ISBE Early Career Researcher/Academic Winter Symposium 2025

**Strand B – Innovation, digital
(Chair – Halima Jibril, discussant - Serdal Ozusaglam)
Morning session**

*From Innovation to Impact: Evaluating the Role of Accelerators in
Cleantech Firms' Success and Growth*
Ziqi Liu, University College Dublin
Seán O'Reilly, University College Dublin

From Innovation to Impact: Evaluating the Role of Accelerators in Cleantech Firms' Success and Growth

Ziqi Liu (University College Dublin)

Dr Seán O'Reilly (University College Dublin)

ISBE ECR/A Winter Symposium 2025
Wednesday, 19th February 2025

Motivation & Importance

- My motivation for this study is surrounding the issue of climate change and the role that new innovations can play in climate change mitigation.
- **Cleantech** aims to provide solutions that address environmental challenges while promoting economic growth and sustainability.
- Several UN IPCC reports provide stark warnings on the risks of climate change and the threat of climate change poses many economic, social, and technological challenges. (United Nations, 2022)
- The International Energy Agency (2021) identified that net-zero emissions will be possible by 2050 with a major acceleration in Cleantech innovation.
- Cleantech innovation can develop potentially **game-changing technologies** that can contribute and assist in **decarbonization and climate mitigation** (Polzin, 2017; Owen et al., 2018, O'Reilly et al., 2023).
- One of the key issues for Cleantech firms in scaling and developing their business is **resourcing and financing**.

Start-ups & Cleantech Start-ups

- Although start-ups contribute significantly to global business development, they **face numerous challenges**, with many entrepreneurial ventures failing to achieve sustainable growth. Research indicates that only about **half of start-up companies survive beyond their seventh year.** (Cuvero et al., 2019)

- This is often attributed to **insufficient time** to scale their businesses (Choi et al., 2023; Guzman & Stern, 2020; Lee & Kim, 2024; Chan et al., 2020), a **lack of critical resources** necessary for organizational emergence, and the simultaneous development of new products, including financial and human capital, reputation, legitimacy, and **access to networks.** (Stayton & Mangematin, 2018; Chowdhury & Audretsch, 2023; Cumming et al., 2019; Canovas-Saiz et al., 2021; Clayton, 2024)

- The presence of **long investment lead times, sunk costs, high capital requirements, information asymmetries, demand uncertainties and the under-pricing of social and environmental benefits** (Wilson et al., 2018; Cowling and Liu, 2021) has led to the risk-reward balance being viewed as unfavourable to investors (Bocken, 2015; Bak, 2017).

- Support programs (accelerators) for Cleantech firms is an under-researched area (Mukherjee et al., 2024)

Accelerator & Incubator

- Business incubators defined as property-based organizations, incubators facilitate the growth of entrepreneurial ventures (Shen et al., 2023). They are widely regarded as significant policy tools for fostering innovation-driven economies and supporting start-up growth (Wang et al., 2020; Baraldi & Havenvid, 2016). They offer **shared resources**, **enhance capabilities**, and **connect start-ups with key stakeholders.** (Del Sarto et al., 2020; Amezcua et al., 2013; Dutt et al., 2016)

- Accelerator defined as "a fixed-term, cohort-based program, including mentorship and educational components that culminate in a public pitch event or demo-day". (Cohen, 2014) Accelerators are tailored to meet the needs of start-ups by **offering early-stage investment**, **expediting venture creation and product launches**, and **enhancing start-up sustainability**. (Stayton & Mangematin, 2019; Bliemel et al., 2016; Bliemel & Flores, 2015) Accelerators also **address critical gaps in knowledge, time, and resources** faced by start-ups by reducing the time to market and accelerating their growth trajectories. (Stayton & Mangematin, 2019)

Current Research

- Current research on incubators and accelerators examines various aspects, including **the design of accelerators** (Cohen et al., 2019), **performance measurement** (Canovas-Saiz et al., 2021), the **network orchestration roles of accelerators** (Noviaristanti et al., 2024), and their **impacts on firms' capital structure, scaling, survival, and performance** (Venâncio & Jorge, 2022; Yu, 2020; Clayton, 2024; Hallen et al., 2023; Chowdhury & Audretsch, 2024; Stayton & Mangematin, 2019; Del Sarto et al., 2020).

- Other studies focus on **female participation in incubation programs** (Neumeyer, 2020), **the role of coaches and their interaction with specific methods in accelerators** (Mansoori et al., 2019), **the factors influencing accelerators' decision-making processes** (Donne et al., 2021; Shankar & Shepherd, 2019; Yin & Luo, 2018), and **comparisons across different incubation programs** (Sansone et al., 2020; Pauwels et al., 2016).

- No previous studies on accelerators participation for Cleantech firms (Mukherjee et al., 2024)

Research Question

- **How do accelerator program participation affect the long-term survival and overall success of cleantech startups?**

Hypotheses:

- **H1** – *Cleantech firms that participate in accelerator programs have a higher survival rate over than comparable non-accelerated firms.*

- **H2** – *Cleantech firms that have completed an accelerator program are more likely to secure external equity financing (e.g., venture capital) compared to non-accelerated firms.*

- **H3** – *Post-acceleration, Cleantech startups exhibit higher innovation outcomes (e.g., patents pending, patents granted) than non-accelerated firms.*

- **H4** – *Cleantech firms that participate in accelerator programs reach revenue and/or profitability milestones faster than a matched sample of non-accelerated firms.*

Theoretical Framework

Entrepreneurial Ecosystem:

- A business ecosystem refers to a strategic planning model comprising of network of distributors, suppliers, customers, and competitors who collectively work together through cooperation and competition to advance the sale of services and products (Baldwin, 2012).

- The business incubator has been recognized as a key orchestrator of the entrepreneurial ecosystem (Del Sarto, Isabelle, & Di Minin, 2020; Giudici et al., 2018). Serving as the bridge linking entrepreneurs to the external environment, incubators An cultivate ecosystem dynamic capabilities to sense opportunities, seize opportunities, and achieve reconfiguration.

Market Validation Theory:

- An entrepreneurial and product-development concept suggesting that a new business idea, product, or service must be tested and confirmed by real customers before significant resources (time, money, labour) are invested in full-scale development.

- Drawing on a dual-theoretical framework, we investigate how the entrepreneurial ecosystem, specifically accelerator programs, shapes market validation for Cleantech firms, and whether these programs can expedite the validation process

Data & Propensity Score Matching

- Unique hand-collected dataset obtained from Crunchbase, Bureau van Djik Moody's and Companies House.
- SMEs headquartered in the United Kingdom, accelerator participation between 2011 – 2020
- 596 firms for each group of analysis
- Based on accelerator group vs non- accelerator group
  - Firm-level covariates in Propensity Score Matching:
    - firm size (log Assets); revenue; profitability; retained earnings; firm age; liquidity; gearing ratio; patents pending
  - Logistic regression model was employed to estimate the propensity scores
  - As a result, any differences in equity financing outcomes between the two groups can be attributed to the factors of interest rather than underlying differences in firm characteristics.

Methodology

- Quantitative Analysis: Accessing firms at T+3

- Probit regression (H1-H3)

- Cox regression model (H4)

- Ordinary Least Squared regression (robustness)

- The *dependent variables* are based on the hypotheses: Failure / External Funding / Patents / Time to key milestones (Revenue / Profitability – O'Reilly et al. 2024)

- Several *independent variables* are included, such as:
Accelerator participation, Age, Firm Size, Sector, Founder and Board information, financial metrics (liquidity, gearing etc.)

Next step

- Introduction and Literature Review completed

- PSM completed

- Undertake econometric testing

- Write-up results and findings

- Aim to submit to a journal by end of March 2025.

From Innovation to Impact: Evaluating the Role of Accelerators in Cleantech Firms' Success and Growth

Thank you for Listening

Feedback and Questions Welcomed!!!

