combining intrinsic and extrinsic motivation into curricula can promote goal-setting behaviours, enhance learning engagement, and increase students’ social recognition. Furthermore, a holistic approach would result in higher engagement and overall satisfaction. From an educator’s perspective, adopting this approach may foster the development of enriched problem-solving skills and comprehensive learning strategies, which leads to improved educational outcomes for students.

Conclusion

This paper offers a revised interpretation of the MEF model by integrating extrinsic motivation alongside intrinsic motivation. By examining this concurrently, the adapted MEF model provides a more comprehensive framework for understanding student engagement in tertiary education and offers a holistic approach to motivation. Future research can build on this by (1) employing qualitative methods to delve into student experiences for richer insights, (2) further expanding the model to include emerging trends, and (3) generating managerial implications for tertiary education institutions to enhance educator knowledge, thereby fostering more productive learning environments and improving educational outcomes.

Keywords: Extrinsic motivation; goal setting behaviour; intrinsic behaviour; learning outcomes; means-ends fusion theory; student engagement; tertiary education

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Evaluating Industry 4.0 adoption towards sustainable practices within the Canadian SME manufacturing sector

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Introduction

Small and medium-sized enterprises (SMEs) play a significant role in the Canadian and global economies. 99.8% of all employers in Canada are SMEs (ISED, 2022). Statistics Canada (2022) defines an SME as one with fewer than 100 employees and a medium-sized enterprise as having between 100 and 499 employees. Firms must be strategic to maintain their competitiveness within the market while promoting efficiency and productivity, leveraging innovations such as Industry 4.0 (I4.0). I4.0, which is commonly referred to as the "Fourth Industrial Revolution", is transforming the manufacturing industry and global value chains, combined with digital technologies. I4.0 is the digitalization of the manufacturing process, from the raw material to the final product, through innovative technologies. I4.0 consists of various technological capabilities, including the Internet of Things (IoT), cyber-physical systems (CPS), and communication infrastructures.

Researchers argue that the digital transformation and adoption of I4.0 technologies in manufacturing have led to an enhanced global value chain, improved performance, and greater competitive advantage. The phenomenon impacts theory and practice, presenting an opportunity to assess it in the manufacturing sector and generate findings that will be insightful towards the forethought of I4.0.

This study evaluates the adoption of I4.0 within the Canadian manufacturing sector and its sustainable implications. It provides critical insight into how manufacturers perceive the adoption of I4.0 and its impact on their strategy. To comprehensively assess the implications of I4.0, this study considers the firm's triple bottom line: economic, environmental, and social factors.

Literature review

There has been rapid growth in the literature concerning I4.0 in recent times, although unexplored topics are abundant. SMEs' adoption of I4.0 is under-researched, with great potential to explore firms' dynamics and willingness to adopt (Agostini & Nosella, 2020). Investigating I4.0 adoption at the firm level is vital, as it offers various benefits and advantages to firms. Adopting I4.0 technologies and processes is instrumental in achieving the firm's economic, environmental, and social goals (Ghobakhloo, 2020). Despite the abundance of benefits associated with the adoption of I4.0, many firms are not responding quickly to the technological advancements of I4.0 (Javaid et al., 2022). Further investigation into the design principles of an I4.0 application would be invaluable, offering an understanding of the adoption process, the challenges faced, and the benefits achieved (Dikhanbayeva et al., 2020). Therefore, investigating I4.0 adoption in SMEs is critical in the context of sustainable manufacturing.

Methodology

This research will adopt an empirical approach using a qualitative study assessing the I4.0 technologies, awareness, and applications present within the Canadian manufacturing sector. Semi-structured interviews with senior managers of manufacturing operations in three

organizations have been conducted to collect insights into the presence of I4.0, its implications in the manufacturing sector, and its relationships with sustainable manufacturing.

Results

Of the interviews completed thus far, there is a consistent understanding that adopting I4.0 will be inevitable for the progression of the operation to maintain a competitive position in the market and overcome emerging global challenges such as near-shoring. Despite the benefits understood, cost (one of the main economic factors) remains the most significant barrier.

Implications for theory and practice

Understanding firms' willingness to adopt elements of I4.0 and their strategy and environmental responsibility implications can contribute to Teece et al.'s (1997) dynamic capabilities theory, demonstrating novel implications of adjusting performance to an evolving environment. The findings are anticipated to have practical implications, offering managers in the manufacturing sector insights into I4.0 technologies and processes adopted and their associated benefits and challenges to mitigate through the adoption process.

Conclusion

I4.0 continues to evolve, and its impact on the competitiveness of a manufacturing operation intensifies towards reaching sustainable manufacturing goals. Understanding the significance of SMEs in the marketplace, evaluating how I4.0 is adopted, and its implications for sustainability and strategy are anticipated to produce findings of value for both theory and practice. This study helps assess the I4.0 influence on the triple bottom line to achieve sustainable manufacturing. As I4.0 technology and associated developments are emerging with great potential, this study has the potential to serve as a stepping stone for how I4.0 can be adopted in the Canadian, and possibly global, manufacturing sector.

Keywords: Industry 4.0 technologies; Sustainable manufacturing; SMEs; Adoption process

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Collaborative entrepreneurship and technology opportunism for entrepreneurial success of tech-based startups

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Introduction

Tech-based startups live with uncertainty, fragility, and dynamism. Two-thirds of the startups; including tech-based startups, hardly succeed. The absence of novel technology, inappropriate business models, bad collaborators, and inadequate market research are a few known challenging reasons disturbing their entrepreneurial success (D'Cunha, 2017; Eisenmann, 2021; Hernandez et al., 2018; Sivathanu & Pillai, 2020). This study expects to investigate how tech-based startups respond to such challenges to achieve entrepreneurial success via two emerging concepts, namely collaborative entrepreneurship and technology opportunism which are informed by social capital theory and dynamic capability framework (Seo, 2020; Urban & Maphumulo, 2022).

Literature review

The definition of collaborative entrepreneurship has evolved since 2005. It is defined by Miles et al. (2005, p. 40) in their book as "joint enterprise – the creation of something of economic value based on new, jointly created ideas or knowledge". However, in the following year, they state that the concept of collaborative entrepreneurship is observed between increasing number of business firms and other various types of organizations (Miles et al., 2006). Subsequently, there is literature which keeps the parties who collaborate in a collaborative entrepreneurship phenomenon mostly as open-ended as external parties rather than specifically clarifying them (Franco & Haase, 2013; Franco & Pessoa, 2014; Ribeiro-Soriano & Urbano, 2009). This approach can confuse the very collaborative entrepreneurship concept introduced by Miles et al. (2005) as it discusses only about the collaborations of a firm among other competing business firms, with concepts such as collaborative innovation and open innovation which discuss about collaborations with various other stakeholders such as suppliers, customers, government, universities, and institutional bodies (Chesbrough, 2011; Gallaud, 2013). Hence, this calls for a need to establish a conceptual consensus on the collaborative entrepreneurship phenomenon.

Collaborative entrepreneurship, while still carrying a grey and vague understanding, has been studied in relation to its process, innovation, opportunity perspective, open innovation and ecosystem, service entrepreneurship, knowledge management, strategic alliance perspective, and even sustainability spheres (Andresen et al., 2014; Borde et al., 2022; Ogilvie, 2015; Ojiaku et al., 2020; Rezazadeh, 2016; Ribeiro-Soriano & Urbano, 2009; Ribin, 2020; Ryoo, 2017; Schaltegger et al., 2018). However, its stance on entrepreneurial success in the context of tech-based startups is scant in the literature to the best of the author's knowledge.

Technology opportunism is the capability of firms to sense and respond to novel technologies in a technology-turbulent environment (Srinivasan et al., 2002). It has enjoyed its scholarly dialogues with firm innovativeness, performance, business sustainability, entrepreneurial orientation, marketing emphasis and orientation, IT adoption, intra-firm diffusion, and social media analytics deployment (Asim et al., 2019; Bullini Orlandi et al., 2020; Chen & Lien, 2013; Cho et al., 2022; Lucia-Palacios et al., 2014; Sarkees, 2011; Urban & Maphumulo, 2022; Voola et al., 2012). Yet again, there is a dearth of literature on its link with entrepreneurial success, which is the favourable aspect of venture performance. On the other hand, there are various scholarly branches for entrepreneurial success as its determinants, indicators, antecedents, and different perceptions to it, still, literature discussing its connectivity to/and with technology

opportunism is scant (Chen et al., 2022; Fisher et al., 2014; Maziriri et al., 2022; Razmus & Laguna, 2018).

In light of the above discussion, this study attempts to address the research question of *How can tech-based startups embrace collaborative entrepreneurship and technology opportunism to achieve entrepreneurial success?*

Methodology

The study expects to deploy a multiple-case study strategy. Reflexive thematic analysis will be used to analyse the data collected via interviews with tech-based startup owners in Australia and Sri Lanka drawn using the purposive sampling method (Braun & Clarke, 2021; Saunders et al., 2009; Yin, 2018).

Implications to theory and practice

This study expects to advance the theory on collaborative entrepreneurship and technology opportunism in various aspects. Particularly it intends to address the utility of the collaborative entrepreneurship concept in explaining its various practical levels in the tech-based startup context, when there is an absence of a conceptual consensus of the same.

It also expects to provide practical insights for tech-based startup owners to identify and strengthen strategies related to collaborative entrepreneurship and technology opportunism to achieve entrepreneurial success. The study further expects to provide insights for policymaking to facilitate tech-based startup collaborations in strengthening the entrepreneurial ecosystem.

Keywords: Collaborative entrepreneurship; technology opportunism; entrepreneurial success; tech-based startups

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Exploring the Incubation Process Framework (IPF) and Entrepreneurial Culture Development Mechanism (ECDM) for University Based Incubators (UBIs) in Four South African Universities

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Introduction

This in-progress study is an exploration of university programs to develop entrepreneurs and entrepreneurial marketing in South Africa. The widely accepted term for this process is called University-Based Incubators (UBIs) (Redondo et al., 2022; Olutuase, Brijlal & Yan, 2023). This study proposes to use the Incubation Process Framework (IPF) for Entrepreneurial Culture Development Mechanism (ECDM) to explore different types of entrepreneurial university in the Western Cape, South Africa. Theoretically, the project will explore UBIs and Entrepreneurial Universities (EU) through the lens of Dynamic Capabilities Theory and look at preparation for Entrepreneurial Marketing (EM) capacity building (Toghraee et al., 2017).

Literature review

Universities play an indispensable role in scientific growth and advancement in societies, and this signalled a need for business incubators to assist the establishment of pioneering business in universities (Mavi et al., 2019). A significant adaptation in the university model has come in the form of UBI's as evidence that universities comprehend the responsibilities of nurturing science and developing society by providing newly formed business the necessary equipment for new business venture (Siddiqui et al., 2021). Mashau and Fields (2020) and Salamzadeh et al. (2023) maintain that universities are best known for two missions, teaching and research. In the modern economy, however, universities have an additional mission to focus attention on building and stimulating the economy through business development. Nicholls-Nixon et al. (2021) supported this idea by stating that the third mission of the university is economic development, and this has gained distinction as a tool that funds entrepreneurial activities in line with economic growth.

Methodology

This study will make use of qualitative approach through interviews. Each study will focus on a different relevant stakeholder and the final set of findings will synthesise all the data into a holistic picture of UBIs and EUs. The study will make use of purposive sampling techniques (Obilor, 2023). Several data collection instruments will be used, namely observations, interviews, focus group, textual and visual analysis. The most common instrument in the field of management, business, marketing and other social studies are focus group and interviews (Islam & Aldaihani, 2022).

Results (work in progress)

Implications

The study will contribute theoretical and practically. Theoretical this study will contribute to a modern IPF for Entrepreneurial Culture Development Mechanism (ECDM) with the entrepreneurial university ecosystem. Practically, this study will contribute by suggesting a way to promote entrepreneurship in university through theory and practice.

Conclusion (This study forms my PhD, and is still in preliminary stages).

