

A review of the research on mobile use by micro and small enterprises (MSEs)

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Jonathan Donner
Microsoft Research India

Marcela Escobari
Harvard University



Micro and Small Enterprises (MSEs)



Self-employed and small businesses are the majority of non-agricultural enterprises in the developing world

- Example: 15 million Indian retail shops <500 sq. feet
- Most are informal, unproductive, and struggle to survive
- Different ICT needs than formal businesses/SMEs in developed economies
- Research suggests the landline is helpful (Duncombe and Heeks, '99)
- Current popular *enthusiasm* for mobile's utility outstrips *evidence*

From 35,000 feet to sea level

Macro

Waverman, Meschi & Fuss (2005)
Mobiles and GDP growth

Meso

Jagun *et. al.* (2008)
Nigerian Weaving Cluster

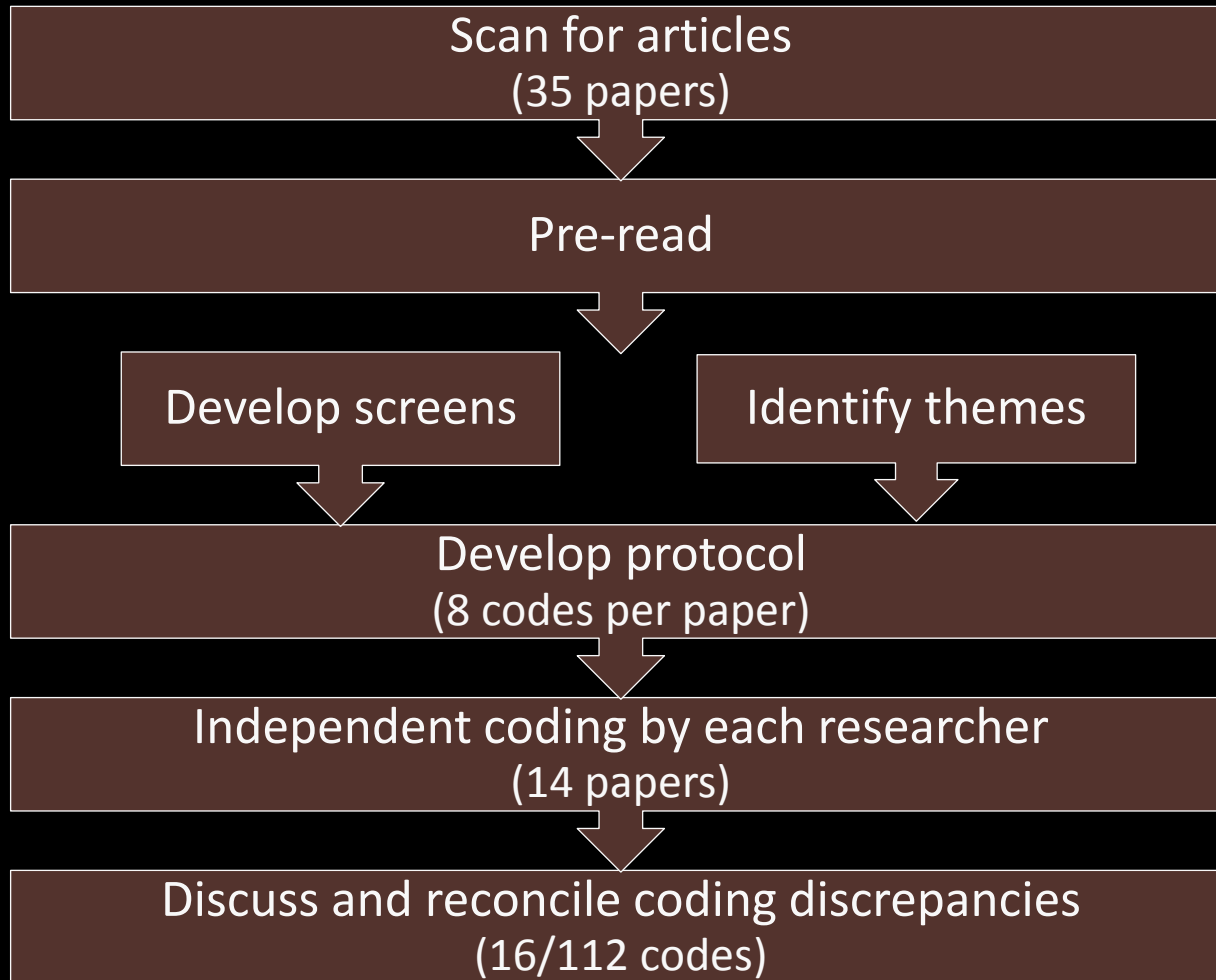
Micro

Jensen (2007)
Kerala's Fishermen



A systematic literature review

Aggregating across methods and disciplines



Narrowing from 35 to 14 studies

Focused on mobiles

- not ICTs or landlines

About MSEs

- Including microenterprises, not just SMEs

Generalizable results

- not about mobile sales/service as business

Offer sufficient detail

- “peer into” the business

Offer new primary data

- excludes reviews and duplicates

Explore everyday settings

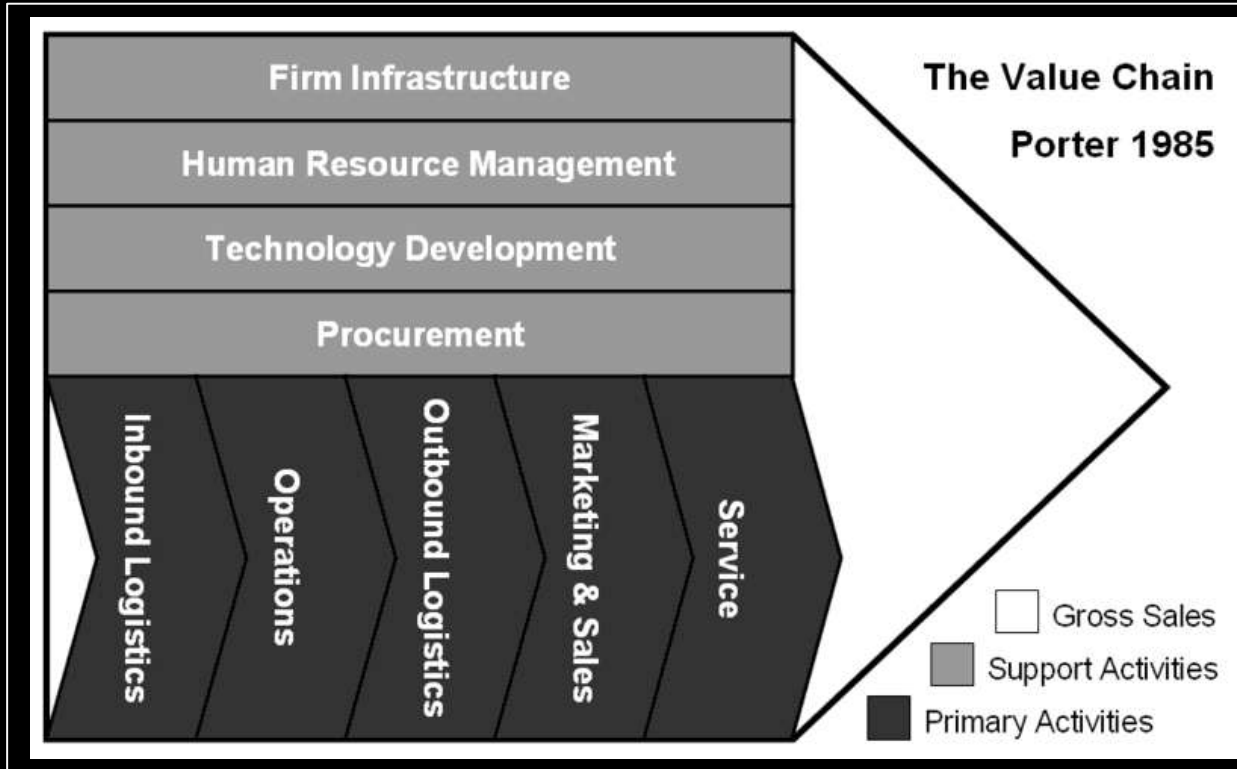
- not pilots or NGO interventions



Studies in the review

Author	Study