ISBE ECR/A Winter Symposium 2025
Tuesday 19th February 2025

**Strand B – Innovation, digital
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Morning session**

Integrating Affordable Digital Maturity Assessment for MSEs to Drive Post-War Recovery and Inclusive Growth
Iryna Strutynska, Loughborough University

Integrating Affordable Digital Maturity Assessment for Micro and Small Businesses

Presenter: Dr. Iryna Strutynska

Affiliation: Loughborough University London

- Visiting Researcher at Institute for Digital Technologies (IDT))
- British Academy CARA Research Fellow
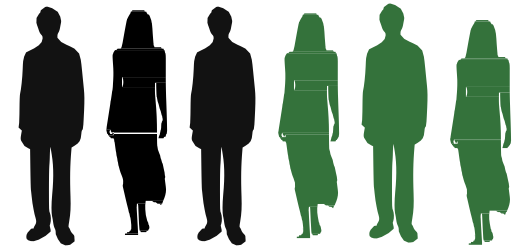- Support Ukrainian entrepreneurs in TERN - The Entrepreneurial Refugee Network

19 February 2025

Introduction
Challenges in Digital & Sustainable Transformation

- SMEs are the backbone of the EU, G7 and Ukrainian economies, accounting for over 98% of all businesses; about half of gross domestic product and employment;

- Small businesses don't have the time, employees, money, or knowledge to implement new technologies (consulting, etc);

- Gaps in digital literacy and market access;

- Sustainability concerns not integrated into business models;

- Additional challenges in post-war countries and refugee-owned enterprises.

% of business population,
99% small business

EU 5,80%   UK 4%   UA 3%

93,10%   95%   95,30%

■1 micro ■2 small
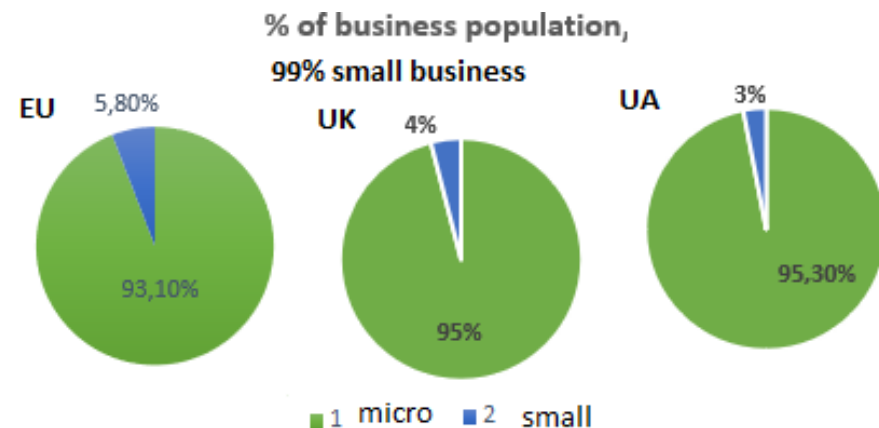
48% of employment

Digital in business - global trends

Phase 1: Design and Development
- o Analysis of key Programmes, Frameworks, etc.

Programs	Started
The Digital Economy and Society Index (DESI)	2014
Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME)	2014-2020
A Digital Single Market Strategy for Europe	2015
The Sustainable Development Agenda (The 2030 Agenda)	2015
OECD Digital for SMEs Global Initiative (D4SME)	2018
Shaping Europe's Digital Future	2020-2025
Communication from the commission to the European Parliament, the council, the European economic and social committee and the committee of the regions 2030. An SME strategy for a sustainable and digital Europe	2020
Digital Europe Programme	2021-2027
Digital Compass: the European way for the Digital Decade	2021
The European Digital Innovation Hubs (EDIH) under the Digital Europe Programme (DEP) (National Network of European Digital Innovation Hubs)	2021-2027
The Digital Decade policy programme 2030	2021
«SME digitalisation to «Build Back Better» Digital for SMEs (D4SME) policy paper	2021
Declaration on digital rights and principles for the digital transformation	2021
l CSMEE meeting at Ministerial level 27-28 June 2023 (OECD SME and Entrepreneurship Ministerial Meeting Paris, France)	2023
«Digitalisation for Recovery in Ukraine», «On the Sustainable Development Goals of Ukraine until 2030» and «Strategy for the Recovery, Sustainable Development and Digital Transformation of Small and Medium-Sized Enterprises (SMEs) (2021-2027)	2021

About the concept of the Research Project

Phase 1: Design and Development
- Comparative analysis of digital maturity models
- Expert consultations (Erasmus+ Jean Monnet, British Academy)

| Digital Intensity Index (DII)	Eurostat, **EU**	2015	Large and SMEs	1 (12)	multi-industry	Government
Deloitte (2018)	Deloitte i TM Forum, **United Kingdom**	**2018**	**Large**	**6**	**multi-industry**	**Business**
BCG DMM, BCG's Digital Acceleration Index (DAI)	The Google and Boston Consulting group Digital Maturity Model, **USA**	**2019**	**Large and SMEs**	**6 (42/50)**	**multi-industry**	**Business**
The McKinsey Digital Quotient (DQ) Model	McKinsey, **USA**	**2015**	**Large and SMEs**	**(32)**	**multi-industry**	**Business**
Digital Maturity Model	Alexander Rossmann, Reutlingen University, **Germany**	**2018**	**Large and SMEs**	**7**	**multi-industry**	**University**
BDC Digital maturity assessment	BDC, **Canada**	**2018**	**SMEs**	**6**	**multi-industry**	**Business**
Leadership Ltd Digital Leadership Ltd, Brani	Milosevic, **United Kingdom**	Digital **2016**	**NGOs**	**13**	**industry-specific**	**Business**
		The Ministry of Econ...	**SMEs**	**10**	**multi-industry**	**Government**

Digital Maturity Model Architecture "DigSME"

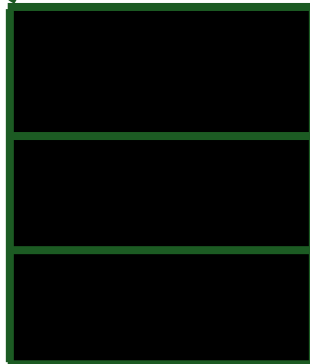**Digital Maturity Model (Framework)**

1 General block
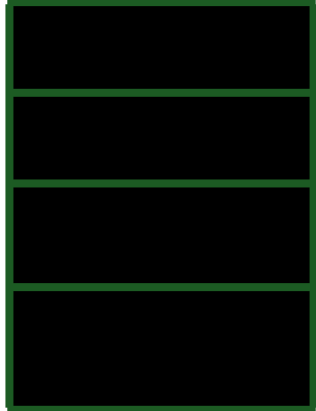
2 Technical block

3 Organisational block
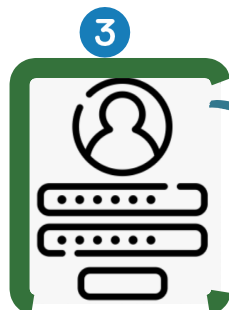
4 Readiness for Sustainable Development block

- Basic environmental initiatives
- Sustainable digital devices
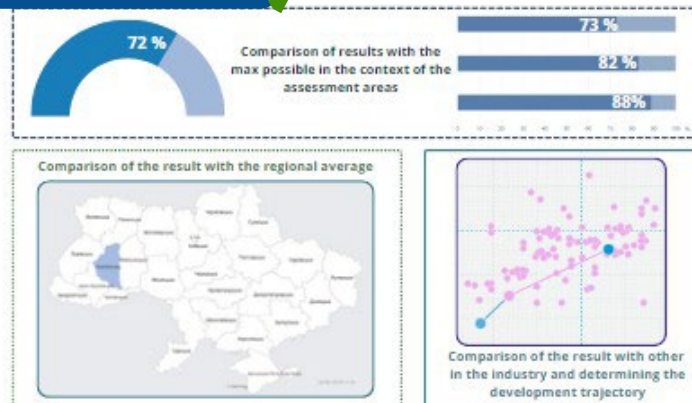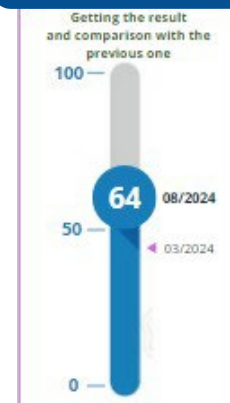
Algorithm of user actions