Keywords: University-Based incubators; Entrepreneurial University; Entrepreneurial University Ecosystem; entrepreneurial marketing; entrepreneurial education; entrepreneurial intention; incubation process framework

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Exploring Silent Engagement: The Role of Lurkers in Online Brand Communities

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Introduction

Online brand communities have emerged as significant platforms for consumer interaction and brand engagement in this digital age. These communities can be categorised into various types based on their structure, purpose, and members' roles. Understanding these is crucial for brands that recognise consumer loyalty and silent engagement. Brand communities are generally characterised by shared values, emotional connections, and a sense of belonging among members (Dessart et al., 2015). They facilitate interactions that enhance brand loyalty and consumer engagement as members participate in discussions, share experiences, and advocate for the brand (Dessart et al., 2015; Scaraboto et al., 2020). The focus of this study is on the relationship between the brand and its consumers, where the brand serves as a central figure around which community activities revolve (Lee et al., 2011).

Consumer and brand-initiated communities

By positioning the brand as a unifying entity, brand communities allow customers to create spaces where shared interests help strengthen the relationships between consumers and the brand. However, one primary distinction in online brand communities is between consumer-initiated and brand-initiated communities. Consumer-initiated communities are created and operated by consumers, typically motivated by shared interests or passions related to a brand. These communities tend to foster a sense of belonging and social identity among members as they engage in discussions, share experiences, and create content related to the brand (Prastowo, 2020; Son, 2016). In contrast, brand-initiated communities are created and controlled by brands to facilitate direct communication between the brand and its consumers. These communities often promote brand loyalty and encourage consumer engagement through structured activities and marketing campaigns (Lee et al., 2011). Brand-initiated communities become a point of validation, social listening and provide potential incentives for their members. Whereas consumer-initiated communities cultivate a shared space, even a "third space", where members experience a perception of personal freedom, choice and transparency unified by their shared attachment to the brand.

Community membership: Understanding group 'roles'

Within either consumer-initiated or brand-initiated communities, members can be classified into several roles based on their engagement levels. Active participants, often referred to as "brand advocates", engage frequently by sharing content, providing feedback, and promoting the brand within their own networks. Their engagement is typically driven by a strong emotional connection to the brand, a desire for social interaction, or their need for self-expression (Ozuem et al., 2021; Dessart et al., 2015). In comparison, "lurkers" or passive members, tend to observe discussions without actively participating. They may still derive value from the community by gaining insights and information about the brand, but their lack of engagement limits their influence on community dynamics (Dessart et al., 2015). Research suggests that the "lurker" accounts for 60-90% of the community (Tagarelli & Interdonato, 2014; Hung et al., 2015). Research also characterises lurkers as individuals who seek information and social validation for their purchases, noting that they often shift in and out of communities with a fluid identity, influenced by their current needs and life circumstances (Sun & Jiao, 2016). They don't stay fixed on a community nor make active efforts to ensure they are on top of the content. They check in and out and move through a range of communities based on their needs of the moment.

Understanding the 'Lurker'

This research aims to delve deeper into the profile of lurkers to better understand their contributions to the community, while also broadly examining the emotional connections they develop with the brand through these interactions. As mentioned earlier, the profile of the lurker is informed by Bauman's concept of liquid modernity (2000), which describes a condition marked by continuous change and fluidity in social relationships, identities, and community affiliations. A fluid identity reflects the transient nature of social connections that we experience in the digital age, where individuals navigate multiple online communities based on our immediate needs and interests. Bauman suggests that in a liquid modern world, traditional forms of community and belonging are replaced by more flexible and ephemeral connections (Hollebeek et al., 2023).

This framework proves especially valuable for this study in examining the dynamics of social media brand communities, where users fluctuate between active engagement and passive observation, a behaviour often linked to 'lurkers'. Current scholarship focuses on the need for the brand community to convert lurkers into active participators. Once a community member becomes actively engaged, the filter bubble algorithm adjusts, increasing the visibility of the community's content in the consumer's feed. This study seeks to advance our understanding of lurkers and provide new insights into the potential value they bring to brand communities, not only by exploring their passive engagement but also by identifying strategies that may enhance their active participation.

Methodology

The lived experiences of six participants formed the pilot study for this research. All were members of a mix of consumer-initiated communities (Kmart Mums, ALDI Mums, Ikea Hacks) and brand-initiated communities (Mecca Chit Chat.). Each completed a diary over four weeks, outlining their experiences, emotions and sense of connectedness. Five of the six participants identified themselves as lurkers, whilst the remaining one considered themselves an active participant. One participant commenced as a lurker but later found herself participating in community interaction. Upon completion of all diaries, participants were then engaged in a sixty-minute, in-depth interview to further explore their comments and insights. This process was complemented by online data scraping from the identified communities. This provides initial insights around a greater understanding of the community, consumer culture and the lurker, which will guide further data collection phases.

Preliminary Results

Theme 1: Understanding the lurker

Initial coding of the data suggests that the lurker is in a partial relationship with a brand, where the relationship is temporal and more often than not driven by a specific, short-term goal/s rather than sustained engagement.

"I go to the page for ideas. I don't post or comment, but I look through the page for ideas when I need them.... I remember I was renovating a bedroom and went to the community page to look up ideas on things other people may have done.... I don't usually go to that page unless I have something I am looking for." (KMART MUMS COMMUNITY)

Lurkers primarily engage in passive observation rather than active participation within online communities. Emerging trends from this research suggest that lurkers' involvement is often characterised by voyeuristic tendencies, where they seek entertainment or information without contributing to the discussions. Drawing on Bauman's concept of liquid modernity, lurkers navigate these communities with fluid identities, motivated by transient and entertainment-driven objectives (Bauman, 2000). This passive engagement underscores the nuanced role of

lurkers, as they still derive value from the community without directly contributing to its content.

"I come to the community just to see what other people are posting. It's funny and people get so caught up and angry over the sarcasm." (KMART MUMS)

One participant noted in the interviews that they always posted in a brand-initiated community anonymously. They described how they feared receiving a negative response from the brand-initiated community. Interestingly, despite at times feeling anxiety and negativity toward the brand-initiated community, the participant maintained a positive perception of the brand itself. This suggests that lurkers may exhibit a certain detachment from the online community while being more closely aligned with the brand. Although they are influenced by other members, their distance allows for a sense of agency. Preliminary data has also revealed wishful thinking and mindful comparison trends, alongside a notable capacity for participants to disengage and transition to another community that better suits their immediate interests.

Preliminary findings from this research suggest that lurkers, positioned at the periphery of multiple communities, can observe a broad spectrum of ideas, thoughts, and opinions through various social lenses. This vantage point allows them to connect and synthesise knowledge from diverse sources, offering insights that may not be immediately apparent within a single online brand community. As lurkers navigate across spaces, they appear to collect perspectives that enable them to engage with multiple viewpoints and integrate ideas across different contexts. This interconnectedness positions lurkers as informal knowledge holders, linking disparate communities and enhancing the broader landscape of the brand community.

Theme 2: Searching for "my people"

While lurkers enjoy the autonomy and fluidity of moving between various online brand communities, the research highlights their continued pursuit of a sense of belonging. They seek out individuals within these communities who can meet their social and informational needs, revealing an underlying desire for connection even amid their passive engagement.

"I couldn't find my people in this community. I tried and I could see glimpses of them, but I couldn't really see them there. So I have joined another community, and these are my people. I understand what they say, and I feel they get me. I happily post using my name, and I check in to this community daily. My day feels better when I have been in this community space."

The above reflects a point where the research observed one participant's gradual transition from lurker to active participant. Although this shift is typically a slow process, the research found that once a lurker receives positive reinforcement from other community members, their engagement becomes more frequent. This shift illustrates a common pattern in which lurkers may become more active as they grow comfortable with group dynamics or feel a stronger inclination to participate. This creates an intriguing paradox: while brands may seek to grow their communities by converting lurkers into active participants, there is a perceived need for increased regulation of online discussion boards. However, this poses a challenge, as one of the key attractions, particularly in consumer-initiated communities, is the limited involvement or oversight by the brand.

Perhaps unsurprisingly, lurkers derive personal value and self-worth from social media communities through passive observation, which can provide emotional and social support without the need for active participation. Setoyama et al. (2011) explored a similar theme, noting that lurkers in online health communities still benefit from support, as their passive engagement fulfils certain needs. This passive interaction can reduce the likelihood of leaving the community, as lurkers may feel a sense of connection and support without the pressures of active contribution. In contrast, active posters may face higher expectations for

engagement and feedback, potentially leading to frustration when their contributions do not receive the expected responses. This is further supported by Zhu and Dawson (2023), who suggest that the demands of active participation can lead to disengagement when users feel their efforts go unrecognised.

Concluding thoughts

Additional data is currently being collected from both consumer-initiated and brand-initiated online communities. This data will continue to review the lurker, as well as the emotional connections that connect the lurker to the poster, the broader community and their perceptions of the brand. What has emerged from the preliminary data is that the interplays between lurkers and online brand communities reveals a complex landscape of engagement and interaction. While often overlooked, lurkers are crucial in shaping brand perceptions and community dynamics. By recognising the significance of this 'silent' audience and understanding their motivations, brands can develop more effective strategies that foster a type of silent engagement. As social media continues to evolve, the insights gained from studying lurkers will be essential for brands seeking to navigate the fluidity of modern consumer culture.

Keywords: Brand communities; social media; lurkers; community membership; consumer culture

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Meme Marketing using Ephemeral Content: A PLS-SEM Approach

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Introduction

Meme marketing can be defined as the integration of Internet memes with branding, advertising or campaigns related to marketing (Schaffer, 2021). Ephemeral content is defined as information which is visible for 24 hours, enabling multiple views of individual pieces of content within the given timeframe (Anderson, 2015). Among the different types of content shared via social media, memes are rated as the 3rd most popular (eMarketer, 2021). Based on the S-O-R framework Mehrebian & Russell (1974) content related to brands in social media are sub-divided into three dimensions: Consumption, Contribution and Creation (Mutinga et al., 2011). Thus our study hypothesizes these three dimensions as lower order construct higher order construct: Meme Marketing Activities. India has a total of 362 million user base in the present time (Statista, 2023). Our study contributes to the literature by harnessing the power of marketing of memes using Instagram Stories (Ephemeral in nature), unlike posts which is perennial in nature unless and until it is deleted.

Literature Review and Hypotheses Development

In the case of posts, marketing via memes is certainly one of the best strategies (Ares & Alcaire et al., 2024). When the brand recall is positively embossed in the minds of the consumers, it creates better awareness regarding a product or a service (Percy & Rossiter, 1992). In the context of meme marketing activities, memes become viral when they are liked, shared and also consumers comment on them. More viral is the meme, more consumer could feel connected and thus tend to circulate it. Thus, meme association in a positive way with the brand is also enhanced, which leads to amelioration of the brand image. When the brand is able to make an impact in the mind of the consumer, it leads to the storage of pertinent information regarding the brand in a positive way leading to better engagement and the probability of making a purchase. Lee et al., (2019) found that when there is a positive customer engagement with the brand by means of consumption, creation or sharing of memes, it leads to hedonic pleasure in the individual. Similarly, a positive brand image makes a positive brand awareness. A positive brand awareness will lead to better engagement and thus intention to purchase is likely to increase. Message source credibility is defined as the authenticity with which the receiver has trust in the message communicated by the source (Gunther, 1992). A trust in source message will lead to better Customer engagement. In the context of meme marketing, the source message is deemed to be more successful, if it is forwarded by the Brand Ambassador before being spread by any other means (Vardeman, 2024). Hence, it will lead to better customer engagement and thus purchase intention. Thus, we hypothesize that:

H1a: Meme Marketing (MM) has a positive significant effect on Brand Recall, H1b: MM has a positive significant effect on Customer Engagement, H1c: MM has a positive significant effect on Brand Image, H2a: Brand Recall is positively related to Purchase Intention, H2b: Customer Engagement is positively related to Purchase Intention, H2c: Brand Image is positively Related to Purchase Intention, H3: Message Source Credibility moderates the association between MM Activities and Customer Engagement, H4: Brand Ambassador moderates the association between Customer engagement and purchase Intention.

Methodology

A structured questionnaire was used via an online survey from India. To collect the responses, convenience sampling with a final sample of 311 responses was tested. All the scales for the constructs were taken from pre-validated scales.

Results

Hair et al., (2011) suggested that if a latent variable score is used for further analysis, PLS-SEM should be chosen. Meme Marketing Activities was found to be positively related with Brand Recall, Customer Engagement, Brand Image and thus H1a, H1b, H1c, all of them were found to be supported. Although, Customer Engagement was found to be positively related with Purchase Intention (H2b is supported) but unexpectedly both Brand Recall and Brand Image were found to be not supported (H2a & H2c is not supported). Although, Message source credibility was found to be positively related with Customer Engagement (H3 is supported) but Brand Ambassador did not moderate the association between Customer Engagement and Purchase Intention (H4 is not supported).

