

Female Entrepreneurship and Professional Networks

Edward Asiedu, University of Ghana Business School

Monica Lambon-Quayefio, University of Ghana

Francesca Truffa, Stanford University

Ashley Wong, Stanford University

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Outline

- Motivation and literature
- Search and contracting frictions in collaborations
- Research question
- Description of experiment
- Main findings
- Potential mechanisms
- Conclusion

Gender Gap in Entrepreneurship

- sub-Saharan Africa is the only region in the world where there are more female entrepreneurs than male entrepreneurs
- However, women-owned business are
 - Smaller
 - 40% less profitable than male-owned firms
 - (Hardy and Kagy (2018), Campos et al. 2019, Islam et al. 2020, Allison et al. 2021, World Bank 2021, Fang et al.2022)
- Understanding the growth constraints of female-owned enterprises important for economic development
- Major constraints documented:
 - Access to finance: (Barboni and Agarwal 2018, Battaglia et al. 2021; Siegrist 2022; Fields, 2023).
 - Care burdens: (Bertrand, 2020.;Goldin, 2021; Goldstein et al,2022)
 - Networks : (Cai and Szeidl 2018 ;Vega-Redondo et al. 2019)
- Causal evidence is not available on the effects of networking opportunities on the business performance of women-led businesses (Ubfal, 2023)

Role of Business Networks and Interfirm Relationships

Women tend to have

- Smaller professional networks and more likely to rely on friends and relatives (World Bank Group 2019)
- Weaker social positions to enforce contractual agreements (Ashraf et al. 2019)
- Limited knowledge of how to negotiate and mitigate risks in business collaborations

Open question on effectiveness of networking interventions for female entrepreneurs

- Network interventions shown to be effective for male-owned enterprises in manufacturing (Cai and Szeidl 2017; Fafchamps and Quinn 2016)
- Unclear if similar effects for women
 - Other barriers may be more relevant (e.g. credit constraints, time constraints - childcare and family responsibilities)

Main Research Question

- Can access to online networking opportunities improve business performance of women-led firms?

This Paper: Field Experiment

1,771 female entrepreneurs in Ghana

- Applicants of a competitive online grant opportunity specifically targeting high-growth female-owned SMEs
 - Winners dropped from sample
- All regions of Ghana and from all sectors
- 39% with college degrees (compared to 5% in population)
- Baseline profits \$219 (4x more profitable than average female-owned firm in Ghana)

Growth-Oriented Female Owned Firms



High Quality All
Natural Skincare
Products



[Home](#) [Shop](#) [Contact](#)   €0.00 



Small Scale Firms



- Home-based production
- Small-scale
- Limited capital
- Looking to expand to new markets and export

This Paper

Treatment 1: Online Networking (40%)

- Online WhatsApp groups of 8 women each
- Virtual coffee chats: assigned one-on-one meetings between group members
- After everyone has met each other (8 weeks), re-assign into a second group

Treatment 2: Online Networking + Legal Support (35%)

- Same as Treatment 1
- Legal advisory and information on how to negotiate and mitigate risks in business collaborations

Control (25%)

- No additional support

Key Outcomes

Firm performance- profits, innovation, business practices

Preview of Findings:

One year after intervention ...

- Positive impacts on **business innovation** (25-31%)
 - Measured by likelihood of introducing changes to their businesses, such as new products or new ways of marketing
- Positive impact on **business practices**
 - E sp. marketing and financial planning practices
- **Positive impact on profits (21%)**
 - Null effect on sales
 - Efficiency gains through reduction in costs and improvements in business practices
- No differential effects between treatments role of networking

Interventions: Treatment 1 – Online Networking

- Goal is to increase **networking opportunities**
- WhatsApp groups of 8 entrepreneurs
 - Weekly virtual “coffee chats”: assigned one-on-one meetings between group members
 - After everyone has met each other (~ 8 weeks), re-assign into a second group
- Access to business directory
- Can submit requests to enumerator for other collaborations

Treatment 2 – Online Networking + Legal Support

- Goal is to reduce **contracting frictions** for collaborations
- Additional legal support on top of WhatsApp groups
- Weekly video lessons by Ghanaian corporate lawyer
 - Focus on how to mitigate risks in collaborations
 - Private consultations with the lawyer who held weekly “office hours”
- **All Groups Including Controls**
 - Video on benefits of collaborations