Algorithm of user actions

1

2 http://

3

4

5

Get a detailed diagnostics

Determination of **strong** and **weak** areas

Information **to compare** your results with the results of other respondents (different data slices) within the limits:

industry   **regions**   **country**

Ability to compare with the previous result or get the **dynamics** for a certain period

Get recommendations

Getting **a roadmap for digital development** with specific recommendations that can be implemented:

Save to your account and have constant access
share
download
print out

Getting the result and comparison with the previous one

100 —

64 08/2024

◄ 03/2024

50 —

0 —

72 % Comparison of results with the max possible in the context of the assessment areas

73 %
82 %
88%

Comparison of the result with the regional average

Comparison of the result with other in the industry and determining the development trajectory

Product History, Test Results & Progress
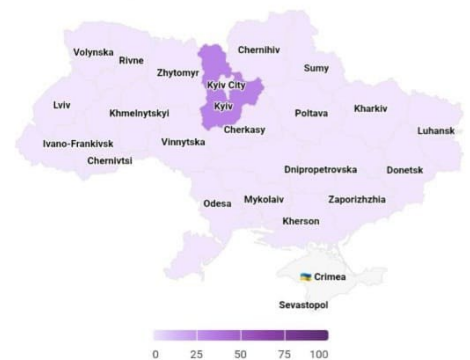
Phase 2: MVP - Pilot Testing MSEs in Ukraine and refugee-owned businesses in the UK

Phase 3: Data Analysis Surveys and qualitative feedback to refine the tool

Key Points and Next Steps

- Lack of use of basic digital tools;
- Significant gaps in digital literacy and strategic digital and sustainable planning.

- For policymakers: targeted support programs using data;
- For business organizations: affordable, scalable solutions for Digital and Sustainable Transformation;
- For educators: actual digital literacy training programs to bridge transformation gaps.

The first step is to select priority industries in the UK and UA that will benefit most from digital and sustainable transformation with DigSME;
- Collect and structure case studies.
- Cluster data and develop group roadmaps for Twin Transitions: Digital and Sustainable transformation

Q&A

FEEDBACK FORM

LinkedIn
Iryna Strutynska
07578161541

**Strand B – Innovation, digital
(Chair – Halima Jibril, discussant - Serdal Ozusaglam)
Morning session**

The Potential of AI for Venture Capital Decision-Making: A Technology Affordance Perspective
Michael Metzger, University College Dublin, Seán O'Reilly, University College Dublin,
Ciarán Mac an Bhaird, Dublin City University

The Potential of Artificial Intelligence for Investment Appraisal

Michael Metzger, University College Dublin
Seán O'Reilly, University College Dublin
Ciarán Mac an Bhaird, Dublin City University

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Current Landscape

- AI Growth: Global AI investments reached $200bn in 2024, underscoring confidence in generative AI's transformative capacity (Statista, 2024).

- ChatGPT: LLM from OpenAI; reached 1 million users in its first week, seen as a "disrupter" in multiple industries (Grant & Metz, 2022).

- Venture Capital Challenge: Early-stage startups have limited data; VCs tend to rely on qualitative factors like founder experience (Gompers et al., 2020) and are vulnerable to subjective biases (Blume & Hsueh, 2023).

- Previous studies in entrepreneurial finance have used other subsets of AI such as machine learning to predict venture outcomes and success (Arroyo et al., 2019; Ross et al., 2021; Corea et al., 2021; Zhang et al., 2023).

Current Landscape

Predictive Analysis in Finance
- Historically dominated by large-firm default models (Altman, 1968; Bellovary et al., 2007).

- SME-oriented predictive models show lower accuracy due to scarce, messy data (Ciampi et al., 2021).

LLMs for Forecasting
- Previous studies use LLMs for stock market predictions and sentiment (Chen et al., 2023; Zhang et al., 2023), but limited research on LLMs in entrepreneurial finance.

- Calls for AI to address biases in the early-stage venture process (Manigart & Khosravi, 2023).

Research Contribution

Research Questions
1. How accurately can ChatGPT analyse the probability of early-stage firm success?
2. How do ChatGPT's probabilistic assessments compare with actual outcomes ?

Contribution to Literature
1. Among the first systematic evaluations of an LLM (ChatGPT) for VC investment appraisal
2. Highlights the use of probability estimates to complement traditional VC screening

Data and Sample

Dataset
- 150 UK-based early-stage VC investments in 2018 firms for both financial and non financial information
- Less than 5 years old at investment
- 3 years pre-investment data (T–3 to T–1) and 3 years post-investment (T+1 to T+3).

Data Collected
- Financial: Revenue, profit/loss, liquidity, gearing, patents.
- Non-Financial: Founder experience, track record, educational background.
- Source: Crunchbase, LinkedIn, FAME/Orbis.

Methodology

ChatGPT (o1 Reasoning)
- Structured prompts provide pre-investment data (both text descriptions of financial metrics and founder info).
- Model outputs a probability of success (0–100) grouped into:
- Green ($\geq$70%), Yellow (35–69%), Red ($\leq$34%).

Evaluation
- Actual Outcomes: 50 "successful" (exits, major revenue gains), 50 "stable," 50 "failed" (dissolved).

Statistical Techniques:
- Confusion matrix to compare predicted vs. actual.
- Precision/recall, F1-scores.
- Chi-square test for independence ($p < 0.001$).

Findings

Overall Accuracy:
- 78% alignment between ChatGPT's classifications and actual outcomes.

Confusion Matrix
- High precision for Green (success) and Red (failure).
- Yellow (moderate) caused most misclassifications.

Statistical Significance
- Chi-square test ($p < 0.001$) highlights statistical significance association, indicating the model reliably distinguishes success vs. failure.
- F1-scores:
  - Green - 82%,
  - Red - 80%
  - Yellow - 71%.

Conclusion

Key Takeaways
- 78% Accuracy for ChatGPT's probabilistic scoring highlights feasibility in VC screening.
- AI tools can reduce subjective biases, but they do not replace expert judgment (Manigart & Khosravi, 2023).

Limitations
- Data completeness, black-box nature of LLMs.
- Only 3-year post-investment window may not capture late-stage successes.

Contributes to AI and entrepreneurial finance literature, aligning with prior calls for data-driven venture screening (Rao et al., 2023).

OpenAI

Practical Implications

VC Firms
- Initial Screening: Use AI to rapidly classify deals into Green/Yellow/Red, directing resources efficiently (Mollick & Euchner, 2023).
- Team & Patent Data: ChatGPT picks up on intangible signals like founder background or IP portfolios (Gompers et al., 2020).

Angel Investors / Novices
- Can help overcome limited screening expertise or time constraints.
- Offers structured, data-driven probabilities that mitigate "gut feeling" biases.

Future Research
- Compare ChatGPT with other LLMs (LLama, Claude, etc.).
- Extend horizon to 5+ years for later-stage exit data.
- Enhance interpretability to build trust among investors.

Thank you for Listening

Feedback and Questions Welcomed!!!

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**Strand B – Innovation, digital
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morning session**

*The relationships between innovation and cultural values; a multi-level
cross-country study*
Wafa Alosimi, Aston University

THE RELATIONSHIP BETWEEN CULTURAL VALUES AND INNOVATIVE ENTREPRENEURSHIP:

A CROSS-COUNTRY STUDY

Aston University
BIRMINGHAM UK

WAFA ALOSIMI

February 19, 2025

SUPERVISORY TEAM:

PROF. TOMASZ MICKIEWICZ

DR. NEHA PRASHAR

INTRODUCTION:

Aim: To examine the cultural determinants of innovation for early-stage entrepreneurs in a cross-country context.

Why innovation?