Abraham	Mobile phones and economic development: Evidence from the fishing industry in India
Aker	Does digital divide or provide? The impact of cell phones on grain markets in Niger
Donner	Microentrepreneurs and mobiles: An exploration of the uses of mobile phones by small business owners in Rwanda
Donner	The use of mobile phones by microentrepreneurs in Kigali, Rwanda: Changes to social and business networks
Donner	Customer acquisition among small and informal businesses in urban India: Comparing face to face, interpersonal, and mediated channels
Esselaar et. al.	ICT usage and its impact on profitability of SMEs in 13 African countries
Frempong et. al.	Survey on the use of mobile telephones for [MSE] development: The case of Ghana
Horst & Miller	The Cell Phone: An Anthropology of Communication
Jagun et. al	The impact of mobile telephony on developing country micro-enterprise: A Nigerian case study
Jensen	The digital provide: Information (technology), market performance, and welfare in the South Indian fisheries sector
Kamga	Mobile phone in Cote d'Ivoire: Uses and self-fulfillment
Molony	I don't trust the phone; it always lies': Trust and information and communication technologies in Tanzanian micro- and small enterprises
Overå	Networks, distance, and trust: Telecommunications development and changing trading practices in Ghana
Samuel et. al	Mobile communications in South Africa, Tanzania, and Egypt: Results from community and business surveys