Key Outcomes of Interest

1. Firm Performance

- Innovation, sales and profit, business practice, financing, capital and labour

2. Collaborations

- Collaborations in the past 6 months
- Steps towards collaboration index
- Joint application for business innovation competition
- Business innovation competition open to all arms including controls
- Winning firm receives GHS 6000 (and if applied as a team, GHS 12000)

3. Attitudes:

- Business ambitions, entrepreneurial self-efficacy, or get-ahead attitudes
- Female empowerment

Timeline and Data Collection

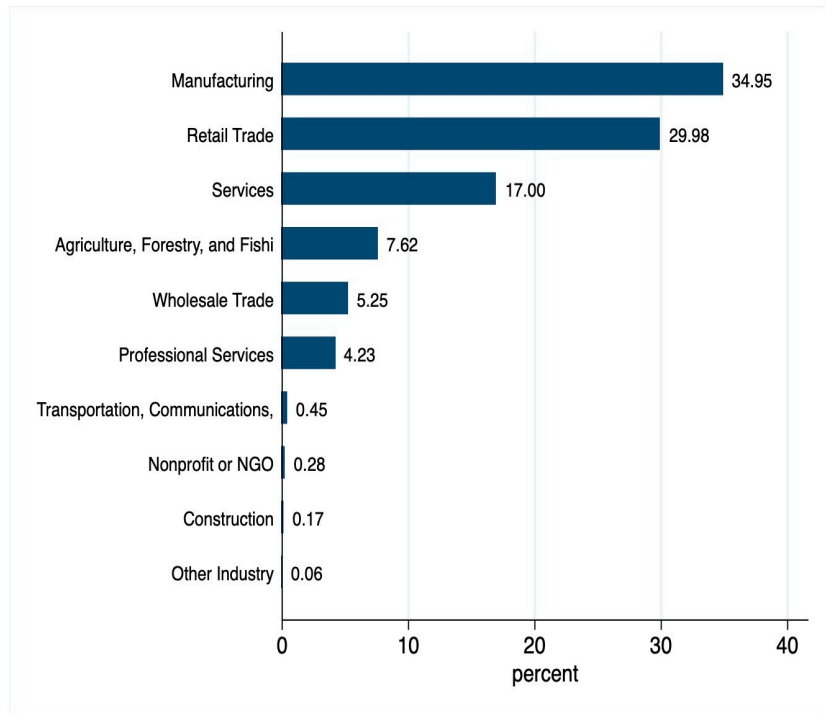


Empirical Strategy

$$Y_{i,t=1} = \beta_0 + \beta_1 T1_i + \beta_2 T2_i + \pi Y_{i,t=0} + \delta M_{i,t=0} + S_i' \gamma + \tau \hat{f}(X) + \epsilon_{i,t=1}$$

- β_1 = effect of online networking groups only
- β_2 = effect of online networking groups and legal support
- X_i includes baseline Y , vector of randomization strata dummies and predicted index of Y selected using ML method
- SE clustered at the WhatsApp group level

Characteristics of Firms



	Mean	SD	Observations
Owner's Age	36.77	(9.30)	1771
Firm Age	7.46	(6.89)	1771
Education			
Less than JHS	0.07	(0.41)	1771
JHS Degree	0.30	(0.56)	1771
HS Degree	0.20	(0.51)	1771
College Degree	0.39	(0.58)	1771
Married	0.56	(0.50)	1771
Women-Only Firm	0.94	(0.24)	1771
Number of Children	2.10	(1.76)	1771
Any Child Under 18?	0.67	(0.47)	1771
Registered Business	0.80	(0.40)	1771
Total Employees	3.54	(6.18)	1771
Monthly Sales (USD)	848.41	(1666.12)	1734
Monthly Profits (USD)	219.25	(322.32)	1716

Results 1: Networking increases Innovation by(25-31%)

	(1) Any Changes to Business (Past 6 Months)	(2) Business Innovation Index
Networking	0.0829*** (0.0296)	0.159** (0.0673)
Networking and Legal	0.0661** (0.0333)	0.145* (0.0795)
Control Mean	0.267	0.000
T1 = T2 (p-value)	0.585	0.849
R^2	0.034	0.045
N	1520	1520