- Innovation plays a role in job creation, competitiveness and growth for entrepreneurial firms (Praag & Versloot, 2007).
- Entrepreneurship combined with innovation can provide meaningful work and a sense of fulfilment for individuals (Stephan, 2018).
- Innovation may solve unresolved economic and social challenges (Bryan, Lemus, & Marshall, 2020).

An explanatory variable of this study   based on Schwartz cultural values model:

- **Self enhancement:** such as power and achievement, contrasted with self-transcendence values, including universalism and benevolence
- **Conservatism:** such as tradition and behaving properly

RESEARCH GAP :

- ■ *Cultural values and innovation*
- ■ There is still lack of clarity about the factors that affect innovation (Camelo-Ordaz, 2012).
- ■ Cultural effects on entrepreneurship are still disputed (Storr & Jhon, 2020)
- ■ *AAdvantage of Schwartz Model of cultural values*
- ■ Hofstede's model has some variables that are identifiable in some cultures but not in others (Schwartz, 1999)
- ■ Schwartz model is more comprehensive than Hofstede.
- ■ It is underutilized in the entrepreneurship research papers (Stephan, 2022)

THEORETICAL BACKGROUND:

- **Innovation** can be defined as establishing novel ideas and implementing them successfully (Ulijin and Weggeman, 2001).

- In this study, the innovation will be considered in terms of **product and process innovation**

- A study by Koellinger (2008) concluded that entrepreneurial innovation is determined by both individual factors and the **environment** in which an individual operates.

HYPOTHESES AND MAIN ARGUMENTS

■ The clutural values of **self enhancement** and innovation

- In line with prior work, such as that by Morales et al. (2018), we examine the effect of cultural values on the behaviours of individuals in terms of their entrepreneurial activities, mainly innovation (McCloskey, 2016).

- The assumption is that individuals focused solely on personal wealth and success may be less inclined to collaborate with others or share knowledge and resources

HYPOTHESES AND MAIN ARGUMENTS

■ The cultural value of **conservatism** and innovation

Dollinger et al. (2007) observed that the values associated with conservatism had a **negative effect on creativity.**

Yeganeh (2023) reports that the emphasis on conservative values **can hinder the willingness of entrepreneurs to explore new ideas and take risks.**

Schwartz and Bardi (2001) state that security and conformity promote harmony through the avoidance of conflict, which maintains the status quo and **weakens the motivation to innovate**.

HYPOTHESES AND MAIN ARGUMENTS

■ Product versus process innovation

There is a differences between product and process innovation

❖ **The aim behind innovation**

Innovations in products are pursued in response to customer demands or by the desire of executives to **capture new markets**, whereas innovations in processes are pursued in order to reduce delivery lead-time or **increase process efficiency** (Schilling, 2013)

❖ **The outcome behind innovation**

The introduction of product innovations will change what the organisation offers to the outside world, while the introduction of process innovations will change how the organisation produces and delivers those offerings internally (Bessant et al., 2005).
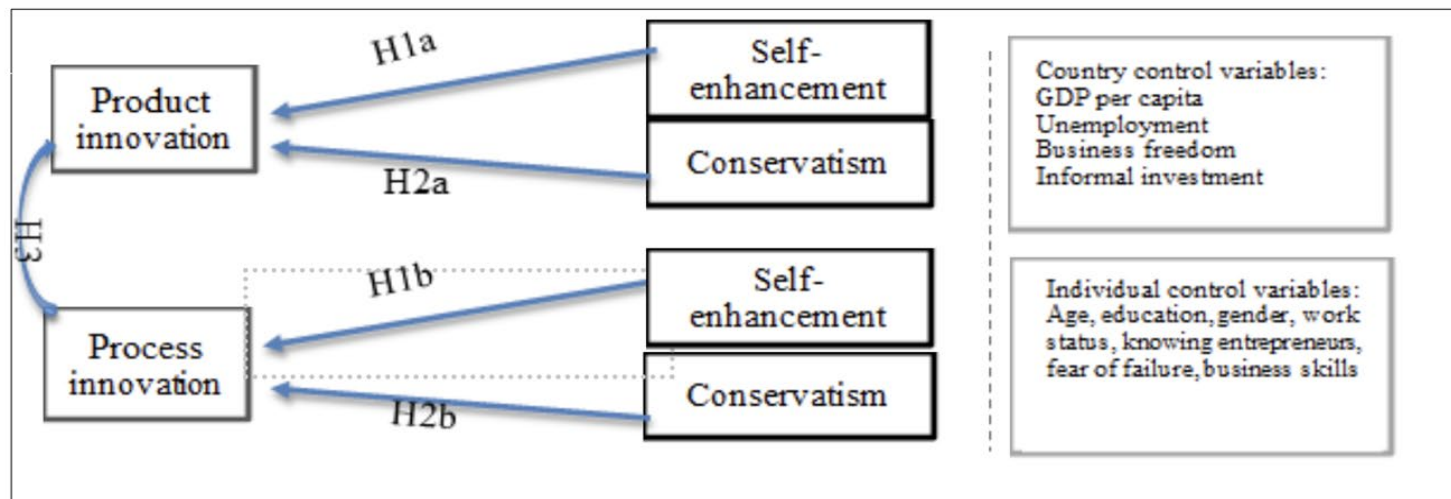
THEORETICAL FRAMEWORK

Figure 1.1. Main theoretical framework: cultural values, and product and process innovation.

METHODOLOGY:

- **Data sample** :

Global Entrepreneurship Monitor (GEM), cultural values from the World Value Survey, macro-level control variables from the World Bank and Heritage Foundation indices.

- **Estimated tools** : Multilevel modeling with random effects, logistic regression (Stata)

- Number of observations: 22,795
- Number of Countries: 53 countries

	Hypothesis	Conclusion
H1a	In societies where the cultural values of self-enhancement are high, there will be a lower level of product innovation at the early stage of entrepreneurship	**H1a is supported**
H1b	In societies where the cultural values of self-enhancement are high, there will be a lower level of process innovation at the early stage of entrepreneurship	**H1b is not supported**
H2a	In societies where the cultural value of conservatism is high, there will be a lower level of product innovation at the early stage	**H2a is supported**
H2b	In societies where the cultural value of conservatism is high, there will be a lower level of process innovation at the early stage	**H2b is supported**
H3	Entrepreneurs whom having high conservative and self enhancement cultural values are less likely to engage in product compared to process innovation	**H3 is supported**

SUMMARY OF THE RESULTS

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POLICY IMPLICATIONS

- Building an entrepreneurial culture that support innovation through the **effect of cultural values**

- Developing **education programs** that support these cultural values.

- Incorporate modules **on cognitive flexibility and openness to change** to support creativity and reduce the negative impact of conservatism.

Lunch and Networking

**Strand B – Innovation, digital
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Afternoon session**

Exploring social, environmental, and economic sustainability of ethnic minority businesses (EMBs): A multi-dimensional conceptual framework
Daniel Mafulul, Centre for Research in Ethnic Minority Entrepreneurship (CRÈME), Aston University

Fostering innovation in small businesses through university-industry collaboration: Revisiting the role of social capital
Nor Yusup, Manchester Metropolitan University

The potential impact of inclusive agribusiness models (IAMS) on Zimbabwe's smallholder farming sector
Metrey Mashapuri, Leeds Beckett University

Managing for impact: reframing purpose in decision-making processes of the managers in small businesses
Ozlem Araci, University of Portsmouth

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*Exploring social, environmental, and economic sustainability of ethnic
minority businesses (EMBs): A multi-dimensional conceptual framework*
Daniel Mafulul, Centre for Research in Ethnic Minority Entrepreneurship
(CRÈME), Aston University

Aston University
BIRMINGHAM UK

❑ Significant role in fostering economic growth, social diversity, and cultural exchange by creating employment opportunities, fostering innovation, and contributing to local economies (Dana, 2020)

A.
Estimated 250,000 EMBs in the UK

£25bn **(GVA)**

- Key contributors to the UK's entrepreneurial ecosystem
- Employing about 3m

(FSB, 2018)