Implications

Firstly, the academic literature on meme marketing using Instagram Stories in an emerging market context is enriched using the S-O-R framework in which MM acts as the higher order construct for the lower order constructs- Consumption, Creation and Contribution which acts as the Stimulus leading to Brand Recall, Customer Engagement, Brand Image acts as the Organism and Purchase Intention being the response. Secondly, the introduction of moderating variables, message source credibility and brand ambassador in the context of MM on social media platforms have been added to provide further insights to the study. Thirdly, brands should create and share memes tailored to suit the preferences of customers to build a better brand image and recall which can entice customers to make purchases.

Conclusion

The study highlights the significance of using MM on Instagram Stories to enhance customer interaction and strengthen brand recognition and perception according to a study conducted recently that suggests MM efforts positively impact these aspects even though the original assumption was that brand memory and image play a role, in influencing purchase intent. This research challenges views on brand ambassadors in marketing and contributes to scholarly understanding of MM, in emerging economies.

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What's in a Face? Exploring the Aesthetic Qualities of Social Robots Among Older Adults

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Introduction

The global population is dramatically aging, entering a phenomenon known as a 'demographic timebomb' [1,2]. A 'demographic timebomb' creates a scenario whereby the elderly vastly outnumber the young, spurring a range of economic, social, and political pressures in the care of the older population [2]. The impetus ordinarily falls to technological advancement to lessen these burdens. Modern artificial intelligence (AI) and robotics, pose novel interventions to reduce the negative impacts of an aged global population [3]. Paradoxically, older adults are averse to modern technology, even if they can perceive the benefits to their lives [3]. Social robots are a newer form of robotics, designed specifically for social interactions that can improve quality of life when used by older adults [4,5]. However, the adoption and use of social robots among older adults in Australia is still an emerging field of research, dependent on multiple facets including robotics aesthetic qualities [4].

Literature Review

Social robots' primary function is for human interactions. Their use among older adults has a quality-of-life focus [6]. Other features of social robots include their ability to motivate older adults toward certain tasks. For example, engage an older adult in an exercise routine, toward a social interaction with others or engage them in gameplay or a seated activity. As found by Feil-Seifer & Mataric [7], Fasola & Mataric [8] and Kyong et al. [9], social robots deployed among older adults in care can positively influence their motivation to engage in and maintain an exercise regime. Conversely, while the benefits of adopting and using interventions like social robots are clear, their acceptance is dependent on multiple facets [10]. An important dimension of social robot adoption by individuals including older adults is its aesthetic qualities, unique to its given setting and context [11]. As found by De Graaf et al. [12] and Yam et al. [13], the aesthetic qualities of a social robot aid in 'evoking' genuine emotional responses from their user. Genuine human responses to a social robot streamline its greater adoption and continued use [12]. As social robots are a newer form of technological intervention among older adults, establishing a firm understanding of what aesthetic qualities are prioritised and preferred by this demographic is essential to this phenomenon's future study within an Australian context,

Methodology

Researchers took an exploratory approach to investigate what aesthetic dimensions of social robots would influence their adoption and use by older adults in Australia. Researchers were advised to seek background information from members of an expert health consumer group that guides research policy, practice, and interventions among older adults in Australia [14]. Researchers recruited 5 of the 8 health consumer group members for semi-structured interviews about social robots and older adults. Manual content analysis was employed to evaluate each interview transcript, marking participant responses to the visual stimuli provided in still images and video forms of social robots and older adult interactions. The interviewer kept a descriptive journal throughout the interview process to ensure non-verbal expressions of the participants were captured to support the findings.

Findings

For the reader's convenience, the descriptive journal and manual content analysis findings have been organised in the table below (See Figure 1). Among the participants interviewed, the aesthetic qualities of the social robots and older adults interacting garnered mixed

responses. P5 expressed a dystopian or 'big brotherish' feel to the facial features of PEPPER and was noticeably uncomfortable with what was viewed (See Figure 1.). This was supported by P4, who stated discomfort with the eye features and adjusted their glasses to closer inspect the image (See Figure 1.). In contrast, P1, P2 and P3 all expressed comfort with the visual stimuli. The interviewer noted non-verbal expressions of comfort such as waving hands nonchalantly, smiling and laughter (See Figure 1.)

Figure 1. Participant Expressions of Social Robot Aesthetic Qualities

Participant	Quote Excerpt(s)	Interviewer Note(s)
P1	<i>"I have got the technology from experience(sic); I am not scared of the technology or the robot".</i> <i>"They might be scared of it initially (Talking about older adults generally), but.... as they see what is happening they will get over it".</i>	P1 waved hands at the question in a reassuring manner. Viewing the robot, P1 was visibly comfortable watching PEPPER (social robot) interact with an elderly gentleman in the video
P2	<i>"I didn't find it scary at all. But then, then having worked with some robotic, you know, like the seal. I've seen the benefits and therefore, yeah, no, I can't see. For me, it wasn't scary. But perhaps for those who've never been exposed to it, that could well be an impression".</i>	P2 is visibly relaxed and confident with what was viewed in the video.
P3	<i>"but um, no I mean it.. it has a it has an almost umm dare I say sort of feminine form with the sort of contoured rights(sic).... and stuff it'd probably be lovely and he wanted a female companion by the sound of them (sic). But no, I mean, there are, you know, nice clear lines and the smaller, they're not confronting with the height and size".</i>	P3 smiled and made a small laugh as they expressed their thoughts on this question. Noticeably comfortable with the image of a social robot and an older gentleman interacting.
P4	<i>"I think it would be an acceptable image. But just the eyes, I suppose, generally overall, it's fine. Maybe the eyes could be more friendly. The expression....the expression, yeah (sic)".</i>	P4 adjusted glasses to closer inspect PEPPER. A quizzical expression was made when expressing concerns about Pepper's eyes.
P5	<i>"Look I wouldn't it's it (sic) goes back to that idea of dystopian it's sort of big brotherish".</i>	P5 viewing PEPPER (social robot) still image. He raised his eyebrow and appeared uncomfortable with the image of a man and a robot interacting.

Discussion & Implications to Theory/Practice

Consistent with the theoretical basis established in the literature, social robots' aesthetic qualities are important to gaining their adoption and use by older adults. As expressed by P1 (See Figure 1.), older adults may feel uneasy viewing a social robot for the first time, however as experience is built this will dissipate. This is supported by Bartnek et al. [15], He et al. [16] and Manis & Choi [17]. who demonstrated that a user's experience or past use of technology plays a significant role in their future perceptions of the technology or system like a social robot. Furthermore, comfort with the appearance of a technology would influence its adoption and continued use. As expressed by P3 (See Figure 1.), their perceptions of femininity, warmth and attractiveness in the social robot interacting with an elderly gentleman demonstrate a greater likelihood to adopt and use the technology. This is consistent with Henschel et al. [4], De Graaf et al. [12] and Yam et al. [13] who highlighted that if individuals can find familiarity,

warmth, comfort or attractiveness in social robots' aesthetics, they are far more likely to adopt and continue using the technology. While this study was limited by its sample size, single geographic locale, and demographics, this research supports the expansive literature surrounding the importance of the aesthetic qualities of social robots and their likelihood for adoption and use by older adults. The findings of this exploratory study further highlight the practical necessity for robotics designers to align social robot aesthetic features to the preferences of older adults to streamline their adoption and use by this demographic.

Conclusion

Technological interventions like social robots will aid in alleviating a 'demographic timebomb'. However, research on the gaining the adoption and use of social robots by older adults in an Australian context is still emerging. While there were significant limitations to the parameters of this study, this research further supports the expansive literature surrounding the importance of the aesthetic qualities of social robots and their adoption by older adults in an Australian context. This study proposes that further research is required among social robots and their end users, such as older adults in care settings to understand this phenomenon better.

Keywords: Social Robots; Older Adults; Aesthetics; Adoption & Use; Experience; Demographic Timebomb

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The Role of Institutions in Fulfilling the Pillar Principles Seed System: Vegetable Farmer Experience in West Java, Indonesia

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Abstract

The role of institutions is critical in fulfilling the seed system pillar principles of the seed system to support the development and distribution of quality seeds. The institutions are responsible for the sustainability of the seed system. This study aims to examine farmers' experiences in accessing and using seeds based on the 7 Right Seeds and identify the sustainability of the seed system in the farmer's environment. The number of respondents interviewed in this research was 200 farmers in the West Java region. The research results show that farmers tend to prefer the right type and variety because they are considered to be better able to meet their expectations and needs compared to other principles of choosing the right seed. Farmers' decision-making in seed selection was analyzed using Multiattribute Fishbein, and sustainability analysis was analyzed using Multidimensional Scaling (MDS). The research results show that farmers tend to prefer the right type and the right variety because they are considered better able to meet their expectations and needs compared to other principles of the right seeds. Based on seed sustainability, it can be seen that seed sustainability for the Bandung city area as a whole is in the less sustainable category, while in the Ciamis area, it is in the quite sustainable category. This happens because farmers still face problems in terms of access to quality seeds, lack of information about superior varieties, and the high price of superior seeds. This is where institutions play an important role in supporting the seed system.

Keywords: *perception; institutions; seed; seven pillar*

Introduction

Global warming, which causes extreme temperatures, droughts, and floods, affects seed development and overall plant productivity (Buthia et al., 2018). Climate change also impacts seed quality and crop productivity. Seeds must be able to adapt to changing environmental conditions in the face of climate disruption (Baily and Roldan, 2023). Climate change has an impact on red chili production, which can affect seed survival through humidity levels. As shown by Saidah's research results *et al.* (2016), climate change causes a decrease in production efficiency and income in red chili farming (Saidah *et al.*, 2016). In Indonesia, especially in West Java, the vegetable farming sector plays an important role in the local and national economies. In the agricultural context, a seed system that refers to the 7 principles of right seeds issued by the Ministry of Agriculture is one of the main keys to ensuring productivity and sustainability of crop yields. However, the experience of vegetable farmers in West Java shows that there are various challenges in implementing an optimal seed system. Farmers often face problems such as limited access to quality seeds, lack of information about superior varieties, and the high price of superior seeds. In this context, understanding how institutions function and their contribution to fulfilling the principles of the 7 pillars of the seed

system becomes very important. By examining farmers' experiences in accessing and using seeds and analyzing the sustainability of seed systems, it is hoped that it can provide useful insights for the development of better policies and practices in seed systems, especially in Indonesia, as well as help improve the welfare of vegetable farmers.

Literature review

Seeds are an essential means of horticultural production because they greatly determine the production and quality of the products produced (Zegeye et al., 2014). The Seed Production and Marketing Subsystem is a subsystem for multiplying seeds from superior varieties produced by plant breeders to meet the needs of all farmers (national needs). This subsystem is the main pillar of the seed system in supporting food security based on food self-sufficiency formulated in the 7 Right Principles, which include the right variety, quality, quantity, time, place/location, price, and service/type (Directorate General of Horticulture, 2013). To determine the relationship between knowledge and farmers' attitudes about seed attributes, this research used the Fishbein Multiattribute Attitude Model (Engel et al. 1995). In addition, to achieve balance in decision-making based on social, economic, technical, and environmental aspects, a sustainability analysis is carried out (Pitcher & Preikshot, 2001; Bhuayan & Hammad, 2023).

Methodology

This research adopts a quantitative methodology based on a survey approach to explain the complex agricultural landscape in Bandung Regency and Ciamis Regency, West Java Province. To further ensure representativeness, 200 farmers were selected using random sampling techniques. The farmer's perception of vegetable seeds is the farmer's assessment of 7 (seven) appropriate indicators are then translated into 31 attributes. Through the 7 right seed principles, an analysis of farmers' decision-making in selecting seeds is carried out using Fishbein Multiattribute analysis. By utilizing Multidimensional Scaling (MDS), this research analyzes the intertwining of social, economic, ecological, institutional, and technological dimensions consisting of 33 carefully formulated attributes, designed to provide a multidimensional understanding of the seed system.

Results

Farmers' Decisions in Seed Selection

The success of vegetable farming is largely determined by the quality of the seeds used by farmers. Seeds are the farmer's main gateway and are the farmer's main hope for getting the best harvest. The research results show that farmers tend to prefer seed characteristics that are attached to the right type and right variety because they are considered to be better able to meet farmers' expectations and needs compared to the right quality, right quantity, right time, right place/location, and right price. Some vegetable seed attributes still need special attention from seed producers and the government in improving the seed system to suit the wishes of farmers. The perception and real experience that farmers have when using superior seeds is very important because, by using superior seeds, farmers hope to increase their crop yields.