Results 2: Intervention **improves** Business Practices

	(1)	(2)	(3)	(4)	(5)
	Business Practice Index	Marketing Index	Buying and Stock Control Index	Record- Keeping Index	Financial Planning Index
Networking	0.104 (0.0769)	0.119* (0.0698)	-0.00221 (0.0723)	-0.0477 (0.0742)	0.323*** (0.0778)
Networking and Legal	0.194*** (0.0698)	0.117* (0.0685)	-0.0575 (0.0668)	0.0597 (0.0670)	0.496*** (0.0780)
Control Mean	-0.000	-0.000	0.000	0.000	0.000
T1 = T2 (p-value)	0.193	0.984	0.349	0.102	0.021
R^2	0.076	0.042	0.043	0.082	0.086
N	1371	1371	1371	1370	1370

Results 3: Intervention increases profits by 21%

	(1)	(2)	(3)	(4)	(5)
	Monthly Profits	Monthly Profits Winsorized	Inverse Hyperbolic Sine of Monthly Profits	Monthly Profits in the Best Month	Monthly Profits in the Best Month Winsorized
Networking	266.1* (146.6)	162.8 (107.7)	-0.110 (0.163)	272.7 (254.3)	111.0 (177.6)
Networking and Legal	264.1* (147.0)	245.4** (118.9)	-0.0627 (0.174)	299.1 (237.8)	349.2* (190.2)
Control Mean	1225.852	1200.712	6.745	2296.877	2214.113
T1 = T2 (p-value)	0.990	0.452	0.768	0.921	0.191
R^2	0.159	0.123	0.048	0.159	0.108
N	1459	1459	1459	1432	1432

Mechanisms

1. Change in composition of collaborators:

- Shift away from friends and relatives; more likely to work with firms met through business network (reductions in search and contractual frictions)
- No change in number of collaborators

2. Peer effects:

- Largest effects for those in groups with **more-educated, higher-quality, and more diverse** entrepreneurs (from different sectors)

3. Ruled out mechanisms:

- No change in business ambitions, entrepreneurial self-efficacy, or get-ahead attitudes
- No impacts on female empowerment

Mechanism 1: Effects on Collaborations

	(1) Steps Towards Collaboration Index	(2) Any Collaboration	(3) Number of Collaborations	(4) Joint Application
Networking	0.320*** (0.0769)	-0.0198 (0.0228)	-0.172 (0.269)	0.00367 (0.00703)
Networking and Legal	0.233*** (0.0744)	-0.0695*** (0.0212)	-0.533** (0.210)	0.00276 (0.00741)
Control Mean	0.000	0.134	0.781	0.011
T1 = T2 (p-value)	0.239	0.002	0.061	0.903
R^2	0.043	0.042	0.026	0.027
N	1389	1388	1388	1771

Mechanism 2: Effects on Collaborator type

	(1)	(2)	(3)
	Collaboration with Friends or Relatives	Collaboration with Business Network Members (Non-UG)	Collaboration with Business Network Members (UG)
Networking	-0.0369* (0.0204)	-0.00948 (0.0138)	0.0131*** (0.00466)
Networking and Legal	-0.0708*** (0.0198)	-0.0266** (0.0124)	0.00604* (0.00365)
Control Mean	0.117	0.044	0.000
T1 = T2 (p-value)	0.014	0.073	0.156
R^2	0.043	0.028	0.050
N	1388	1388	1388

Mechanism 3: Effects on Attitudes

	(1)	(2)	(3)	(4)
	Business Expectations Index	Entrepreneurial Self-Efficacy Index	Get-Ahead Attitude Index	Female Empowerment Index
Networking	0.552 (0.592)	0.0637 (0.0723)	-0.0251 (0.0656)	-0.0346 (0.0643)
Networking and Legal	-0.145 (0.162)	0.0488 (0.0777)	0.0291 (0.0651)	0.0164 (0.0652)
Control Mean	0.000	0.000	-0.000	0.000
T1 = T2 (p-value)	0.192	0.836	0.307	0.317
R^2	0.057	0.032	0.038	0.071
N	1388	1389	1389	1389

Conclusion:

- Field experiment in Ghana to study impact of online networking groups through WhatsApp and legal support
- After 1-year follow up Survey:
 - Change in the composition of collaborations
 - Positive impacts on **business innovation** (25-31%)
 - Positive impact on **business practices**
 - Positive impact on **profits (21%)**

Next step: 3-year follow up survey in 2024 to measure long-run impacts and shed more light on mechanisms

- **Main Takeaway: A low-cost, light-touch online intervention that increases networking opportunities can effectively improve outcomes of female-owned firms**

Thank you!

Please email any additional comments/suggestions to
mplambon@gmail.com