B. Can be quadrupled:

£100bn **(GVA)**

(Time to Change Report, 2021)

DiversityUK
www.diversityuk.org

New report shows EMBs contribute £74bn to UK economy

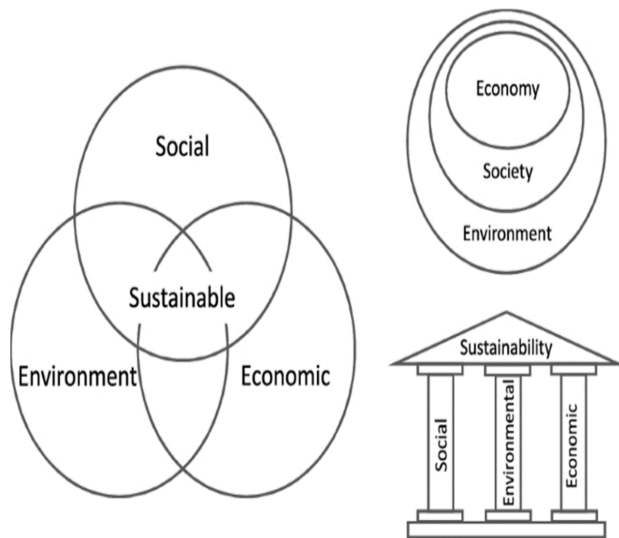MINORITY BUSINESSES MATTER

C. EMBs Food and Hospitality Sector (Curry Houses)

£4.3bn

-Indicating 17%
- Employs over 100,000 and regenerated local economies in the 1980s and 1990s

(FSB, 2020; Gillan,2002)

**Source:** Adopted from Rogers et al. (2013)

- Often described as micro-businesses owned and operated by ethnic minorities and immigrants, with between 1-9 employees.

- Face unique challenges, including access to finance, discrimination, and lack of support from institutional structures (Ram & Jones, 2008; Sepulveda, Syrett, & Lyon, 2018).

- These constraints make sustainability—defined in its social, economic, and environmental dimensions—an ongoing challenge for EMBs.

Understanding Sustainability in EMB's

- Sustainability has expanded beyond economic outcomes to include environmental responsibility and social equity (Carter & Jones-Evans, 2006).

- EMBs are shaped not just by entrepreneurial traits but also by socio-political factors like migration, cultural identity, and institutional frameworks (Kloosterman & Rath, 2018; Jones & Ram, 2007; Glinka & Zych, 2020).

- Despite two decades of research on sustainable entrepreneurship (Munos & Cohen, 2018), EMBs' sustainability remains largely underexplored.

- Understanding EMBs' sustainability requires integrating social, economic, and environmental dimensions while considering external influencing factors (Marina et al., 2020).
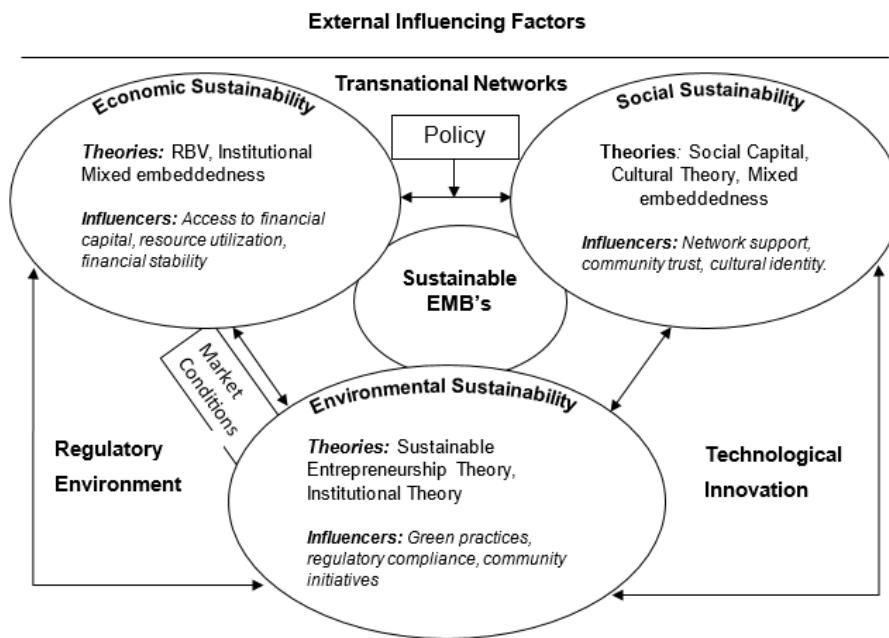
A Step-by-Step Review Approach
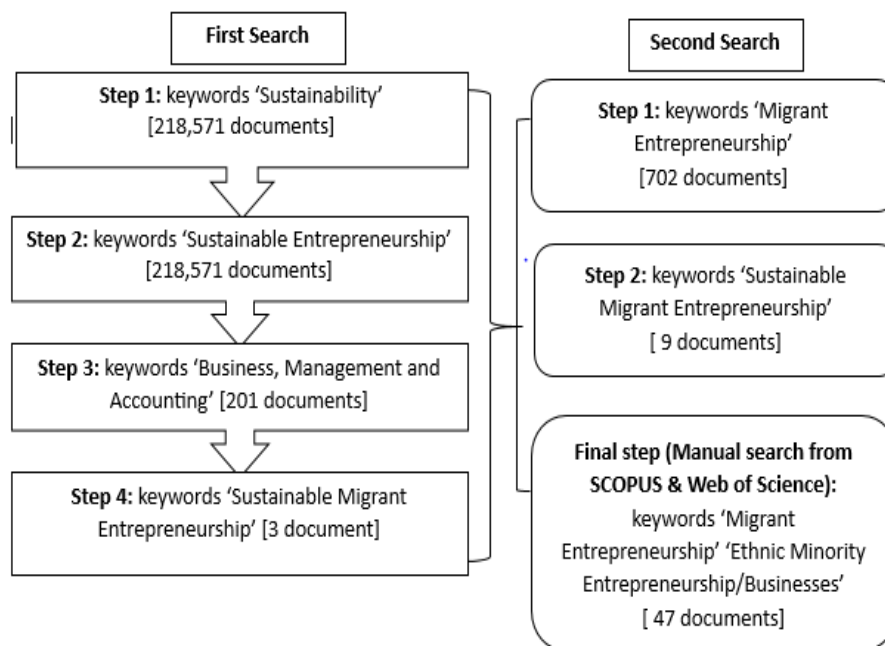
- We address theoretical and practical gaps by adopting a conceptual review approach.

- Synthesize diverse theoretical perspectives to propose a comprehensive, multi-dimensional framework

- Advance scholarly discussions

- Enhance understanding of the unique sustainability challenges and opportunities faced by EMBs

- Despite a substantial body of work on immigrant entrepreneurship, the field remains fragmented due to a lack of integrated models (Marina et al., 2020; Sundarajan & Sundarajan, 2015):

- Research on EMBs' sustainability has largely treated economic, social, and environmental dimensions separately, limiting a holistic understanding (Ram et al., 2008; Smallbone et al., 2005).

- Limited exploration of how EMBs adopt environmentally sustainable practices, especially in resource-constrained settings (Dana, 2007).

- Under exploration of external influences in shaping EMBs sustainability (Sirkeci & Yucesahin, 2016)

- Six dominant theoretical frameworks: **capital theory, embeddedness theory, intersectionality theory, institutional theory, cultural frameworks, and immigration theories** (Marina et al., 2020).

-advanced our understanding of EMBs sustainability but often overlook key aspects of environmental and social sustainability.

- Emphasizes the **interconnections** between sustainability dimensions, advocating for a **holistic approach** within specific spaces, places, and contexts

- Provides a **theoretical foundation** for future empirical research on EMBs' long-term sustainability in a dynamic business environment.

- **Knock-on effects** across dimensions are represented by connecting arrow lines, illustrating their interdependence.