Seed Sustainability

In general, the sustainability aspect of seed management for the Bandung Regency area is classified as 49.5% (less sustainable) and quite sustainable (54.1%) for the Ciamis Regency area. Based on the results of the seed sustainability analysis, it can be seen that the overall level of sustainability in the Ciamis Regency area is better from a social aspect. Likewise with the economic and institutional aspects, even though they are at the same status, the value is higher than in Bandung Regency. Meanwhile, if seen from the aspect of ecological sustainability, Ciamis Regency's position is slightly below Bandung Regency. In real terms,

conditions in the field show that Ciamis Regency is quite far from the city center; however, due to the cultural closeness and closeness of farmer institutions, it is thought that the overall sustainability aspect in this region falls into the quite sustainable category.

Conclusion

The findings in this research explain the importance of the sustainability of the vegetable seed system in the West Java region because it is still in the quite sustainable category. This means that there is still a need for an effective institutional role in fulfilling farmers' expectations for seed sustainability because seeds play an important role in increasing vegetable production and productivity.

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Effects of entrepreneurial orientation on impact investing performance of JSE listed companies in South Africa: moderating role of absorptive capacity.

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Introduction

Research on the relationship between business and its impact on society and the environment has been increasing with the growing demands for sustainability, social responsibility, corporate governance, and ethical investments. This study focuses on Socially Responsible Investing (SRI) and impact investing (II) from an organizational entrepreneurship perspective. It considers the multi-dimensional aspects of corporate social responsibility (CSR), environmental, social, and governance (ESG) factors, and corporate social investment (CSI), addressing social, economic, and environmental concerns while upholding financial objectives. Although the relationship between entrepreneurial orientation (EO) and organizational performance is well-researched, the interaction between EO and absorptive capacity (ACAP) on II performance requires further investigation (Felipe, Roldán, & Leal-Rodríguez, 2017; Friede, Busch, & Bassen, 2015). This study explores the moderating effect of ACAP on the EO-II relationship within the South African impact investment ecosystem.

Literature Review

Globally, there is a growing demand for businesses to operate sustainably and responsibly while maintaining profitability (Blasco & King, 2017). EO, characterized by innovation, risk-taking, and proactiveness, is a key predictor of organizational performance (Felipe, Roldán, & Leal-Rodríguez, 2017). However, in impact investing, the direct relationship between EO and performance may be moderated or mediated by other factors, such as sustainability concerns. Investments aim to generate positive social, environmental, or governance impacts alongside financial returns, yet literature shows inconsistencies in performance outcomes (Luckscheiter, 2013; Friede, Busch, & Bassen, 2015; Awaysheh, Randall, Tod, Jared, 2020). This study explores the associations between EO, SRI, II, and business performance, considering additional intervening mechanisms beyond direct associations through CSR or CSI in SRI and ESG frameworks. Limited research exists on the relationship between EO and impact investing, particularly the role of ACAP in an emerging economy like South Africa.

Several studies have examined these concepts in different contexts. Urban (2020) found positive effects of impact investing on EO in South African businesses. Kusmintarti et al. (2019) observed that EO positively influenced social entrepreneurship performance in Indonesia. Herath (2020) found that ACAP facilitated entrepreneurs' ability to identify and exploit opportunities in Bangladesh. The emergence of sustainable development emphasizes considering the interests of all stakeholders, including investors, employees, communities, and the environment (Camilleri, 2021). In impact investing, firms must demonstrate a commitment to social and environmental impact (Agrawal & Hockerts, 2021; Rezac, 2022). Stakeholder theory suggests that organizations must balance profit-making with social responsibility (Daugaard, 2020).

Resource Dependence Theory (RDT) explains that organizations must establish strong relationships with external entities to acquire necessary resources (Orazalin, 2020; Orazalin & Baydauletov, 2020). In impact investing, firms must build strong relationships with investors to access financial and other resources. EO influences an organization's ability to pursue opportunities and develop capabilities to reduce dependence on external resources (Fernando & Lawrence, 2014). EO drives firms to innovate, take risks, and proactively engage in socially responsible investment.

ACAP, which refers to the ability to acquire, assimilate, transform, and exploit external knowledge, plays a crucial role in the EO-II relationship (Ahmed, Guozhu, Mubarik, Khan, & Khan, 2020). Firms with high EO demand external resources to support innovative activities but may face challenges in accessing these resources due to perceived risks (Serafeim, 2020). ACAP mitigates these risks and provides access to necessary resources for engaging in SRI.

Institutional Theory suggests that organizations are influenced by institutional norms, values, and beliefs in their behavior and decision-making (Fernando & Lawrence, 2014). In impact investing, firms must navigate institutional expectations related to social and environmental impact without compromising financial objectives. Studies have explored the relationship between EO, II, and ACAP using institutional theory (Engelen, Kube, Schmidt, & Flatten, 2014). Luo and Pearson (2021) hypothesized that firms with high EO are more likely to engage in impact investing, with ACAP enhancing their ability to absorb new knowledge related to social impact.

Hypothesis Development

This study hypothesizes that the relationship between EO and impact investing performance is moderated by ACAP. EO, characterized by innovation, risk-taking, and proactiveness, drives firm-level innovation and growth (Miller, 1983; Lumpkin & Dess, 1996). Impact investing aims to generate social or environmental impact alongside financial returns (Harrer, 2019). The hypotheses are:

H1: Organizational orientation towards innovation, risk-taking, and proactivity positively influences impact investing and firms' social, environmental, and financial performance.

H2: Dimensions of EO have a significant relationship with dimensions of impact investing when moderated by ACAP.

H3: Dimensions of ACAP (knowledge acquisition, assimilation, application) positively affect impact investing performance (social, environmental, financial).

H4: ACAP positively moderates the relationship between EO and impact investment performance.

Methodology

This study employs a mixed-methods approach, combining quantitative surveys and qualitative semi-structured interviews with impact investing managers and practitioners from JSE-listed companies. The quantitative phase involves a survey to measure EO, ACAP, and II performance, while the qualitative phase aims to deepen the understanding of these relationships through in-depth interviews (Creswell, 2009). A sample of 500 completed questionnaires is expected from mid-level to senior managers involved in internal impact investment portfolios of JSE-listed firms. Middle managers from companies contracted by JSE firms for impact investing will also be included. Qualitative interviews will target 25 senior-level managers overseeing internal impact investment portfolios, with additional interviews until saturation. Participants will represent diverse sectors to provide multiple perspectives and richer data.

Results

The study has only recently been granted ethics clearance and data collection has yet to be commenced. Preliminary findings will be available further in the year.

Implications to Theory and Practice

The anticipated findings have substantial implications for both theory and practice. Theoretically, the study contributes to the literature on EO and impact investing by highlighting the crucial role of ACAP. Practically, the insights can guide organizations in enhancing their

impact investing strategies by fostering stronger ACAP, thereby improving their overall performance in achieving both financial and social goals (Mahmood & Mubarik, 2020; Urban & George, 2018). Organizations can leverage these findings to develop training programs and internal processes that enhance their ACAP. This can involve investing in knowledge management systems, encouraging collaboration and information sharing, and promoting a culture that values continuous learning and

Conclusion

This study underscores the importance of absorptive capacity in moderating the relationship between entrepreneurial orientation and impact investing performance. While initial progress has been slow, the direct engagement strategy has proven effective in advancing data collection. The ongoing research is expected to provide valuable contributions to both academic literature and practical applications in the field of socially responsible investing.

Keywords: *Entrepreneurial Orientation; Absorptive capacity; Impact Investment*

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Giving and Financial Inclusion among Women in Ghana

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Introduction

Giving, in the philanthropic sense is deeply rooted in African identity, as it contributes to the socio-economic welfare of African societies (Afrane & Opoku, 2018). In Ghana, all forms of giving have been inherent to society's resilience and support systems (Gyekye, 2017). Conversely, empirical evidence focusing on the relationship between giving and financial inclusion, specifically among women, remains limited. The current study addresses this gap by assessing how giving enhances financial inclusion for women in Ghana.

Literature Review

Financial inclusion-access and usage of quality savings, affordable credit and profitable investment from a formal financial market, is critical for socio-economic growth and poverty reduction, as well as providing opportunities for financial services that empower individuals, particularly, women (Demirgüç-Kunt & Klapper, 2012). Despite improvements in financial services availability in Ghana, women are frequently confronted with significant obstacles because of cultural and socio-economic factors (Abor & Quartey, 2010). Giving, in its various forms such as formal and informal cash, in-kind gifts, charitable donations, community development projects, and microfinance initiatives, has the potential of addressing these barriers and enhancing inclusive development (Sulemana & James, 2018).

Methodology

The current study applies a quantitative method, using structured questionnaires to collect data from 300 women in the Sekyere Kumawu and Obuasi East districts. The sampling strategy involves purposive and convenient sampling techniques to ensure representation through demographic variables such as age, education level, and economic status. Data analysis applies two-stage least squares (2SLS) regression to investigate the relationship between giving and financial inclusion outcomes, controlling for relevant socioeconomic factors.

Results

Preliminary findings show a positive correlation between giving activities and financial inclusion among women in Ghana. Further, it facilitates access to financial services such as savings accounts, credit facilities, and investment products, thereby improving socio-economic opportunities and resilience (Anyanwu & Erhijakpor, 2017). It is important to indicate that giving promotes financial literacy and entrepreneurial skills among women, empowering them to be actively involved in economic activities and decision-making processes in Ghana (Iddrisu, 2016).

Discussion

This study highlights the multiple roles of giving in addressing the gender gaps in financial inclusion and encouraging sustainable growth among women in Ghana. By tackling various obstacles and empowering women economically, giving efforts contribute to extensive societal goals including poverty alleviation, gender equality, and inclusive development (Brock & Langevoort, 2015). The findings underscore the significance of strategic partnerships between organizations, government agencies, and grassroots initiatives to increase impact and sustainable growth (Murray & Thompson, 2010).

Conclusion

This study specifies empirical evidence of the transformative potential of giving in improving financial inclusion among women in Ghana. This is done by elucidating the procedures through

which giving fosters economic growth and social inclusion. The study impacts policy discussions targeted at advancing sustainable growth and gender equality. Future research should explore longitudinal impacts and scalability of philanthropic interventions across diverse socio-economic contexts to inform evidence-based policies and practices.

Keywords: Formal giving; informal giving; access to savings, access to credit; access to investment; women; Ghana.

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From Stigma to Support: Rethinking Workplace Wellbeing for Women Navigating Reproductive Health in Global Healthcare Sector

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Reproductive health, including menstruation, menopause, and perimenopause, is crucial to the wellbeing of women working in Global healthcare sector. However, these issues are often stigmatized and considered "taboo," leading to a lack of workplace support and adverse health and career outcomes. This systematic literature review synthesizes research focused on the healthcare sector in global context to examine how reproductive health challenges impact women's workplace experiences and to identify strategies for creating more supportive organizational cultures. The review highlights barriers such as stigma, absence of policy frameworks, and limited managerial understanding, which contribute to high stress, burnout, and reduced job satisfaction among healthcare professionals. Findings indicate that healthcare organizations often overlook reproductive health as a key component of employee wellbeing, despite the sector's predominantly female workforce. The review advocates for targeted interventions, including flexible scheduling, reproductive health training for managers, and inclusive policies that address the unique needs of women in this high-demand industry. Implementing these strategies can reduce stigmatization and promote a culture that prioritizes women's health, thereby enhancing employee engagement and retention. To address the critical gaps identified in the intersection of reproductive health and women's workplace experiences in the global healthcare sector, this systematic literature review (SLR) will employ a rigorous methodology to synthesize existing research. The review will follow PRISMA guidelines to ensure transparency and replicability. A comprehensive search will be conducted across multiple databases, including Scopus, Google Scholar, and Web of Science, using keywords related to reproductive health, menstruation, menopause, perimenopause, workplace support, and women's wellbeing. The search will be restricted to peer-reviewed articles published in English. After the removal of duplicates, inclusion and exclusion criteria will be applied to screen titles, abstracts, and full texts for relevance to the specific challenges faced by women in healthcare roles. Data extraction will focus on identifying themes related to stigma, policy frameworks, managerial awareness, and the resultant impact on job satisfaction and employee well-being. A thematic synthesis will be employed to highlight common barriers and potential interventions, emphasizing the need for systemic changes in organizational practices. This SLR aims to contribute to the discourse on creating more supportive workplace environments that address the unique reproductive health challenges faced by women in the healthcare sector, thereby enhancing overall employee engagement and retention. This review provides critical insights into the need for systemic changes in Global healthcare workplaces. It calls for a shift in organizational practices and policies to foster open conversations around reproductive health, mitigate stigma, and create supportive environments that empower women to thrive professionally.

