

Tiny Impact of ICTs and Paucity of Rigorous Causal Studies: A systematic review of urban MSMEs in the developing world

P. Vigneswara Ilavarasan, PhD

<http://web.iitd.ac.in/~vignes>

(Jointly with Albert Otieno, Ying Huang, Charlie Cabotaje, Garima Sahay)

Agenda



- Systematic Review
- The question
- Process
- Findings
- Implications

Systematic Review



- For evidence based policy making
- Rigorous – search, extract, & synthesis
- Unbiased & Replicable
- Origins from medicine
 - Intake of Vitamin C for cold
- Driven by ‘experimental designs’
- Increasing importance

The Protocol



Does

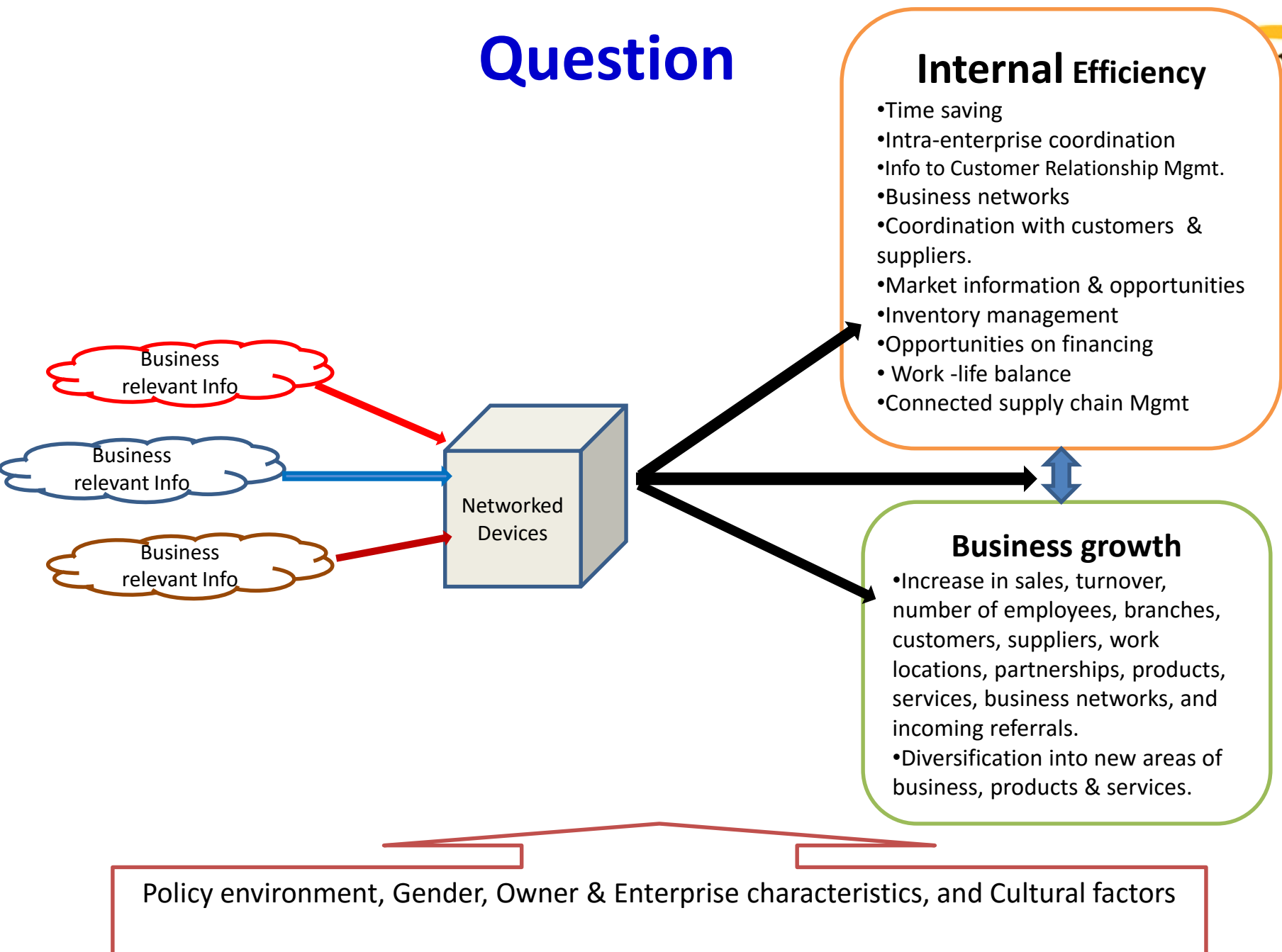
access to business relevant information
through networked devices

enhance

the internal efficiency and business growth of
the urban MSMEs

in low and middle income countries?