Contribution

- Bridges insights from diverse theories to provide a more integrated perspective on EMBs' sustainability

- Moving beyond single-theory limitations, enabling a multi-dimensional approach applicable across cultural and economic contexts (Ram et al., 2020; Dana, 2019)

- Guides policymakers, entrepreneurs, and support institutions in identifying key sustainability influencers.

- Informs targeted and inclusive support strategies for EMBs.

Theoretical: Theorize a more integrated perspective on the sustainability of EMBs

Practice: For EMB owners, this framework suggests that balancing economic, social, and environmental dimensions can enhance resilience

Policy: Practical ways to support EMBs sustainability through tailored financial incentives such as, tax credits, and green technology grants that can alleviate these challenges and enable EMBs to invest in sustainability (Glinka, 2021)

Conclusion

Limitations	Recommendation For Further Study
Relies on existing literature rather than empirical data- May not fully capture the specific experiences and motivations of EMBs across different settings	• Incorporating interviews, case studies, and surveys to validate and enrich the conceptual framework. Exploring correlations between sustainability efforts and business outcomes.
The analysis does not account for the diverse sectors and regions where EMBs operate. This may overlook sector-specific challenges and regional dynamics	• Industry and Region-Specific Studies to investigate how sustainability factors vary across different contexts, and comparative studies.
Most studies on EMBs and immigrant entrepreneurship focus primarily on the entrepreneurial perspective, missing the views of key stakeholders.	• Examining empirically how such EMB's sustainability efforts influence and are influenced by these stakeholders will be worthwhile.

Thank you!

**Strand B – Innovation, digital
(Chair – Halima Jibril, discussant - Serdal Ozusaglam)
Afternoon session**

***Fostering innovation in small businesses through university-industry
collaboration: Revisiting the role of social capital***
Nor Yusup, Manchester Metropolitan University

Fostering Innovation in Small Businesses through University-Industry Collaboration: Revisiting the Role of Social Capital

Nor Yusup, Maryline Kiptoo, Naraporn Thammadee

Manchester Metropolitan University & Huachiew Chalermprakiet University, Thailand

Introduction

- Industry collaboration is key but underexplored.

- challenges remain in understanding how to effectively establish and manage collaborations with small businesses, particularly given their unique resources, innovation priorities, and need for adaptability.

- social capital (SC) has appeared as the theoretical lens to explore the complex interaction of partners in overcoming collaboration barriers.

"the sum of actual and potential resources embedded within, available through and derived from the networks of relationships possessed by individuals or social units" (Nahapiet and Ghoshal, 1998, p. 243).

Research Question

How does social capital influence the collaboration process between universities and small businesses in fostering innovation?

- the interplay between the three dimensions of SC capital, specifically the structural, relational, and cognitive dimensions.

- network ties, trust, and shared vision to offer a holistic view of the social mechanism that could influence the collaboration process (Nahapiet and Ghoshal, 1998; Adler and Kwon, 2002).

- Research so far has adopted a narrow perspective of SC when examining this concept without considering the effect of other dimensions and treating each dimension in isolation (Al-Tabbaa and Ankrah, 2019, Seo, 2020).

- Thus, prior studies may not fully reflect the dynamic of interaction between the three dimensions of SC that could influence UICs, specifically on collaboration involving small businesses.

Methodology

- The research adopt an exploratory, multi-method qualitative approach that includes a case study and expert interview to address our research question.

- Our investigation was conducted in two primary phases:

The first phase:

- Involved multiple case studies, during which we examined four collaborative projects between universities and small businesses (13 interviews from KTP case studies)

The second phase:

- Expert Interview- 27 expert interviews with individuals directly involved in successful KTP projects that had already achieved innovation outcomes.

- Data Analysis: thematic analysis framework outline by Clarke and Braun (2013).

- This approach allowed a systematic yet flexible analysis process involving transcription, familiarisation, coding, theme review, theme definition, and write-up

Conceptual Framework
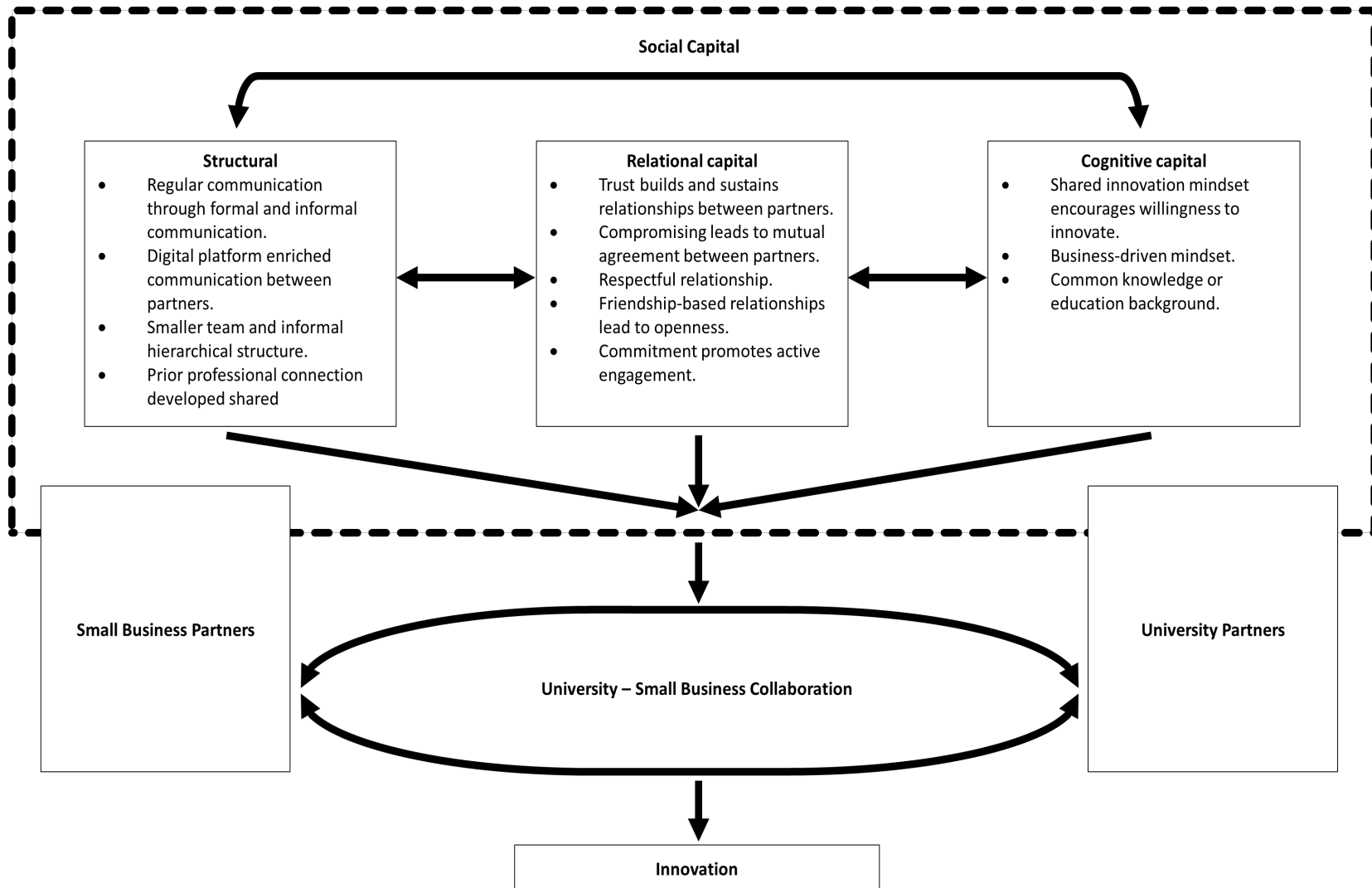
Contribution

- Provides new insights into understanding how SC influences university-small business collaborations in driving innovation (extends understanding of Social Capital's role in UIC)

- Develop a conceptual framework that explains specific dimensions of social capital foster innovation outcomes within collaborative projects

- Conceptual framework for universities, policymakers, and practitioners – offer new perspective on managing UIC in fostering innovation.

