Personality vs. Practices in the Making of an Entrepreneur: Experimental Evidence from Togo

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Francisco Campos* Michael Frese** Markus Goldstein* Leonardo Iacovone*
Hillary Johnson* David McKenzie* Mona Mensmann***

Abstract

Can business training best help small businesses to grow by equipping owners with a set of business practices like accounting and marketing skills, or instead by transferring soft skills inducing a more entrepreneurial personality in business owner? This study conducts a randomized experiment in Togo to answer this question. Microenterprise owners were randomly assigned to a control group; a first treatment group, which received standard training on how to improve business practices; and a second treatment group, which received personal initiative training aimed at helping them become more pro-active and resilient to obstacles. This paper reports preliminary findings based on an analysis of the first three rounds of follow-up surveys, tracking impacts over the first year and a half after training. These early results suggest that the soft skills personality-based training program had greater short-term impact, resulting in higher sales and profits. We examine the mechanisms behind this result, and find owners who received entrepreneurial personality training work longer hours and introduce more products.

Keywords: business practices; small enterprises; productivity; spurring innovation; randomized experiments.

*World Bank
** NUS Business School and Leuphana, University of Lueneburg
*** Leuphana, University of Lueneburg

1. Introduction

Most developing countries have no shortage of small business owners, with more than a third of the workforce involved in self-employment in the poorest countries (Gollin, 2002). However, the vast majority of businesses run by the poor in developing countries are "too small and utterly undifferentiated from the many others around them" (Banerjee & Duflo, 2011, p. 218) to ever grow beyond a subsistence level. What distinguishes those individuals who move beyond subsistence business to become entrepreneurs from the rest? There has been a long-running debate about whether such entrepreneurs are "born or made" (e.g. Daley, 2013). The "born" view argues that entrepreneurs differ from the rest in their personality traits and desire to succeed, whereas the "made" view argues that entrepreneurs can be created through education and experience.

The profusion of business training programs offered by NGOs, governments, international organizations, and the private sector indicates a strong belief by many policymakers that entrepreneurship can be taught. The most common training programs, such as the International Labor Organization (ILO)'s Start and Improve Your Business Program (SYIB), the International Finance Corporation (IFC)'s Business Edge, and the UNCTAD/EMPRETEC program all aim to teach firm owners a set of common business practices such as how to keep accounts, marketing techniques, financial planning, costing, and inventory management. Recent work attempting to measure these practices has found strong correlations between the use of these practices and higher productivity in both medium and large (Bloom & Van Reenen, 2007) and micro and small (McKenzie & Woodruff, forthcoming) firms. However, while these practices appear important for firms, existing evidence suggests that many training programs appear to result in only small changes in these practices, resulting in limited improvements in business performance (McKenzie & Woodruff, 2014).

The importance of non-cognitive skills and personality for determining educational and wage employment outcomes has been the subject of increasing attention in economics (Bowles, Gintis, & Osborne, 2001; e.g. Heckman & Kautz, 2012; Heckman, Stixrud, & Urzua, 2006). Yet, in contrast to the emphasis given to teaching business practices, there has been much more limited efforts devoted, in either the economic literature or the policy front, as to whether individuals can be taught to have a more entrepreneurial personality. The psychology literature has long noted correlations between certain personality traits and business performance, but few attempts have been made to experimentally evaluate the success of teaching such attributes to owners of small-scale businesses in developing countries. A promising exception is Glaub et al. (2014) who piloted a 3-day personal initiative training program among 50 small business owners in Uganda, and found that they experienced faster sales growth over the subsequent year than the control group.

This paper reports preliminary results from an ongoing randomized controlled trial in Togo which aims to test the relative effectiveness of a business practice ("management") training program compared to a personal initiative and pro-active personality ("entrepreneurial") training program. We use a sample of 1,500 informal micro-entrepreneurs who were randomized into one of three equal-sized groups: a control group which did not receive training; a management training group, which received the IFC's Business Edge training program; and an entrepreneurial training group, which received personal initiative training. Both training groups received 12 half-day training sessions spread over four weeks, followed by visits from a trainer for three hours a month for the next four months to assist in implementing what they had learned in their day-to-day practice of running their businesses. This version of the paper reports on preliminary findings and results from the first three follow-up surveys, which measure impacts over the first year and a half after training.

Our results so far show that the entrepreneurial training has positive and statistically significant effects on a range of outcomes: the aggregated z-score index for sales and profits measures, monthly sales, monthly profits, weekly profits and total business profits. By contrast, the managerial training has no statistically significant impact on any of these measures. This discrepancy seems to stem not from the entrepreneurs employing different business practices, but rather from them investing differently in capital and labor after the two training programs. In turn, these different investments are potentially related to the entrepreneurial training's focus on innovation and on access to finance through any channels, formal and informal.

To describe these preliminary results, this paper is organized as follows. First, we discuss the literature on business training programs and highlight the discrepancies amongst, and questions arising from, impact evaluation studies of those programs. Section 3 describes the experimental design of our RCT and provides further details about the two training programs being evaluated. Sections 4 and 5 discuss, respectively, the data and methodology utilized in our study. Finally, the preliminary results from our impact evaluation are included in section 6, along with additional analyses on mechanisms and heterogeneity. Section 7 concludes with a summary of our analysis and directions for further research.

