



Face-to-face vs. virtual assistance to entrepreneurs: Evidence from a field experiment in Brazil



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ABSTRACT

We conduct a field experiment on formalization and subsequent tax compliance of informal entrepreneurs in Rio de Janeiro *favelas*. Providing in-person one-on-one training with the offer of one-on-one assistance with the formalization process increased information levels about the program, intention to formalize, formalization, and subsequent tax compliance. Providing essentially the same information and assistance via instant messaging produced similar effects on knowledge and intention to formalize, but no effects on formalization itself.

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1. Introduction

Informality is one of the most conspicuous characteristics of developing countries, where a large share of the population consists of informal employees, informal entrepreneurs, or both (Porta and Shleifer, 2008; OECD, 2019). Informal employees typically enjoy limited, if any, labor protection or access to social security, while informal entrepreneurs are also constrained in terms of access to credit, protection from harassment, and business opportunities. In addition to the personal cost to individuals and families, informality limits the growth of firms and is a barrier to increases in productivity (de Soto and Abbott, 1990).

In an effort to reduce informality, the Brazilian government instituted, in 2009, the Individual Microentrepreneur Program (*Programa do Microempreendedor Individual*, henceforth “the MEI program”) – a low-cost and simplified way for entrepreneurs to formalize (Rocha et al., 2018). Registration as a MEI is free and done entirely online. However, it imposes the obligation to pay a fixed monthly fee that includes a subsidized social security contribution – about half of what other employees or entrepreneurs pay – as well as the applicable state and/or municipal taxes. There are no bookkeeping requirements except declaring, once a year,

that their total revenue is below the legally mandated limit of R\$81 thousand (US\$22 thousand) as of 2019.

Incorporated MEIs can hire one employee with subsidized payroll taxes and issue official tax receipts. As formal business, they gain access to finance and the possibility of doing business with other formal sector firms. The MEI program also offers a number social security benefits. Entrepreneurs who honor the monthly payments are entitled to a retirement benefit of one minimum wage per month upon reaching the retirement age and having completed a minimum of 15 years of contributions. Formalization as MEI also grants eligibility to disability pension, paid sick leave, paid maternity leave, and a limited life insurance benefit for those with minor children.

Although the total number of MEIs has swelled to over 8 million as of 2019, approximately 40% of the labor force remains in the informal market (IBGE, 2019). This reality dovetails with academic research on formalization. Rocha et al. (2018) found that the individual-level effect of the program on formalization was small and only transient, and other governments that have implemented programs to simplify registration of informal firms have generated small if any results (World Bank, 2013) and/or vanished with time (Galiani et al., 2017). Studies on formalization and on take-up of welfare benefits have concluded, more generally, that simply providing information does not always affect behavior (Seira et al., 2017; Bruhn and McKenzie, 2014; Mastrobuoni, 2011; Armour, 2018), and that behavioral barriers exist that prevent individuals from taking advantage of subsidies

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and benefits (Bhargava and Manoli, 2015). Recent results for take-up of formalization programs also support this view. Lenz and Valdivia (2019), for instance, obtained small but significant increases in MEI take-up only when information counseling was followed-up with reminders, and a study in Malawi that included on-the-spot help with formalization found large and positive results for business registration, though very small effects on subsequent tax compliance (Campos et al., 2015).

We contribute to the literature by applying a “service convenience” lens to formalization initiatives (Berry et al., 2002; Seiders et al., 2015). Potential beneficiaries face strong resource and time constraints due to their own scarce resources and institutional voids typical of emerging economies (Bruton et al., 2013). Information, in this context, is likely to fade from memory due to pressing daily demands that consume cognitive capacity (Mani et al., 2013). Hence, assistance delivered in a convenient format and which highlights the ease of registration and compliance has a greater chance of inducing individuals to opt in.

Our first treatment arm was designed to increase the convenience of information acquisition by counseling the entrepreneur in a single one-on-one session in his customary place of business. Convenience comes from entrepreneurs not needing to actively search for information and the possibility of quickly resolving their doubts with the consultant.

The assistance session, however, can only be offered once due to its relatively high cost. Previous studies suggest that the frequency with which advice is given (Seiders et al., 2015; Von Nordenflycht, 2010), and whether it is given through face-to-face contact (Gerber and Green, 2000; Chong et al., 2019), affects its capacity to influence and motivate potential beneficiaries. We test these hypotheses in a second treatment arm, in which we deliver the same information and assistance as before but through virtual staggered interactions using a popular instant messaging service. This low-cost alternative also allows us to test whether digital platforms can facilitate the interaction with entrepreneurs (Criado et al., 2013).