- Practical guidance to enhance UIC support for small businesses.

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**Strand B – Innovation, digital
(Chair – Halima Jibril, discussant - Serdal Ozusaglam)
Afternoon session**

***The potential impact of inclusive agribusiness models (IAMS) on
Zimbabwe's smallholder farming sector***
Metrey Mashapuri, Leeds Beckett University

DBA – PGRP

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LEEDS BECKETT UNIVERSITY

Research Outline

Topic

An evaluation of the potential impact of inclusive agribusiness models (IAMs) in the smallholder farming sector of Zimbabwe.

Research Question

Can smallholder farmers (SHFs) benefit by participating in inclusive supply chains for sustainable development?

Introduction

Studies show immense potential contribution of agriculture to rural development in Africa.

Handicaps: land and agricultural policy issues, under-investment, resources (Wangu, 2021).

Agribusiness in Zimbabwean Context

Employs 60-70 % of population, supplies 60 % of industrial raw materials (FAO, 2021).

- Contributes only 15-19 percent to annual GDP.

- 7.1 ml smallholders famers (SHFs) includes communal farmers, farm 21ml ha of land compared to 4000 LSCFs (pre-80s land reform era),11ml ha of prime Land (FAO, 2001).

- SHFs face multiple challenges - resources, socioeconomic, political, and env'ntal factors)

- Inclusive business models (IAMs) – seen as a tool to address challenges (FAO, 2015).

- Conflicting views on effectiveness and impact of IAMs (Schoneveld, 2022)

Defining Inclusive Agri-businesses (IABs)

Sustainable and equitable commercial operations that integrate low-income communities and smallholder farmers with agri-businesses into inclusive value chains that offer more access to markets, inputs, services, finance, and training (Chamberlain and Anseeuw, 2019)

Keywords: Inclusive agribusiness model (IAM), inclusive value chains (IVC),

Market Access, smallholder Farmers, sustainable practices, Public-Private Partnerships

The problem

Marginalized by the impacts of the liberation war poor governance, and various socio-cultural and environmental factors, smallholder farmers (SHFs) in Zimbabwe continue to remain impoverished even after the introduction of Inclusive Agri-business Models (IAMs) (Govereh et al., 2020).

Research Aim (RA)

To evaluate the trends and perspectives of smallholder farmers on their performance (finance, marketing, productivity, innovation etc), by employing a mixed-methods strategy that integrates both qualitative and quantitative data.

Research objectives

- To examine the **effectiveness** of agribusiness supply chains (markets, finance, technology, etc)

- To investigate the **relationships and power dynamics** within inclusive supply chains.

- To explore how IAMs in Zimbabwe influence **eco-friendly farming practices**.

- To determine the degree of **inclusivity** of agribusiness supply chains.

- To assess **livelihoods and financial benefits of** inclusive value chains to SHFs.

- To examine the influence of **regulatory frameworks** on IAMs within existing supply chains

Research Paradigm

Research Paradigm: Ontology + Epistemology + Methodology

Ontology: Focusing on the real challenges faced by SHFs e.g. dispersion, lack of inputs, services, and infrastructure, by exploring the nature of practical realities in existence, as discussed by Bracken (2010a).

Epistemology: Examining the value systems, beliefs, experiences, and contexts of smallholder farmers (SHFs) while taking account of nature, origins, and scope of verifiable knowledge in IBMs (Fryer (2020).

Methodology: Mixed methods, multi-methods, inductive – SSI, FGs, Nvivo

Philosophical Positions: Critical Pragmatism (CP): Integrating subjective perspectives to understand the practical realities SHFs face, by emphasizing lived experiences and identifying actionable insights and solutions that are contextually relevant, socially just, and grounded in the socio-cultural environment of SHFs, giving holistic understanding of how IBMs can effectively address the diverse needs and challenges of smallholder farmers (Bracken, 2010b; Ulrich, 2007).

Figure 1.0: Theoretical Framework

Source: Adapted from the UN ESCAP (2020). Outcome Report: ASEAN Inclusive Business Framework.
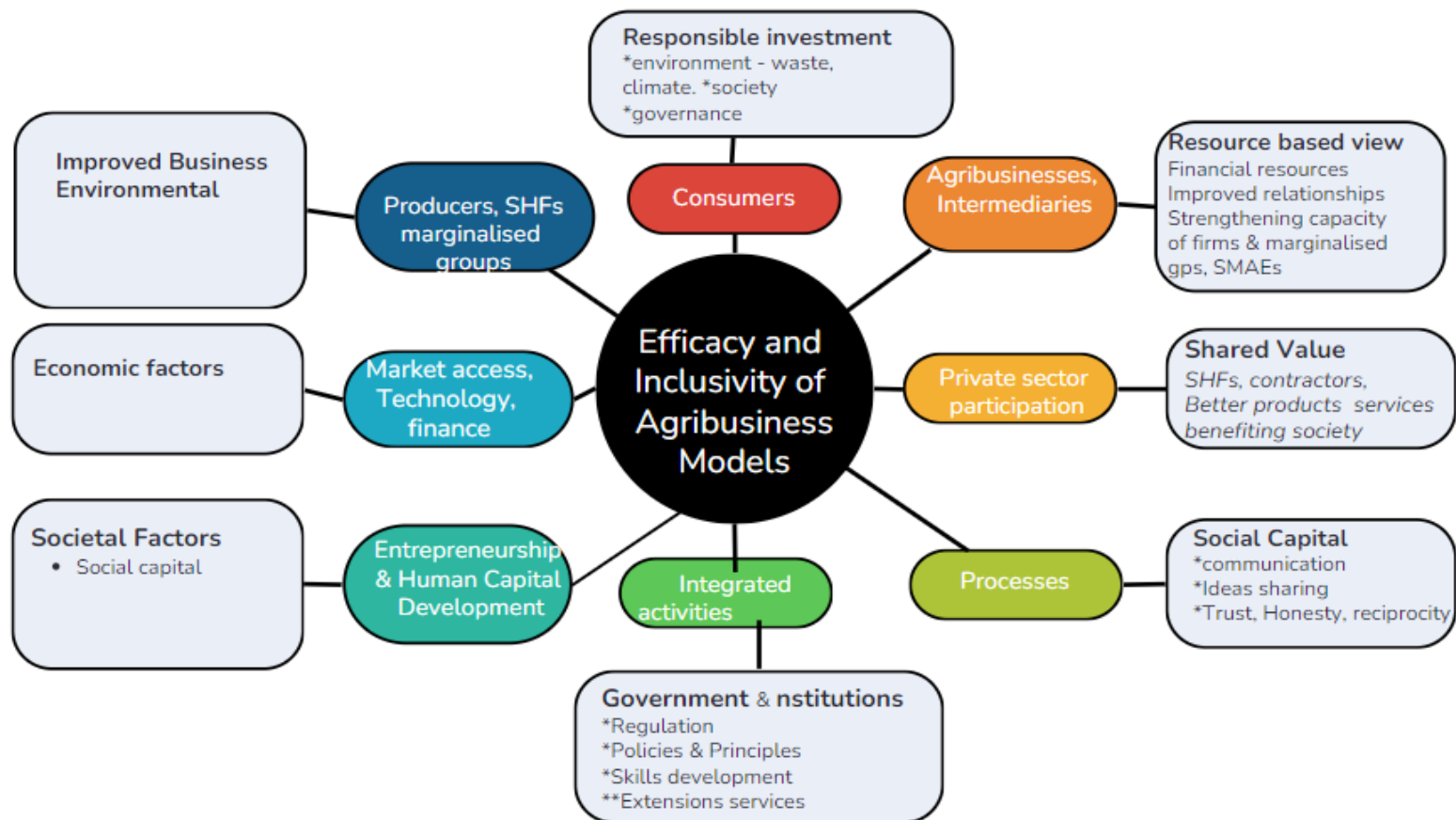
Methodology

World view/ philosophy: Pragmatic Critical Realism

Approach to theory development: Inductive

Strategy: Narrative inquiry.