Three analysis themes



Other Uses

Mobility
(vs. connectivity)

Sociality
(vs.
instrumentality)

The Value System (inter-firm relationships)

Increased information
Entry of new buyers/sellers

Bypassing middlemen
Starting new enterprises

Results 1 – Value Chain

Author	Study	Core Processes	Crosscutting
Abraham	...fishing industry in India	Mktg & Sales, Inbound & Outbound Logistics, Operations	Procurement
Aker	...grain markets in Niger	Mktg & Sales	--
Donner	...small business owners in Rwanda	---	--
Donner	...Rwanda: Changes to social and business networks	Mktg & Sales	--
Donner	...Rwanda: Impact on small business owners	---	--
Esselaar et. al.	...impact on profitability of SMEs in 13 African Countries	Mktg & Sales	Procurement
Frempong et. al.	...The case of Ghana	Mktg & Sales, Service	Procurement
Horst & Miller	The Case of Mobile Technology in Communication	---	--
Jagun et. al.	...A Mobile Phone for Small Business Owners	Mktg & Sales, Operations	Procurement
Jensen,	The Digital Divide in Africa	---	--
Kamga,	...Cote d'Ivoire: uses and self-fulfillment	Mktg & Sales	--
Molony	'I don't trust the phone; it always lies' ...	Mktg & Sales; Service	--
Overå	...changing trading practices in Ghana	Mktg & Sales, Inbound & Outbound Logistics,	Procurement
Samuel et. al	...South Africa, Tanzania, and Egypt: Community and Business Surveys	--	--

Results

Strong evidence for use in **marketing and sales** and **procurement** (transactions)

Some evidence for **inbound and outbound logistics** (coordination/timing)

Perhaps too small to leverage mobiles for **operations, HR, infrastructure, or technology development?**

Results 2 – Value System

Author	Study	Add info.	Add players	Bypass middlemen	Start new biz.
Abraham	...fishing industry in India	Yes	Yes	No	--
Aker	...grain markets in Niger	Yes	Yes	--	--
Donner	...small business	--	--	--	--
Donner	...Rwanda: Changes to social and business networks	--	Yes	--	--
Donner	...Indonesia: Impact of information technology on inter-firm transactions	--	Yes	--	--
Esselaar et. al.	...impact on profitability of SMEs in 13 African Countries	Yes	--	--	--
Frempong et. al.	...the case of Ghana	Yes	--	--	--
Horst & Miller	The Cell Phone and the Topology of Communication	--	--	--	No
Jagun et. al.	...A Nigerian Market	--	--	--	--
Jensen,	The Digital Divide	--	--	--	--
Kamga,	...Cote d'Ivoire: uses and self-fulfillment	Yes	--	--	--
Molony	'I don't trust the phone; it always lies' ...	Yes	No	No	--
Overå	...changing trading practices in Ghana	Yes	Yes	--	--
Samuel et. al.	...South Africa, Tanzania, and Egypt: Community and Business Surveys	Yes	Yes	--	Yes

Results: Changes in Degree, not Structure

Strong evidence for increased flow of information between **existing** transaction partners

Mixed evidence about introduction of **new** transaction partners (7 for, 2 Molony, Donner, against)

Sparse-to-absent evidence on *bypassing middlemen* and *starting new businesses* (Horst & Miller emphatically against)

Results 3 – Mobile Use

Author	Study	Mobility	Sociality
Abraham	...fishing industry in India	Yes	Yes
Aker	...grain markets in Niger	Yes	--
Donner	...small business	Yes	Yes
Donner	...Rwanda: Changes to social and business networks	--	Yes
Donner	...India: "interconnected channels"	--	Yes
Esselaar et. al.	...impact on African countries	--	Yes
Frempong et. al.	...The case of Ghana	--	--
Horst & Miller	The Cell Phone: An Anthropology of Communication	--	Yes
Jagun et. al	...A Nigerian Case Study	--	--
Jensen,	The Digital Provider	Yes	--
Kamga,	...Cote d'Ivoire: uses and self-fulfillment	Yes	Yes
Molony	'I don't trust the phone; it always lies' ...	--	Yes
Overå	...changing trading practices in Ghana	Yes	Yes
Samuel et. al	...South Africa, Tanzania, and Egypt: Community and Business Surveys	Yes	Yes

Results: Unique Attributes of the Mobile

Half the studies mention use of mobility (rather than connectivity).