2. Sample and intervention

After a visual assessment of the prevalence and location of likely informal microentrepreneurs in low income neighborhoods and *favelas* in the Western suburbs of Rio de Janeiro (May–July 2017), we carried out a detailed baseline survey with 4350 individuals (Sep–Dec/2017). Respondents who indicated they were already formalized were excluded from the study, as were those who were retired or beyond retirement age. The remaining 1969 individuals were then randomly assigned to the multiple treatment arms of the field experiment. The interventions were carried out between March and June of 2018, the endline survey between November of 2018 and January of 2019, and the collection of administrative outcome data from public records continued until March. Upon collection of the administrative data we found out that just under 10% of subjects – equally distributed across treatment arms – had, in fact, formalized at some point before the baseline survey. These individuals were ineligible for our study and should not have been included, so we control for their existence in the analysis.

In this paper, we work with the sample of 1141 individuals who were assigned to receive in-person assistance (432), assistance via instant messaging (275), or no assistance (434).¹ The in-person assistance consisted of a one-on-one training session prepared and carried out by the field team in association with

Sebrae – a paralegal partially state-funded non-profit entity that supports small businesses nationwide, and which already operated in the area. These sessions were delivered at the place of work of the entrepreneur and included a four minute long video and custom designed printed materials with detailed information about the MEI program, covering eligibility requirements, benefits, obligations, and instructions on how to enroll. Consultants also informed subjects about resources available to entrepreneurs (such as location and hours of Sebrae field offices), answered follow-up questions for as long as subjects requested, and extended an offer for an additional one-on-one session to assist with actual enrollment. While the offer could be taken up at a later date, consultants only revisited those subjects who requested further assistance. The typical consulting session lasted 40 min, at total real-world cost of R\$80.00.²

The instant messaging assistance transmitted the same MEI related content as the in-person assistance, but through virtual one-on-one interactions via a widely used cell-phone based messaging app. The content was identical, but was spread out over 16 weeks in order to increase advice given frequency. This also allowed us to keep each virtual interaction manageable. Subjects received 2–3 messages weekly, often followed by questions to stimulate engagement. Although all communication was carried out through a single platform, the content included text, images, audios, and infographics. Importantly, after having received the minimum amount of information about the rights and duties of MEIs, subjects had the option to request the same additional one-on-one session to assist with enrollment that was offered to the other treatment arm. The per-person real-world cost of this service is approximately R\$8.40.

3. Measurements

The data we analyze were collected in the baseline and endline surveys, and from administrative sources. We examine the effects of the two interventions on four dichotomous outcome variables related to formalization and two related to knowledge about the MEI program.³

Three of the formalization outcomes were created from publicly available administrative records. One is an indicator of whether the individual formalized as MEI at any point after the start of the intervention, and another, more demanding indicator, is whether the individual formalized *and* made the first two monthly tax payments thereafter (i.e. tax compliance). We also employ a third indicator of whether an individual formalized in any legal category, not only as MEI. The last formalization-related outcome is “intention to formalize”, which was coded as one if the individual formalized, reported have considered formalizing, contacted our field team requesting help with the formalization process, or contacted Sebrae’s local offices for help, regardless of whether the person ultimately formalized or not. Overall, 53% of the sample “intended to formalize”, 23% formalized in any category, 19% formalized as MEI (main outcome), and 7% formalized *and* complied with taxes. The knowledge outcomes come from two questions in the endline survey. The “general knowledge” indicator is built on an open ended question that asked individuals how they would describe the MEI program. Enumerators coded the answers as correct if they mentioned at least one essential characteristic of the program, which 43% of the sample did. The second indicator – “feature knowledge” – was coded from a list of six features of the MEI program

² See the Supplemental Materials for details on the costs calculations.

³ This analysis of formalization outcomes was registered in the PAP as the “Consulting via Social Media Study”. Analysis of knowledge outcomes is “unplanned”.

¹ The in-person assistance and no assistance conditions were part of the main treatment arm of the Metaketa II initiative, and had a larger N to ensure compliance with the overall guidelines of the project.

Table 1
Descriptive statistics.