Keywords: Reproductive health; menopause; perimenopause; health & wellbeing; workplace stigma /taboos; Global healthcare sector

Is podcasting the antidote to digital overload for building authentic brand relationships? Insights from an emerging economy

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Abstract

This study explores podcasting's role as an emerging tool in building brand relationships. The interplay of podcaster attractiveness, user engagement, para-social relationships, and podcaster-brand congruence offers strategic opportunities for brands to be heard in the cloud of digital noise. Results highlight the significance of emotional commitment and attractiveness in shaping brand attitudes, offering insights for emerging economies like India.

Keywords: Podcasting; brand relationships; user engagement; para-social relationships; emerging markets; Strategic Brand Marketing

Introduction

In today's fast-paced digital landscape, emerging economies such as India are witnessing a significant transformation in the way brands communicate with their audiences. With the increasing penetration of the internet and mobile devices, traditional marketing channels are gradually being overshadowed by digital platforms (Khanna et al., 2024). Among these platforms, podcasting has emerged as a potent tool for brand communication, offering an intimate and engaging medium through which brands can connect with consumers (Hiljdning & Gargoles, 2022). As India becomes one of the largest markets for digital content, understanding the dynamics of podcasting in brand relationship-building is essential.

This research aims to explore the intricate relationships between podcaster attractiveness, user engagement, parasocial relationships, and their collective impact on attitude towards brands and brand relationships. In the context of emerging economies like India, where cultural diversity and varying levels of digital literacy pose unique challenges and opportunities, understanding these dynamics is crucial for brands looking to build deeper connections with their audience. Additionally, the study examines the role of podcaster-brand congruence as a moderator, investigating how the alignment between the podcaster and the brand influences brand outcome.

Literature Review & Research Gaps

While the impact of digital media on brand communication has been extensively studied in developed markets, there is a noticeable gap in the literature regarding the role of podcasting in brand-building efforts within emerging economies (Vieira et al., 2019). Specifically, the influence of podcaster attractiveness on user engagement and parasocial relationships remains underexplored in culturally diverse markets like India. The concept of podcaster attractiveness encompasses more than just physical appeal; it includes factors such as the podcaster's voice, personality, and credibility, all of which contribute to the listener's perception of the podcaster and, by extension, the brand (Schlutz, 2022).

Furthermore, the relationship between user engagement and parasocial relationships in the context of podcasting has not been thoroughly examined in emerging markets. Parasocial relationships, which refer to the one-sided emotional bonds that listeners form with media personalities, are particularly relevant in the podcasting sphere, where the perceived intimacy between the podcaster and the listener can significantly influence brand perceptions (Soto-Vasquez et al., 2022). Understanding how these relationships develop and how they impact brand attitudes and relationships is crucial for brands operating in markets like India, where consumer behaviour may differ significantly from that in more mature economies.

This study aims to fill these gaps by providing empirical insights into how podcasting can be leveraged to build strong brand relationships in emerging economies. By focusing on the interactions between podcaster attractiveness, user engagement, and parasocial relationships, this research offers a comprehensive understanding of the factors that drive brand attitudes and relationships in these markets.

Research Methodology

A structured questionnaire was used to collect the respondents via an online survey from India. To collect the responses, convenience sampling was used. 368 responses were utilized for running the final analysis. 261 Male respondents (70.92%) and 107 female respondents (29.08%) have participated in the study. As per the academic literature, respondents over 300 are good enough to carry out the Structural equation modelling (Shankar et al., 2021). All the scales for the constructs were taken from pre-validated scales.

Data Analysis and Interpretation

After checking for the measure model using Factor loading, Construct Reliability and Validity (Cronbach's alpha, Composite Reliability, Average Variance Extracted), Discriminant Validity (HTMT and Fornell & Larcker), R Square for Brand Relationship (0.413), the structural model have been assessed. Regarding the structural model results: Attitudetowards brands is found to be positively related to brand relationship. Although, Emotional Commitment and Podcaster Attractiveness is positively related to Attitude Towards Brand Para-social Relationship, Source Trustworthiness and User Engagement are not positively related to Attitude towards the Brand. Moreover, Podcaster Attractiveness is positively related to Para-social Relationships as well as Attitude towards brand. Furthermore, User Engagement is positively related to source trustworthiness. Finally, Podcaster Brand Congruence does not moderate the relationship between Attitude Toward Brand and Brand Relationship.

Implications

The study discusses regarding the relationship between Podcaster Attractiveness and Para-social Relationships. The study theoretically acts as an extension to the concept of influencer marketing, in the context of podcasting by examining how the attractiveness of the podcaster impacts the listeners' attitude as well as emotional bonds formed with the brand. Since Para-social Relationships are not positively related to attitude towards the brand, it can thus be concluded that cultural differences in emerging countries, like India may be a reason for this outcome. So, future researchers should consider research related to the inter-relationship of media consumption and brand perception. Another unanticipated outcome of the study deals with not having a moderating relationship with Podcaster brand congruence and Attitude towards the brand. Future studies should be conducted using interview methods using focus groups as well as personalones to understand this phenomenon with a deeper insight. From the managerial perspective, brand managers involved in emerging markets should choose podcasters in a very selective manner as the attractiveness of the podcaster can lead to a striking positive connection on an emotional level as well as enhance the para-social relationship. Podcasters should have a soothing voice and must be good storytellers with authentic conversations to build a better emotional attachment with the brands to make a deeper connection with the audience (user engagement). In a country like India, digital literacy is of varying levels, in addition to that, cultural differences should be considered while framing effective podcasting strategies. Last but not least, with proper strategies in place, in an emerging country, like India, podcasting can help brands stand out by building more authentic and enduring relationships by operating as a bridge between the audience (users) and brands.

Conclusion

Podcasting presents a unique and promising avenue for brands in emerging markets like India. However, marketers must carefully consider factors like podcaster attractiveness and emotional engagement, rather than relying solely on traditional metrics like engagement or influencer-brand alignment. Understanding the local context and leveraging the distinctive characteristics of podcasting will help brands build more authentic and lasting relationships with consumers.

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Sustainable Workplace Adaptations For Menopausal Women: Enhancing Wellbeing And Fostering Decent Work Through Organizational Support

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Menopause is a pivotal life stage for women, affecting their health, emotional well-being, and professional participation. Symptoms such as hot flushes, exhaustion, sleep difficulties, and emotional issues can drastically reduce productivity and disrupt workplace balance. Despite the important relevance of these challenges, many companies do not provide suitable support networks for menopausal women, forcing them to manage these changes with limited resources. This systematic literature review investigates sustainable workplace adjustments that increase well-being and encourage meaningful work through effective organizational support for menopausal women. The analysis, which relies on peer-reviewed studies, underlines the need for long-term workplace adjustments such as flexible work arrangements, temperature regulation, private rest places, and access to mental health support in addressing menopause-related difficulties. It also emphasizes the need to create an inclusive company culture that encourages open discourse about menopause, lowering stigma and encouraging women to seek the appropriate help. The findings show that good organizational support improves menopausal women's physical and mental health while increasing productivity and work satisfaction. Organizations that promote workplace health by implementing sustainable practices targeted to the specific requirements of menopausal employees foster workplaces in which women feel appreciated, engaged, and empowered. In conclusion, this research article recommends a revolutionary strategy for supporting menopausal women, and firms to engage in their health and well-being may enhance individual results while boosting overall organizational performance. Organizations may create a culture where menopausal women thrive by implementing permanent changes and fostering an inclusive workplace, enhancing resilience, engagement, and inclusion in the organizational culture.

Keywords: Menopause, Wellbeing, Meaningful work, Organizational Support

Integrating Adaptive Leadership and Ubuntu in South African Public Administration: A Model for Innovation and Inclusivity

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Introduction

The complex socio-economic challenges faced by South Africa in its post-apartheid era necessitate innovative and culturally relevant leadership approaches. Traditional top-down leadership models have proven insufficient in addressing these multifaceted issues. This paper explores the integration of adaptive leadership and the African philosophy of Ubuntu within South African public administration. Adaptive leadership emphasizes collective problem-solving and stakeholder engagement, while Ubuntu underscores communal values, mutual respect, and interconnectedness, making them suitable for the South African context.

Literature Review

Adaptive leadership, introduced by Heifetz (1994), promotes a decentralised approach to leadership that involves all stakeholders in addressing complex challenges. This framework contrasts with traditional hierarchical leadership models, advocating for distributed leadership to foster innovation. The emphasis is on mobilising employees and the broader institution to address adaptive challenges, which are complex problems without clear answers requiring novel solutions (Heifetz & Linsky 2002; Heifetz *et al.* 2009).

Ubuntu, derived from the Nguni expression "Umuntu ngu muntu nga bantu" (a person is only a person through others), is a philosophy that emphasizes communal values, interconnectedness, and mutual care (Nkondo 2007; Nzimakwe 2014). In the context of leadership, Ubuntu involves a humanistic approach that prioritizes the well-being of the community and fosters collaborative decision-making and problem-solving (Mnyaka & Motlhabi 2005; Mbigi 1995).

Researchers argue that the integration of indigenous philosophies like Ubuntu with contemporary leadership frameworks can lead to more inclusive and effective governance. The African context, characterized by its unique socio-cultural dynamics and historical influences, necessitates a leadership approach that resonates with local values and practices (Maserumule & Vil-Nkomo 2015; Mathebula 2023). The literature also highlights the limitations of traditional Western leadership models in adequately addressing the complex, adaptive challenges faced by modern public institutions (Getha-Taylor et al., 2011; Uhl-Bien et al., 2007).

Methodology

This study employs a mixed-methods approach, utilising both qualitative and quantitative research methods. An embedded-single case study design focuses on three units within the Ministry for Public Service and Administration (MPSA): the Department of Public Service and Administration (DPSA), the Centre for Public Service Innovation (CPSI), and the National School of Government (NSG). Qualitative data will be collected through semi-structured interviews with senior managers at the Deputy Director General (DDG) and Director General (DG) levels, while quantitative data will be gathered using online questionnaires distributed to Chief Directors and Directors. Thematic analysis will be conducted using Atlas.ti for qualitative data, and statistical analysis will be applied to the quantitative data to identify patterns and correlations.

Results

Preliminary findings indicate that adaptive leadership practices within the MPSA enhance innovation and collaboration among public servants. The integration of Ubuntu principles may lead to improved team cohesion and more responsive service delivery. However, challenges persist in balancing the influences of Western and African leadership paradigms within the institutional framework of South Africa's public administration.

Implications to Theory and Practice

The findings contribute to the theoretical discourse on leadership by integrating indigenous philosophies with contemporary frameworks. This integration offers a more holistic understanding of leadership in diverse cultural contexts. Practically, the study proposes a model for public institutions that emphasizes adaptive leadership and Ubuntu, providing guidance for policy development and training programs aimed at enhancing leadership effectiveness and fostering innovation in public administration.

Conclusion

Integrating adaptive leadership and Ubuntu within South African public administration presents a promising approach to addressing the country's complex challenges. By fostering a culture of collaboration, mutual respect, and innovation, public managers can enhance service delivery and community responsiveness. Future research should explore the long-term impact of this integrated leadership model and its applicability in other African contexts.

Keywords: Adaptive leadership; Ubuntu; South African public administration; innovation; inclusive governance

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Traditional Advertising vs. Influencer Marketing in Fashion: Examining the effects of Brand Image and Purchase Intentions

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Abstract

Through the integration of marketing strategies with technological advancements, an innovative method of marketing has outperformed traditional marketing. This study aims to examine the impact of traditional advertising versus influencer marketing on purchase intentions and brand image. The research was conducted in Pakistan with a sample size of seventy-two respondents. Through statistical analysis, it was found that influencer marketing has a significant positive effect on both purchase intentions and brand image. However, traditional advertising did not show a significant impact on these variables. These findings suggest that influencer marketing may be a more effective strategy for companies looking to enhance their brand image and drive consumer purchase intentions, and hints for businesses to invest in influencer marketing strategies for a better brand image if the chosen influencer is suitable for the target audience. The study also reveals insights into the changing dynamics of advertising in the digital age and provides practical implications for marketers aiming to optimize their marketing strategies.