Overå: "availability as a comparative advantage"

Many studies address a variety of sociality themes, such as call mix, trust, or social networking

Summary

Mobiles and the logic of the informational society

The *current evidence* suggests that within the MSE sector, benefits of mobile use accrue mostly (but not exclusively) to existing enterprises, in ways that amplify and accelerate material and informational flows, rather than fundamentally transforming them



Research priorities

Segmentation and generalization

- A hefty *quantitative* task
- Build up from vocation-specific case studies
- Match various benefits/uses to sectors
- Identify high-leverage subsectors for intervention

Balance inquiries on livelihoods and lives

- To find new (and failed) businesses, look at individuals and households
- Explore occupational multiplicity
- Social capital and social support

Isolate impacts of new applications

- Value Chain: M-Banking, Mobile Accounting
- Value System: M-Marketplaces, Supply Chain Mgmt



Thank you!

jdonner@microsoft.com

www.jonathandonner.com

<http://research.microsoft.com/~jdonner/>

twitter @jcdonner

Donner, Jonathan, & Escobari, Marcela. (2009). A review of the research on mobile use by micro and small enterprises (MSEs). In Richard Heeks & Rahul Tongia (Eds.), *Proceedings of the Third International Conference on Information and Communications Technologies and Development, (ICTD 2009)* (pp. 17-26). Doha: IEEE.

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Donner, Jonathan, & Escobari, Marcela. (in press). A review of evidence on mobile use by micro and small enterprises in developing countries. *Journal of International Development*.



Appendix: Studies in the Review

- R. Abraham, "Mobile phones and economic development: Evidence from the fishing industry in India," Proceedings of ICTD 2006. Berkeley, CA: IEEE, pp. 48-56, 2006.
- J. C. Aker, "Does digital divide or provide? The impact of cell phones on grain markets in Niger," BREAD Working Papers. vol. 177, 2008.
- J. Donner, "Microentrepreneurs and mobiles: An exploration of the uses of mobile phones by small business owners in Rwanda," ITID, vol. 2, pp. 1-21, 2004.
- J. Donner, "The use of mobile phones by microentrepreneurs in Kigali, Rwanda: Changes to social and business networks" ITID, vol. 3, pp. 3-19, 2006.
- J. Donner, "Customer acquisition among small and informal businesses in urban India: Comparing face to face, interpersonal, and mediated channels," EJISDC, vol. 32, pp. 1-16, 2007.
- S. Esselaar, C. Stork, A. Ndiwalana, and M. Deen-Swarra, "ICT usage and its impact on profitability of SMEs in 13 African countries," ITID, vol. 4, pp. 87-100, 2007.
- G. Frempong, G. Essegbey, and E. Tetteh, "Survey on the use of mobile telephones for micro and small business development: The case of Ghana," (STEPRI), Accra, 2007.
- H. Horst and D. Miller, The cell phone: An anthropology of communication. Oxford: Berg, 2006.
- A. Jagun, R. Heeks, and J. Whalley, "The impact of mobile telephony on developing country micro-enterprise: A Nigerian case study," ITID, vol. 4, pp. 47-65, 2008.
- R. Jensen, "The digital provide: Information (technology), market performance, and welfare in the South Indian fisheries sector," Quarterly Journal of Economics, vol. 122, pp. 879-924, 2007.
- O. Kamga, "Mobile phone in Cote d'Ivoire: Uses and self-fulfillment," Proceedings of the International Conference on Information and Communication Technologies and Development, (ICTD 2006). Berkeley, CA, pp. 184-192, 2006.
- T. Molony, "'I don't trust the phone; it always lies': Trust and information and communication technologies in Tanzanian micro- and small enterprises," ITID, vol. 3, pp. 67-83, 2006.
- R. Overå, "Networks, distance, and trust: Telecommunications development and changing trading practices in Ghana," World Development, vol. 34, pp. 1301-1315, 2006.
- J. Samuel, N. Shah, and W. Hadingham, "Mobile communications in South Africa, Tanzania, and Egypt: Results from community and business surveys," in Africa: the impact of mobile phones. vol. 2007, Vodafone, Ed. London: Moving the Debate Forward: The Vodafone Policy Paper Series #3, 2005, pp. 44-52.