Approach: Mixed methods, multi-method data collection tools

Data collection, processing, and analysing using

- **Semi-structured interviews (12),** 2 districts - Mazoe & Guruve

- **Focus groups (2)**

- **Surveys (110)**

- **Data analysis: Thematic analysis – Nvivo -** six-step process - (Caulfield, 2022).

- **Instruments: Text, video, and/or audio transcribers. Decoding - concepts, opinions, experiences of SHFs.**

Gaining in-depth knowledge, of specific agribusiness contexts (Bhandari, 2023)

Methodological Choice
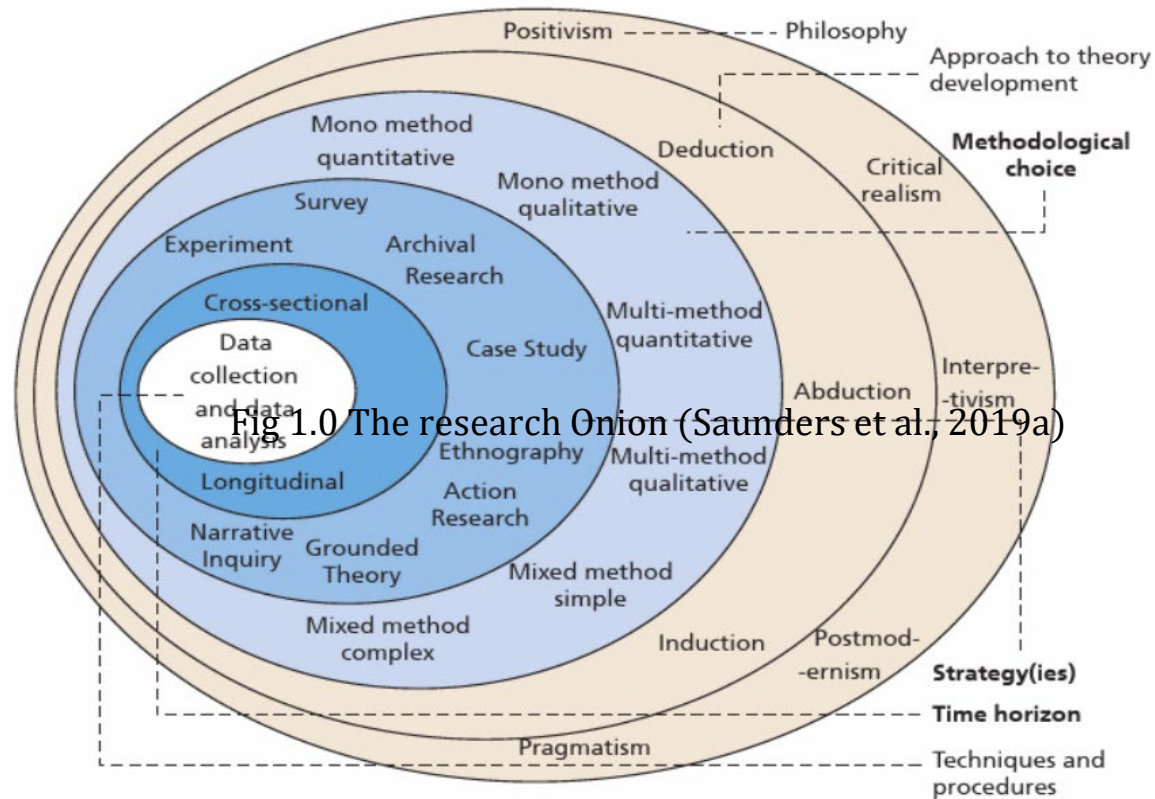
Fig 1.0 The research Onion (Saunders et al., 2019a)

Fig 2.0 The research Onion (Saunders et al., 2019)

Population and sampling

Sampling strategies

- Purposive sampling done in Guruve & Mazoe. Snowball sampling as follow-on in Mazoe district

Research Participants

Group 1 - Farmers and farmers associations; **Group 2** - Support Agencies and Contractors: Ext. Agents-Agritex,, Agri-contractors e.g Zimbabwe Leaf tobacco co (ZLT), Windmill fertilizer Co.

Preliminary Findings

Survey data and interview narratives

- **Increased productivity, Economic Benefits, Food Security Concerns**:

- **Gender Dynamic, Empowerment & Employment, Climate Adaptation**:

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Managing for Impact: Reframing Purpose in Decision-Making Processes of the Managers in Small Businesses

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**University of Surrey, Surrey Business School

Research Question

- *How do managers perceive and navigate barriers to managing with purpose, particularly within the resource-constrained contexts of small businesses?*

Motivation

- The dual challenge of meeting both economic and social objectives,

- Concerns of managers such as the potential financial cost to the organisation, the obstacles they might encounter, the sacrifices the company may have to make, and the implications for the budget

- Difficulty in navigating the inherent tension between economic and social aspect of running business

Managing with Purpose

- Managing with purpose requires a fundamental acknowledgement of the interdependence between business and society, emphasizing the need to align organizational values with the broader values of the communities they serve (Hollensbe et al., 2014).

- Purpose as "*embedded in the business and societal context*" (Chua et al., 2024)

- Purpose as a directed commitment to address the needs, expectations, and well-being of specific stakeholders, aligning organisational goals with stakeholder priorities (Chua et al., 2024)

Methodology

- An inductive approach

- Semi-structured interviews

- 23 managers of small businesses in the southern region of the UK

- Analysis based on "Stages of systematic approach" explained by Gioia, Corley, & Hamilton (2013)

Preliminary Findings

Frames of Reference of Managers for Managing with Purpose

- Cost

- Business venture

- Burden

- Responsibility

Perceived Barriers to Managing with Purpose

- Individual barriers

- Organisational barriers

- Structural barriers

First order concepts

- Creating a good has a price tag and it cost money
- Being socially responsible is almost as packaged in with a marketing budget, almost, any costs that are involved
- It necessitates specific budget allocations to support these purposes
- It requires careful consideration of the associated financial investments

→ **Cost**

- It requires an investment of resources with the expectation of a return
- An opportunity to do good, to make your working life and those around you positive and meaningful
- It helps to strengthen the brand of the company
- It has the potential to present opportunities in the future
- It is an investment in the fact that you are going to be invested in these people.
- It helps the attraction and retention of talent

→ **Business venture**

- It will cause a new source to be worried
- It is a burden because often it involves time so there's not enough time
- Failing to meet these expectations creates pressure that can feel burdensome

→ **Burden**

- Every single person has their challenges. So, as the human race, surely we have a responsibility to do good
- Feeling responsible as we are part of the society
- Meeting stakeholder expectations is responsibility (providing jobs, creating a workplace that employees will be proud of working at)
- Irresponsibility risks resources necessary for business functions

→ **Responsibility**

First order concepts

• Stereotypes about being small-sized enterprises • Disbelief that they can make a meaningful difference • Difficult to demonstrate authenticity to do good for society • Other businesses that are not involved in generating social impact discourage managers	**Individual Barriers**
• At the end of the day business matters • If the business is not able to survive and be profitable and pay the salaries of employees, will not have resources to invest in doing good • Staff, money and the size of the organisations are other barriers	**Organisational Barriers**
• Lack of narrative to enhance awareness • Lack of visibility and accessibility of opportunities • Lack of an organized network • Lack of defined roles and procedures restrains organizations to take uniform action	**Structural Barriers**

Candidate Theoretical Framework

- Transformative Learning Theory

Frames of reference play a crucial role in shaping and constraining individuals' expectations, perceptions, cognition, and emotions. They guide our actions and decision-making processes, influencing how we interpret and respond to various situations. Additionally, there is a pronounced tendency to dismiss ideas that do not align with existing preconceptions, often categorising such ideas as unimportant or irrelevant (Mezirow, 1997, p.5).

Potential Contribution

Theoretical Contribution

- Identifying mechanism on manager's perception on sustainability and managing with purpose

Practical Contribution

- For Small Business Founders/Leaders on initiating the sustainable agenda
- For managers in identifying the purpose of management