Keywords: Traditional Advertising; Influencer Marketing; Fashion Industry; Brand Image; Purchase Intentions.

Introduction

In the fast-paced world of fashion marketing, the roles of traditional advertising and influencer marketing have evolved significantly. Social media influencers now wield substantial influence as brand advocates, challenging the effectiveness of traditional advertising today. Understanding how these strategies affect brand image and purchase intentions is vital for fashion brands. This study explores the comparative impact of influencer marketing and traditional advertising on brand image and purchase intentions, aiming to enhance our understanding of modern marketing practices in fashion.

Literature Review

Influencer marketing refers to brands cooperating with online influencers to market one of their services or products. Traditional advertisement is considered as an "ancient" way of marketing, it remains a common method to capture an audience's attention. This marketing technique can be used to create all sorts of humorous and creative advertisements. Purchase intention plays an active role in consumers buying behavior, as it is often linked with the behavior, attitude, and perception of the consumers.

Purchase intention is directly influenced by the quality of the product. If the product is not up to the mark, many people will reconsider buying it. Brand image is the way a customer sees a brand and the way the brand has helped shape customers' perception about them by providing products and services. Brand image management also helps in managing and maintaining a good image in the market and in the mind of customers. To understand the relationships between each variable, four hypotheses were constructed:

Hypothesis 1: Influencer marketing has a positive relationship with Consumers' Purchase Intentions. Hypothesis 2: Influencer marketing has a positive relationship with a Brand's Image.

Hypothesis 3: Traditional Advertising has a positive relationship with Consumers' Purchase Intentions Hypothesis 4: Traditional advertising has a positive relationship with a Brand's Image.

Methodology

For this research, our methodology aims to thoroughly assess the impact of two marketing strategies, traditional advertising and influencer marketing, on purchase intention and brand image. Our primary research was conducted through online surveys to reach maximum participants and included both qualitative and quantitative data collected from across Pakistan. We were able to obtain a sample size of 72 respondents. A five-point Likert scale was used to measure the sentence of each variable, having anchors ranging from 1 (strongly disagree) to 5 (strongly agree) We analyzed the data in this research using SPSS and various statistical techniques, including correlation and regression analyses.

Results

Correlation analysis was conducted to examine the relationships between the demographic variables (gender, age, income), and the marketing variables. Income has a significant and positive relationship with age and gender. Influencer marketing has a negative relationship with age and gender, but a positive relationship with income. Traditional advertising and influencer marketing are also positively correlated with each other. Brand image and purchase intention have a positive correlation with influencer marketing and traditional advertising. The correlation between brand image and purchase intention is also significantly positive. Regression analysis was conducted to determine the impact of influencer marketing and traditional advertising on brand image and purchase intentions, controlling for demographic variables.

It was observed that age, gender and income were insignificantly affecting brand image and purchase intention. Influencer marketing was positively and significantly impacting both brand image ($\beta = 0.470$, $p < 0.001$) and purchase intention ($\beta = 0.621$, $p < 0.001$), which is showcasing the effectiveness of influencer marketing to improve brand image and purchase intention. However, traditional marketing was not seen significantly affecting brand image ($\beta = 0.172$, $p > 0.05$) and had an insignificant effect on purchase intention ($\beta = -0.027$, $p > 0.05$). Therefore, our Hypothesis 1 and Hypothesis 2 were accepted.

Our hypotheses 3 and 4 were rejected.

Implications to Theory and Practice

Influencer marketing has a positive relationship with brand image, income and purchase intention, which means that it helps individuals to create a certain perception of the brand and impact the decisions of the consumers if their income is relatively higher. This statement was also supported by the regression results, hence suggesting brands to choose the best suitable influencer to represent them. However, influencer marketing has a negative relationship with both gender and age, which indicates that influencer marketing affects a certain gender more than the other, and a younger audience is more attracted towards influencer marketing. The positive relationship with income suggests that individuals with higher incomes are more inclined towards influencer marketing. Furthermore, traditional advertising has no significant relationship with brand image and purchase intention, which shows that it does not impact the fashion industry as influencer marketing does.

Conclusion

This study highlights the effectiveness of influencer marketing in the fashion industry, showing its significant positive impact on brand image and purchase intentions. In contrast, traditional advertising was found to have limited effects. The analysis of demographic variables provides valuable insights for marketers to target specific consumer segments effectively. These findings emphasize the importance of integrating influencer marketing into marketing strategies to enhance brand image and drive purchase intentions in the fashion industry.

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Exploring the Impact of Gamification on Team Motivation

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Introduction

The contemporary organisational work landscape is becoming more digitalised, experiencing rapid evolution and dynamic transformation. Moreover, it is mostly characterised by working in teams and, an agile mindset, which gives employees more flexibility. Although teams have been widely adopted as a common work form, organisations still struggle with inefficiencies and underperformance, due to a lack of motivation in teams. Moreover, businesses experience challenges in stimulating employee motivation while working in teams. In response to this challenge, gamification emerges as a strategic instrument, leveraging game elements within non-game contexts to incentivise employees toward predetermined objectives, behaviours, or initiatives within the corporate setting. While literature highlights gamification's potential to increase motivation, empirical research findings are sometimes contradictory, suggesting that gamification outcomes are highly context-dependent. Moreover, there is a lack of knowledge on how gamification impacts team motivation.

Literature review

Gamification. Gamification in business is a process of transforming any activity, system, service, product or organisational structure to provide game-like experiences, with the ultimate goal of influencing employee behaviour (Koivisto and Hamari, 2019). The application of gamification in the workplace environment brings benefits to the interactivity created by modern digital technologies and the principles of entertainment (Silic et al., 2020). Gamification in HRM is mostly studied in the area of training and development, motivation, and engagement. In addition, employee experience (Belh et al., 2021; Wibisono et al. 2023; Bizzi 2023) and team motivation (Pareira et al., 2022) are the newly explored contexts in the HRM field.

Team Motivation. Team motivation is a dynamic and cyclical process that unfolds over time and is affected by contextual factors (Chen and Kanfer, 2006). Team motivation was defined as „the collective system by which team members coordinate the direction, intensity, and persistence of their efforts“ (Chen and Kanfer, 2006, p. 233). So, based on the above, a team need can be understood as a common lack or feeling that the team experiences and which it seeks to satisfy or solve through joint efforts. This may include the need to cooperate, trust each other, have clear goals and roles, and feel recognised and supported by other team members. Depending on the context, there may be many different team needs that gamification could address, but it is not yet clear how gamification affects collective and shared team needs.

Methodology

A systematic literature review following the PRISMA framework was employed. Web of Science, Wiley Online Library, Scopus, and EBSCO host were chosen for the selection of articles. A total of 35 articles, published between 2015 and 2023, were selected and analyzed using MaxQDA.

Results

Firstly, the systematic literature review revealed that there is a limited number of studies that addressed team settings. However, in the past 2-3 years, researchers have increasingly focused on the teams in gamification studies. Researchers who have delved deeper into teams and gamification have researched team cohesion (Benitez et al. 2022), team performance (Waizenegger et al., 2020; Benitez et al. 2022;), teamwork (Waizenegger et al., 2020; Ligorio

et al., 2023), team collaboration (Waizenegger et al., 2020), team knowledge sharing (Holzer et al., 2020; Ligorio et al., 2023). Second, the literature review showed that various social and psychological theories had already been applied to provide a solid basis for further research on the impact of gamification on team motivation. For example, according to social theories, employees can be motivated based on individualistic and collectivistic motives (Riar et al., 2022). Collectivistic motives and different team settings have not been explored yet. Thirdly, the researchers focused on considering what possible outcomes could potentially arise from gamification. Based on the literature review, gamification can influence team motivation by promoting engagement and involvement, introducing fun and playfulness, creating a more enjoyable work environment, reducing stress, increasing cohesion, aligning goals, fostering collaboration and teamwork, and providing structure and coordination (Landers et al., 2017; Patricio et al., 2022). Fourthly, the team needs can be explored by applying Social comparison theory (Cardador et al., 2017), Social Identification and Social Exchange Theory (Chang et al., 2023), Psychological Contract Theory (Pareira et al., 2022), Social Cognitive Theory (Nivedhitha and Manzoor, 2020), We-Intention Theory (Riar et al., 2022; Feng et al., 2022).

All theories highlight the importance of social factors, such as group identity and shared beliefs, in shaping individuals' motivation within team settings. These theories have already been applied to the study of gamification in HRM. However, these studies mostly cover the collaborative aspect, which is only a small part of team motivation. Nevertheless, these findings show that this is a new and important area of research, but there is still a lack of insight into the impact of gamification on team motivation.

Implications to theory and practice

The results highlight the need for further exploration of collectivistic motives, shared needs and different team settings in gamified work for gaining better understanding of how employees can be motivated by shared needs, filling a gap in existing literature that has not extensively explored this area. Also, the findings show that there is a lack of empirical research on the effects of gamification on team settings and that more research is needed in this area to improve the theoretical foundations. In addition, working in teams can present many challenges to implementing gamification until it is known how gamification affects team motivation.

Conclusion

Even though only a few studies have directly addressed team motivation, recent research on gamification has increasingly focused on teams. A literature review highlights the potential impact of gamification on team motivation, suggesting that it can increase engagement, cooperation and overall team performance. However, empirical evidence to support this effect is lacking. There is a need for further research that explores collectivistic motives and different team contexts in gamified work environments. This leads to a better understanding of how shared needs can motivate employees. Overall, while gamification shows results for positively influencing employee behaviour, more empirical research is needed to consolidate the theoretical foundations for understanding the specific effects of gamification on team motivation in organisational settings.

Keywords: gamification; team motivation; HRM; work environment

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Residential construction and disruptive events in the Greater Christchurch region: A study of the factors affecting the interplay between timber framing and steel framing

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Abstract

This study focuses on two disruptive events that have occurred within the residential construction industry in the Greater Christchurch region of New Zealand. The first event that this study examines is the Canterbury earthquake sequence of 2010-2011. The estimated \$NZD 45 billion in damage that resulted from this earthquake has made it the second highest insurance payout for a natural disaster in history globally (Omera, 2016). This caused changes to regulations in not only the insurance sector, but also prompted the New Zealand building industry to reassess the suitability of various building materials for seismic conditions. The second disruptive event that this study examines is the Covid-19 pandemic and the issues that this has caused in terms of supply chain disruptions, labour shortages, and price rises, further emphasising the need for resilient, cost-effective, and sustainable construction solutions.

In response to these challenges, steel framing has been put forward as an alternative to conventional timber framing to provide a potential solution to the aforementioned challenges caused by these two disruptive events. The purpose of this research is to examine whether these two disruptive events influenced the choice of steel framing over timber framing as a building material for homes. It evaluates the factors influencing the adoption of steel framing in terms of resilience and long-term value over timber framing in New Zealand residential construction.

Disaster Capitalism Theory and the Theory of Planned Behaviour are integrated into a conceptual framework that provides the foundation for this research. Random and purposive sampling techniques are utilised, with questionnaires administered amongst both the constructors and the buyers of residential properties in the Greater Christchurch region, while Structural Equation Modeling (SEM) will be used in the study to evaluate the hypotheses. This study aims to empower managers to respond quickly to market changes, improve the resilience of their buildings, and communicate effectively with policymakers. This will help to ensure the overall sustainability and success of both current and future projects within the New Zealand construction industry.

Keywords: Disruptive events; Canterbury earthquakes; Covid-19; residential construction; framing materials; Disaster Capitalism Theory; Theory of Planned Behaviour

Introduction

In New Zealand's residential construction industry, material preferences have changed due to the Covid-19 pandemic and the Canterbury earthquake sequence of 2010-2011, especially with regard to framing materials (Radhi et al., 2023). Although timber has historically been the most popular material because it is readily available (Evison et al., 2018), concerns about durability, environmental impact, and disruptions in the supply chain have led homebuyers and construction companies to look into alternative materials. Steel has therefore drawn interest as an alternative framing material due to its advantages, which include strength, resistance to pests and moisture, and resilience to natural disasters (Dani et al., 2022). This study evaluates the interplay between timber framing and steel framing in residential construction, and focuses on three objectives. Firstly, it assesses the long-term value premium of steel-framed versus timber-framed houses; Secondly, it identifies the external and internal factors influencing material preferences. The third and final objective looks at evaluating the effectiveness of marketing strategies in positioning steel as an alternative framing material.