Question



The Need



- MSMEs in national development in developing world
- Ubiquitous mobile devices or low cost devices
- Moving up from ‘adoption studies’ to ‘Impact studies’
- Quantification of impact on MSMEs’ growth
 - Causal linkages
- Empirical evidence based policy making

The Process



- Keyword search of databases

- Acad Search, business source, Econlit, Scopus, Wos, IEEE, ACM, AIS Electronic Library

- Example:

- 10. (SMEs or MSMEs or enterprise* or business* or microenterprise* or microbusiness* or entrepreneur* or microentrepreneur* or self-employ* or owner* or businessman or businessmen or businesswoman or businesswomen or "self-help group*" or cooperative* or "social enterprise*" or Start-up* or incubators or "born global*").ti,ab,sh.
- 11. (Laptop* or computer* or PC or Internet or landline* or telephone* or mobile* or phone* or cell or cellphone* or smartphone* or CSCs or telecenter* or telecentre* or Wifi or WLAN or GDPRs or messaging or digital or ipad* or iphone* or apple or android or windows or broadband or wireless or wireline or CDMA or SMS or text* or MMS or facebook or linkedin or network* or Intranet or "discussion list*" or contacts or "online forum" or "discussion thread*" or "online feedback" or ICT or ICTs or "communication technolog*" or "information systems").ti,ab,sh.

- Grey Literature

Inclusion Criteria

- Urban?
- Low and middle income countries?
- On MSMEs?
- Has primary / numerical data?
- Use at least one networked device?
- Process business relevant information?
- Done 2000 & after?
- English?

Screening



- 23926 Results
 - Acad Search; Business Source; Econlit; Scopus; WoS
- 1000+
 - IS, IEEE, ACM Conferences
- 500+
 - Grey Literature
- Title → Abstract → Methodology → Full Paper → Data Extraction
- Five screeners
- Double coding in the final stages

The final papers



- Final 10 papers
- All regression
 - No experimental designs
- Africa & India

Findings

IT Enabled KM practices



Process Improvement (0.31)
Operational Support (0.34)
Strategic Development (0.14)

Chadha, S. K., and Saini, R (2014)

eCommerce Applications



Operational Performance
(0.98)

Jahanshahi et al (2011)

ICT Usage
ICT Possession



Labour Productivity (0.55)

Esselaar et al., 2007

Usage of Mobile
Technologies

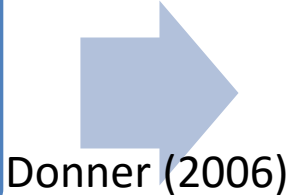


Organizational
Performance (0.41)

Wamuyu and Maharaj (2011)

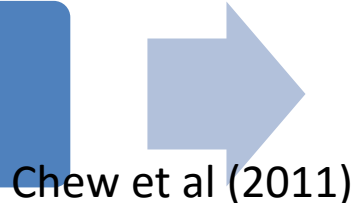


Length of mobile use



Proportion of business calls (0.13)

Total ICT Access



Business Growth (0.15)

Length of mobile use
Biz use of mobile



Business Growth (0.13; 0.07)

Mobile money use



Profits (0.36)

ICT Usage Exp



Turnover (0.39)

- Business Growth

- Six studies
- Positive
- Small effect size (0.047) lower than desired 'small' level 0.2
- Stats. insignificant

- Internal efficiency

- Three studies
- Positive
- Small effect size (0.321) higher than desired
- statistically significant

Implications



- Policy

- Limited impact of ICTs on growth

- Total ICT access; mobile use – length; business use; mobile money use, ICT usage expenditure

- Need for documenting evidences

Implications - Researchers



- Need for causal studies
 - Moving beyond cross sectional survey studies
- Rigorous sampling techniques to enable possible generalizations
- Other LMI Countries
 - India & Africa
- More beyond mobile centric approach
- Checking recursive relationships
- Disaggregated analysis – MSMEs, Gender, etc

Thank you!