	Mean	SD	Missing	Source
Knowledge (General)	0.43	0.50	392	Survey
Knowledge (Features)	0.38	0.49	392	Survey
Intent to formalize	0.53	0.50	150	Admin & Survey
Formalize as MEI	0.19	0.39	191	Admin
Formalize (any category)	0.23	0.42	191	Admin
Formalize as MEI & comply	0.07	0.26	275	Admin

that individuals could mention when prompted to list its main advantages. We created a standardized index to combine these answers coded as knowledgeable those who scored above the average value in the control group (38% of respondents) (see Table 1).

4. Analysis and results

For each outcome variable we report intention-to-treat effects,⁴ estimated with the inclusion of individual-level controls assessed at baseline,⁵ and an indicator for ex-ante ineligibility, as discussed above.⁶

Results are presented graphically in Fig. 1, which shows that both interventions produced similar increases in the share of knowledgeable entrepreneurs and comparable increases in intent to formalize (only statistically significant for the messaging treatment). However, on all three hard indicators of formalization, we find that the in-person treatment generated positive effects of the order of 6.6 percentage points for initial formalization as MEI ($p = 0.013$), 5.4 for any type of formalization ($p = 0.028$) and 4.0 for formalization and compliance ($p = 0.057$), while the instant messaging treatment produced null results.⁷

5. Discussion

The less costly consultancy via messaging performed well relative to its costlier in-person alternative in terms of motivation and information sharing. This suggests that the repeated provision of information might offset any informational losses that might exist once we shift from a real to a virtual environment. However, the virtual intervention did not succeed in fostering actual formalization, which corroborates the idea that take-up is not just about information. Personal contact seem to be essential to trigger the actual decision to opt in, a finding that echoes results from other contexts.

Given the monthly tax revenues generated by each individual, our estimates of real-world individual costs of each intervention suggest that it would take almost four years of continued payments for the in-person assistance to break even with the formalization and tax-compliance rate reported in Fig. 1. If we obtained similar compliance rates with the online assistance –

⁴ We had full compliance with the in-person assistance. We succeeded in contacting 65% of those assigned to assistance via messaging. Hence, effects of complier average causal – reported in the supplemental materials, only differ for the latter outcomes.

⁵ The control variables established in the PAP were income, gender, race, size and sector of business. Results for specifications without controls are reported in supplemental materials, but are substantively identical.

⁶ Attrition was 16.7% and 26.5% for administrative and survey outcomes, respectively. It is equally distributed across treatment conditions and cannot be predicted from baseline observables ($F = 0.872$, $p = 0.569$).

⁷ P-values reflect the Benjamini and Hochberg (1995) adjustment for multiple hypothesis applied on two “families” of outcomes, one composed of the two survey-based knowledge outcomes and another of three administrative formalization outcomes.

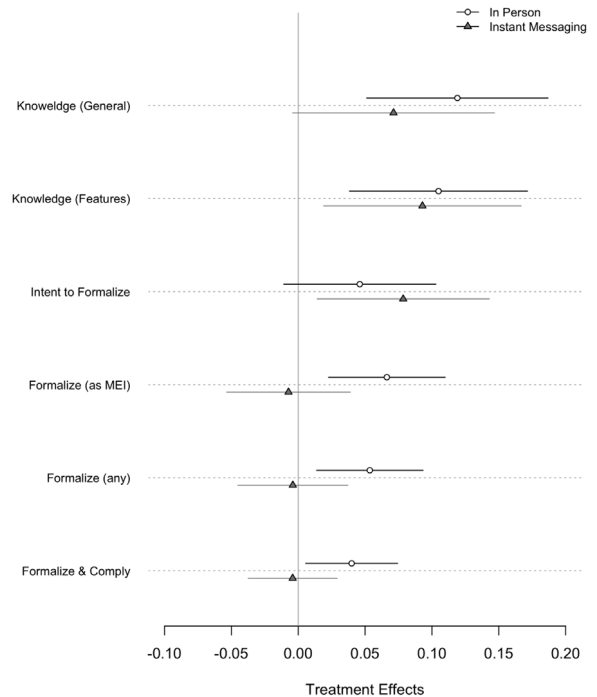


Fig. 1. Estimates of the treatment effects.

which costs almost one-tenth of the in-person alternative – the initiative would break even in less than five months of sustained contributions.

These results provide interesting directions for the development of effective and scalable virtual interactions. While informational and motivational goals can be achieved in virtual interactions, we still need to understand how and why personal contact is more conducive to take-up. Future research to understand determinants of engagement with the instant messaging treatment might help to bridge the gap between personal and virtual advice, and transform it into a viable public policy.

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Appendix A. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.econlet.2019.108922>.

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