These findings are important for influencing material preferences and optimising strategies which promote sustainable and resilient building materials in the New Zealand construction industry.

Literature review

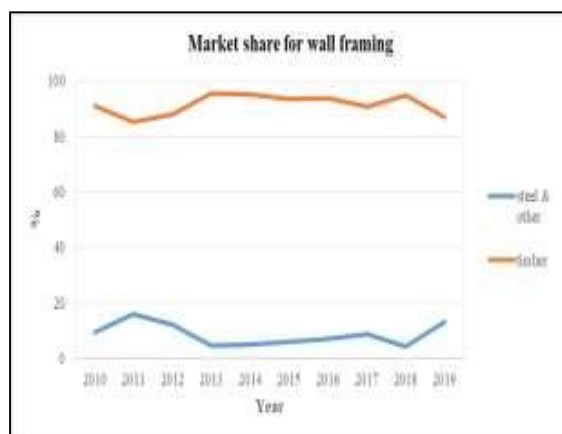
The residential construction industry in New Zealand has experienced a shift in material preferences from timber to steel framing due to disruptive events such as the Covid-19 pandemic (Mayouf et al., 2022) and the Canterbury earthquake sequence of 2010-2011 (Marquis et al., 2017). These disruptions brought attention to timber framing shortages and emphasised the durability and resilience of steel framing as an alternative product (Mashhadifarhani, 2023). This shift has been impacted by several factors, including supply chain disruptions, the shortage of skilled labour, government policy changes, sustainability issues, and affordability issues ((Nesarnobari et al., 2022; Dani et al., 2022). However, there is a gap in the literature explaining how these variables interact in order to affect material preference changes in the face of such disruptions. The Theory of Planned Behaviour (Ren & Wang, 2023) and Disaster Capitalism Theory (Garcia and Danek, 2023) provide frameworks for comprehending these changes; however, as combining these theories to explain such changes in material preferences remains underexplored in the current research within this topic domain.

Methodology

The study will assess 276 homebuyers and 32 construction companies in the Greater Christchurch region using a quantitative survey with a focus on steel framing and timber framing. A pre-tested semi-structured questionnaire will be used to collect data via postal survey; cover letters with QR codes and URLs will be provided to access the survey via Qualtrics. While the construction companies who take part in this study will be found through their websites and through direct contact, home buyers will be selected from the lists given by Selwyn District Council and Christchurch City Council. Sales managers of construction companies and home buyers both will be selected through using stratified purposive sampling. The collected data will be analysed by utilising AMOS statistical software.

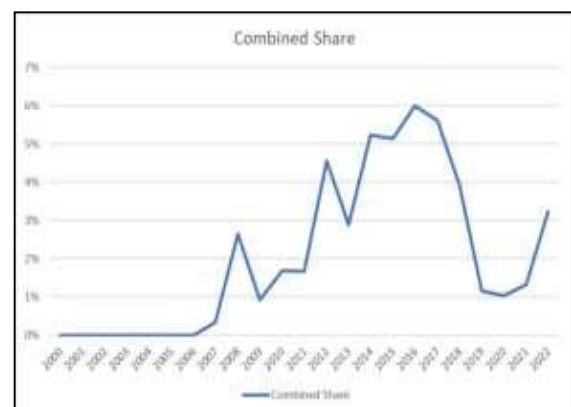
Results

Figure 1: The market shares for wall framing in New Zealand 2010 - 2019



Source: Building Research Association of New Zealand (2020).

Figure 2: Combined share of Selwyn and the Christchurch City Council steel framing, 2000-2022



Source: Christchurch City Council (2023); Selwyn District Council (2023)

According to the data received from Christchurch City Council, Selwyn District Council (2023), and the Building Research Association (BRANZ) (2020), Figures 1 and 2 show that this alternative material preference appears to be in response to issues related to disruptive events.

Implications to theory and practice

The integration of the Theory of Planned Behaviour and Disaster Capitalism Theory enables a detailed examination of the interactions between the wider economic and social factors present in disaster capitalism and individual and organisational decision-making that is motivated by attitudes, subjective norms, and perceived behavioural control within the TPB. This study will provide valuable insights regarding the implications of these industry adaptations, policy developments, interdisciplinary collaboration, and increased resilience in terms of housing construction in the face of disruptive events for the New Zealand construction industry.

Conclusion

This study discusses the influence of disruptive events on material preferences in residential construction in New Zealand, with a particular emphasis on the shift from timber framing to steel framing. It attempts to highlight how these events affected marketing strategies and decision-making by combining both behavioural and economic theories to provide insight into future industry resilience and adaptability.

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Understanding Farmers' Behavior Towards Risk Management Practices: Evidence from Chili Farms in West Java, Indonesia

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Abstract

West Java is one of the main agricultural areas in Indonesia, including chili. There has been fluctuation in chili production due to the production risks. This research aimed to analyze farmers' behavior in facing the risks of chili production and analyze the factors that influence the behavior. The research was performed applying a survey of 285 chili farmers in West Java, Indonesia. The risk was analyzed using the coefficient of variation. The farmer's behavior was analyzed using risk aversion. The results show that chili farmers face high production risks. Farmers' behavior is influenced by the allocation of inputs in the production. Farmers behave more reluctantly to take risks and try to maximize their harvest.

Keywords: Chili; production risk; farmers' behavior; Indonesia.

Introduction

The agricultural sector is important for Indonesia, in which the economy is also dependent on the agriculture (Aryawati, 2018). In addition, agriculture has been engaged by many Indonesians, where chili is one of the agricultural products having high economic value. Chili production is vulnerable to risks such as natural disasters, price fluctuations, crop disease, climate change and capitalization.

Agricultural risks have an impact on farmers' production and investment decisions. Farmers' decisions determine factor in how much risk they will take. Farmers tend to reluctantly take big risks and prefer to avoid the risks. Each farmer has different characteristics in facing risk and decision-making, i.e., risk averse, neutral, and lover. This study aimed to analyze the farmers' risk behavior on chili production and the factors that influence the behavior to such risks. This study is crucial to contribute to the development of the agricultural sector especially chili in Western Java of Indonesia.

Literature Review

Agricultural risks may include harvest failure to agricultural production that can decrease agricultural productivity. Farmer needs to know the level of risk of his or her business and manage the risks he or she faces in order to make the chosen decisions efficiently (Nur, 2019). Farmers' behavior in relation to risk include risk averse, which means that they are not prepared to take the risk or the loss. A second type is risk neutral, that is, a farmer who is unconscious of the level of risk faced. A third is a risk lover, who are willing to take risk even though the results obtained may be low.

The agricultural risks are an unfavorable thing that can arise during the production where the probability of such risks and their impact, in fact, can be calculated and predicted. The presence of risk in agriculture has a significant influence on farmers' production and investment decisions (Wulandari et al., 2021).

Methodology

This research was conducted in Bandung, Garut, Cianjur and Ciamis Districts, considering these areas are production centers and potential areas in chili development in West Java, Indonesia. The survey was used from August 2023 to March 2024 by conducting interviews with 285 chili farmers who were randomly selected in the study areas.

Agriculture risks may arise from several factors that are unpredictable and uncontrollable by the farmers. Coefficient of variation was used to measure the risk. The farmer's behavior was analyzed with the $K(s)$ or risk aversion to calculate the value of reluctance in risk (Olarinde et al., 2007). Moscardi and de Janvry (1977) categorized the $K(s)$ value into 3 behavioral criteria, i.e., risk taker ($K(s)$ is lower than 0.4 indicating farmer behave brave face risk), risk neutral ($0.4 \leq K(s) \leq 1.2$ means farmer behave between risk taker and risk averter), and risk averter ($1.2 < K(s) < 2.0$ means farmer behave avoid risk). The interview of farmers includes a number of questions related to farmers' characteristics such as age, education, farm experience, and farm input such as, amount seed, fertilizer, pesticide, labour and land area.

Results and Discussion

Risk behavior of farmers

Overall, farmers' behavior are dominated by farmers who are a risk averter of 41%. Risks may include natural disasters, crop diseases, price fluctuations (Misqi, 2020), and capitalization (Widyanantara, 2016). The nearest areas are dominated by farmers with a behavioral neutrality of 15 people, because farmers consider the eligibility of a land. Farmers are more neutral because areas near the center are vulnerable to water scarcity, high humidity and temporary conditions of the soil in the process of production, the need for water, moisture and soil fertility is a very important part in boosting the production process. Areas that are medium distance from the precipitation is dominated by farmers who behave risk averter where farmer risk averter is a farmer who chooses a lower risk. Farmers who are in the most remote areas of the district, mostly behave at a risk neutral level of 16 farmers, which means that farmers expect additional profits when the risks they face increase.

Factors affecting the behavior of farmers

Regarding the impact analysis, seed, pesticide, labour, age, farm experience and number of households are significantly influence on the farmer's behavior. The greater the number of seedlings, the more the farmer's attitude to risk will increase. When pesticides are added, farmers are braver in taking risks. The more the labour force increases, the less the farmer's reluctance decreases. The older the farmers will be less reluctant; thus, the farmer will be braver to take the risks. The more experience, the more farmer's reluctance means that farmer is more careful in taking the risks. The greater the number of households, the more farmer's reluctance will increase and will be more careful in taking the risks.

Conclusion and Implications

Chili farmers in West Java face high production risks. Factors of seed, pesticide, labour, age, farm experience and number of households are significantly influence on the farmer's risk behavior. To cope with the risk, the role of the government, the technical team, and the accompaniment are needed in monitoring, motivating and supervising the farmers. In this case, training and discernment are important to improve farmers' competency in facing the production risks.

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Not-For-Profit (NFP) personality and well-being in volunteer tourism

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Introduction

Not-for-profit organisations (NFPs) play a vital role in sustaining social, cultural, and environmental landscapes (Akkucuk & Sekercioglu, 2016). To achieve these desired sustainable goals, NFPs require participation from volunteer tourists (Devereux & Holmes 2018). Such volunteer tourists expend discretionary time and funds to perform activities while on vacation, which involve helping under-privileged groups, preserving or restoring environments, or researching and educating communities on social and environmental concerns (Wearing & McGehee, 2013). An NFP, which effectively appeals to potential and existing volunteer tourists, requires a unique brand and personality that differentiates and connects with stakeholders (Febriani & Selamet, 2020). Of equal importance are the post-participation outcomes from volunteer tourist engagement with NFPs as these impact loyalty behaviour (Chua et al., 2021). Inspiring volunteer tourism experiences are likely to stimulate positive well-being and interest in continued engagement with NFPs (Stukas et al., 2016).

Literature review

Brand personality is conceptualised as a set of human traits associated with a brand (Aaker, 1997; Davies et al., 2018). NFP personality expands the concept of brand personality to not-for-profit organisations (Shehu et al., 2016). However, few studies have given focus to NFP personality (Febriani & Selamet, 2020). The interchangeable use of brand personality and brand image has muddled the body of work on organisational personality (Azoulay & Kapferer, 2003), impeding progress in the area. Moreover, the literature on NFP personality adopts a variety of measures, resulting in conflicting findings and problems with making comparisons across studies (Shehu et al., 2016).

To-date, there is disparate research on volunteer tourist well-being because volunteerism and tourism originate from polarising traditions. Volunteerism is observed from the perspective of eudaimonic well-being, and bringing benefits to others (Matsuda et al., 2024). Conversely, tourism is viewed from the viewpoint of hedonic well-being, and acquiring benefits for the self (Huta & Waterman, 2014). Volunteer tourism assimilates eudaimonic and hedonic well-being into one phenomenon. However, the research on volunteer tourism has mainly addressed the selfless aspects of eudaimonic well-being, and discounting the self-interested aspects of hedonic well-being (Matsuda et al., 2024).

Methodology

This research adopts a mixed-methods approach. The qualitative research consists of a multi-disciplinary literature review, four focus groups, an expert panel, and social listening. The quantitative research comprises a self-administered online survey. A pilot study (N=150) tests for clarity and reliability. Then three field studies (N=350 per study) are conducted under various volunteer tourism contexts. Study 1 explores volunteer tourism in environmental conservation; Study 2, volunteer tourism in community development; and Study 3, luxury volunteer tourism in cultural development.

Results

Presently, the research design has been established, providing a clear and structured approach to the investigation. Preliminary scale items for NFP personality and volunteer well-being have been generated from a literature review, serving as an initial framework for further refinement and validation from the focus groups, expert panel and field studies. A preliminary literature

review has been conducted, leading to the conceptual development of the research model and hypotheses.

Implications to theory and practice

Theoretically, the NFP personality scale identifies key traits that appeal to volunteer tourists, bridging the gap between personality and image in NFP branding, and offering a new dimension to the branding literature. The developed volunteer tourist well-being scale is arguably, a novel effort, assimilating the benefits of volunteering and tourism, and introducing the phenomenon of calculated eudaimonism. A theoretical framework is tested to validate the predictors and outcomes of calculated eudaimonic well-being, enriching understanding of the critical antecedents and outcomes in decision-making. Managerially, the NFP personality scale helps to pinpoint and underline appealing traits in recruitment campaigns, creating a relatable brand that connects with volunteer tourists, and boosting their engagement in NFP projects. Gaining insight into volunteer tourist motivations guides NFPs to frame messages that align with volunteer tourist values and aspirations, facilitating NFPs in attracting and motivating commitment to their cause. Practically, the calculated eudaimonic well-being scale allows NFPs to monitor and improve volunteer tourist well-being, ensuring positive experiences that sustain future engagement in NFP activities.

Conclusion

Through a mixed-methods approach, this research identifies an NFP personality scale with traits that are most appealing to volunteer tourists. It develops a calculated eudaimonic well-being scale that clarifies the fulfilment that volunteer tourists desire from their continued engagement with NFPs. Finally, it explores NFP personality and volunteer tourist calculated eudaimonic well-being for their relationships with goal orientation, motivation, and intention for continued engagement with NFPs.

Keywords: Volunteer tourism; Not-for-profit personality; Goal orientation; Motivation; Calculated eudaimonic well-being; Intention to engage

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NUDGING SOFT DRINK CONSUMERS TOWARDS SUGAR-FREE OPTIONS: AN ONLINE EXPERIMENT

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Introduction

Stimulating behavioural change in the consumption of sugar-sweetened beverages (SSBs) is crucial as these consumption patterns are strongly linked with non-communicable diseases (NCDs) such as diabetes, heart diseases, obesity, and dental decay. Despite, various public health initiatives, SSB consumption has dramatically increased in the past decade, particularly among young consumers (Morgan et al., 2021). Among the range of public health interventions formulated to reduce SSB consumption, health scholars advocate the use of front-of-pack (FOP) labels such as health warnings that clearly identify the risks associated with SSB consumption. This proposition is based on the success of health warnings for the tobacco industry (Hoek et al., 2010) and is also recommended by the World Bank to combat the obesity epidemic. The study aimed to examine the impact of FOP health warnings on consumer purchase intentions and actual purchase choices for soft drinks.

Literature Review

While there is a growing body of evidence highlighting the success of health warnings (Gupta et al., 2021; Miller et al., 2022), most studies have examined the wider category of sugary drinks such as fruit juices, energy drinks, sodas and iced teas. This can miss the nuanced variations in the results as Moran and Roberto (2018) found that the effects of warning labels on beverage attitudes differed depending on the type of sugary drinks such as sweetened teas vs sodas. Additionally, it is crucial to explore interventions specifically targeting soft drinks, as their consumption is notably higher in Australia compared to other sugary beverages (Australian Bureau of Statistics, 2022).

Methodology

The study used a 1 (text and image of the FOP) × 2 (Health Warning Label, and Control) experimental research design to understand how young adults respond to FOP health warnings. Using an online survey, a total of 206 young Australian adults participated in the study. To test the model, the Theory of Planned Behaviour was adopted to examine the relationship between attitudes, perceived behavioural control, subjective norms, and purchase intentions. The research design involved online participation from students at Western Sydney University using a survey link. Participants were randomly assigned to one of the two conditions (a) an experimental condition where participants were exposed to images of full-sugar soft drinks with health warnings and (b) a control condition where interventions were absent, and participants saw generic images of the soft drink.

Results and Discussion

A total of 106 responses were collected for the experimental group with 100 responses for the control group. For the experimental group, regression analysis found a significant relationship between both attitudes and subjective norms with purchase intentions. An independent t-test further highlighted a significant change in purchase intentions of the experimental group compared to the control group. Furthermore, a chi-square test was used to measure the change in purchase choice, indicating a significant change in choice for the experimental group. For the control group, only subjective norms had a moderate impact on purchase intentions with no significant change in purchase choice for the control group. These findings suggest that Front of Pack (FOP) health warning labels have a strong potential to reduce the intended choice of full-sugar soft drinks and direct consumers towards sugar-free options.

Implications to Theory and Practice

This study makes a strong theoretical contribution by proposing a theoretical model based on the key learnings of three health behaviour theories including the Theory of Planned Behaviour, the Nudge Theory and the Dual-Process Theory. This study makes a strong methodological contribution by incorporating a real-life soft drink brand in the experimental design, unlike previous studies which used hypothetical brands (Hall et al., 2020). The present study also makes a notable contribution to the public health literature by identifying health warnings as a key strategy to assist consumers in adhering to the World Health Organisation's recommendations to restrict sugar intake.

Conclusion:

The research provides effective intervention strategies to help vulnerable groups in Australia avoid full-sugar soft drinks. This will help reduce the cost of healthcare in Australia and more importantly, give young consumers from vulnerable groups an equal opportunity to grow up healthy. Future research is warranted to further validate these findings in different food environments such as restaurants, vending machines, and supermarkets.

Keywords: Sugar-Sweetened Beverages; Health Warnings; Purchase Intentions

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From Awareness to Action: The Role of Self-Determination Theory in Ecotourism-Induced Behavioural Change

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Introduction

Ecotourism emphasizes responsible travel to natural areas while promoting environmental conservation and local community well-being, which plays a crucial role in fostering sustainable practices post-visitation (Cobbinah, 2015). However, the mechanisms through which ecotourism influences tourists' environmental attitudes and behaviours are not fully understood. Self-Determination Theory (SDT) offers a framework to explore how different types of motivation can affect individual pro-environmental behaviours (Aviste and Niemiec, 2023). However, most studies have employed surveys and qualitative methods as a means for testing the impacts of motivations on attitudes and behaviours (Pugno and Francesco, 2021; Septiari et al., 2022). An experimental design which isolates the effects of these motivations on pro-environmental attitude and behaviour while controlling confounds could offer greater insights causal explanations (Ting et al., 2017) and better delineate boundary conditions (Zhou et al., 2022). There is also a need to better understand what communication strategies may be applied at specific attributes/sites of ecotourism destinations that inspire greater pro-environmental attitudes and behaviour post-visit (Wang et al., 2023).

Literature review

SDT is a prominent theory of human motivation (Deci and Ryan, 2000) and provides a comprehensive framework for understanding individual motivation and its impact on behaviour (Gilal et al., 2019). In fact, the SDT has been applied in past research which examine the factors that drive individual pro-environmental behaviours (Aviste and Niemiec, 2023; Darner, 2009; Groot and Linda, 2010). According to the SDT, an individual's motivation and behaviour are determined by satisfying basic psychological needs for autonomy, competence, and relatedness. Firstly, the need for autonomy refers to a person's need to feel control over the origins of their action and behaviour (Deci and Ryan, 2017). Studies shows that individuals with intrinsic motivation are more likely to contribute to sustainable practices at home (Barszcz et al., 2023; Weinstein and Ryan, 2010). Second, the need for competence refers to the desire to feel effective and capable in achieving the desired outcomes (Deci and Ryan, 1985). Studies have shown that individuals with a sense of competence are more likely to believe their action can make a positive impact which motivates them to engage in sustainable behaviour (Gao et al., 2020). Third, the need for relatedness refers to people's need to feel connected to others through caring for and understanding the surrounding environment (Deci and Ryan, 2000). An individual with a higher sensitivity to social influence may demonstrate increased willingness to participate in activities and behaviours that their peers deem to be favourable (Chen et al., 2019).

SDT proposes six types of motivations that fall on a continuum of self-determination and non-self-determined motives. Intrinsic motivations lie at the extreme end of self-determined motivations and are defined as the drive to engage in activities for inherent satisfaction and inner enjoyment (Deci & Ryan, 2000b). Studies have shown that individuals with intrinsic motivation are more likely to contribute to sustaining the environment (Sheldon & McGregor, 2000). However, studies show that many human behaviours like pro-environmental behaviours, are not always intrinsically motivated (Gao et al., 2020). Extrinsically motivated behaviour can be differentiated into "integrated regulation", "identified regulation", "introjected regulation", and "external regulation" (Deci & Ryan, 1985, Ryan & Connell, 1989). Firstly, integrated regulation represents one of the most self-determined forms of extrinsic motivation (Deci et al., 1991), in which individuals have fully internalised external regulations

and incentives, making them align with their own values and identity (Deci & Ryan, 2000). Second, identified regulation refers to recognition and acceptance of the value of an activity which, in turn, motivates behaviour (Deci and Ryan, 2017). Third, introjected regulation is an extrinsic motivation where individuals internalise external pressures partially; individual behaviours are performed to avoid guilt or to enhance self-esteem (Deci & Ryan, 1990). Fourth, external motivation, the least autonomous extrinsic motivation, refers to situations in which individuals are motivated to engage in an activity to gain an external benefit or avoid unwanted consequences (Wang et al., 2019). Lastly, amotivation characterises a situation in which individual who is not motivated toward a particular behaviour, as an individual does not see any connection between their actions and the outcomes (Deci & Ryan, 1990). Each of these motivations have been shown to play a significant role in the internalisation and formation of pro-environmental attitudes and behaviours (Baxter & Pelletier, 2020).

Methodology

A mixed method study will be applied to participants in Australia and China to address the above research objectives. Phase 1 will be conducted at the Consumer Research Lab via an online lab experiment that will (1) verify the effects of the six different types of motivations and motivational messages on pro-environmental attitude and behaviour in the context of ecotourism; (2) examine the effects of communication strategies with varying levels of autonomy, relatedness and competence in on pro-environmental attitudes and behaviour; and (3) identify psychographic boundary conditions (e.g. environmental concerns, value orientations). A total of 400 participants will complete the experiment. Phase 2 will be conducted in collaboration with 2 industry partners in Australia (Busselton Jetty and Off the Beaten Track) as a field experiment to verify the results of Phase 1. Applying the top 3 most effective communication methods identified in the previous phase, Phase 2 will aim to verify their effectiveness in a realistic ecotourism setting. An additional observational study will be conducted to verify behavioural change. A total of 200 respondents will be recruited and observed at each location. Finally, Phase 3 will comprise a series of walk along interviews with ecotourists in Australia to better understand what elements of the destination impacted them most to elicit attitudinal and behavioural change. Each element of the destination will be coded and mapped onto the various motivations that they elicited. Approximately 20 interviewees will be recruited at each site for this phase. Data for the above phases will be analysed using ANOVAs, moderated mediation analyses, multiple regression analyses and thematic analyses.

Result

I have not begun my PhD and do not have any results to present at this stage.

Implications to theory and practice

Theoretically, this study applies the SDT to better understand the underlying mechanism that drive pro-environmental attitudinal and behaviour change in the context of ecotourism. In doing so, it identifies key motivations that can be leveraged in order to facilitate more post-visit sustainable behavioural change in tourists. It further explores the impact of perceived autonomy, competence and relatedness in influencing pro-environmental attitudes and behaviours along with individual boundary conditions that govern their effectiveness. Taken together, it extends the theoretical research landscape on the psychology, marketing and tourism literature as well as the SDT in the context of ecotourism and pro-environmental behaviours. Managerially, this study further identifies crucial touchpoints at an ecotourism destination that inspire more pro-environmental attitude and behaviour change, which provides destination managers and policy makers with a clearer understanding of what strategies that can be applied to maximise the promotion of environmental behaviour following an ecotourism experience.

Conclusion

This study leverages Self-Determination Theory (SDT) to explore the mechanisms behind pro-environmental attitudinal and behavioural changes in ecotourism. By conducting a mixed-method research approach across Australia and China, the study aims to identify how different types of motivation impact tourists' environmental behaviours and attitudes and test the effectiveness of various communication strategies and identify ecotourism destination attributes that drive individuals' sustainable practices.

Keywords: Ecotourism; Self-determination theory; pro-environmental behaviour

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