2. Literature Review

The recent literature points to a strong relationship between management quality and firm performance. In an influential study, Bloom and Van Reenen (2010), using a unique data set collected across a decade in several countries, show how better management scores are positively correlated with sales per employee, profitability, sales growth and survival. Bloom and Van Reenen's sample was largely biased towards medium-large - firms in middle- and high-income countries. More recently, McKenzie & Woodruff (forthcoming), using data from 7 developing countries [1] focusing on micro and small firms, suggests that there could be considerable untapped potential for improving management quality in micro and small enterprises as well. In turn, this could have a significant impact on the economy of developing countries given the size of labor force involved in these types of enterprises.

[1] Bangladesh, Chile, Ghana, Kenya, Mexico, Nigeria, and Sri Lanka.

The idea that small enterprises could benefit from better management has led several policymakers and international organizations to offer business training programs in developing countries. For many years, however, there was a lack of rigorous impact evaluations of these programs, and only in the last years researchers have begun to turn their attention to the subject, with a rapidly growing number of impact evaluations of training programs being conducted since 2010 (McKenzie & Woodruff, 2014). However, the results of these studies are mixed and leave numerous outstanding questions (McKenzie & Woodruff, 2014).

More specifically, one of the most important takeaways of this literature is that the impact of business training programs on sales and profits seems to vary drastically with entrepreneurs' characteristics, such as entrepreneurial ability, gender and education. For example, when analyzing the training results by initial ability of the entrepreneur, Bruhn and Zia (2011) showed that those with higher ex-ante financial literacy scores experienced an increase in profits that was significant at the 15% level, while there was no significant effect on profits for the full treatment group. The study of Sri Lankan entrepreneurs by de Mel et al. (2014), however, found the opposite result. More specifically, they showed that higher potential entrepreneurs – identified by a set of traits associated with successful business ownership, such as having larger sales, better management practices, and more employees – benefitted less from the training, grant and wage subsidy programs. Drexler et al. (2014) sheds some light in these seemingly contradictory pieces of research by suggesting that the impact of training programs can be influenced not only by the entrepreneur's ability, but also by the complexity of the training. They find that entrepreneurs with more education benefitted more from a standard accounting training than those with less education. The simplified, rule of thumb training, by contrast, had a larger effect across several dimensions for entrepreneurs with lower education levels and worse initial business practices.

Regarding the heterogeneity of outcomes by gender, there some evidence that female entrepreneurs benefit less than male entrepreneurs from business training programs. Giné and Mansuri (2011) noted that the effects of a business training program in Pakistan were concentrated amongst men. While the training improved business survival and the business decisions of men, women demonstrated no improvements in business outcomes of interest. Berge et al. (2012) also suggests that the effects of a training program in Tanzania were much weaker for women in terms of investments in profitable sectors, improved sales and profits. However, while these two studies examined the gender-disaggregated effects of training programs, McKenzie and Woodruff (2014) noted that relatively few studies have sufficient statistical power in order to compare the impacts by gender.

The literature also shows varying effects of managerial training programs on labor inputs. Several studies found no effect of training on the number of workers or the number of hours worked (Bruhn & Zia, 2011; Karlan, Knight, & Udry, 2012; Karlan & Valdivia, 2011). By contrast, de Mel et al. (2012) suggests that training, when coupled with a grant, lead to an increase in the number of hours the owner worked in the months following the program. Similarly, de Mel, McKenzie and Woodruff (2014) found that the ILO's Improve Your Business training program had a positive effect on the number of paid workers in Sri Lanka (2014). Finally, Drexler et al. (2014) indicates that a rule of thumb training in the Dominican Republic reduced the number of workers in businesses owned by less educated entrepreneurs and increased the number of workers in businesses owned by more educated entrepreneurs.

While the results of managerial training on sales, profits and labor inputs are mixed, there are two dimensions along which the results of business training impact evaluations seem to be consistent: survival and business knowledge. On the first dimension, Bruhn and Zia (2011), Giné and Mansuri (2011) and de Mel et al. (2012) all demonstrated that training programs have no effect on business survival. On business knowledge, there is fairly strong evidence that entrepreneurs did learn as a result of the training programs. Most studies that examined the impact of training programs on business knowledge or financial literacy scores found a significant and relatively long-lasting, positive impact after the training (Berge et al., 2012; Bruhn & Zia, 2011; Giné & Mansuri, 2011; Karlan et al., 2012; Karlan & Valdivia, 2011). Berge et al. (2012) found that the business knowledge score of trained entrepreneurs increased in both the short and long terms by approximately 0.2 standard deviations. Karlan et al. (2012) found an increase in knowledge about the business practices targeted in the curriculum by 0.52 standard deviations, which decreased over time but did not disappear.

In addition to showing improvements in declarative knowledge, there is robust evidence that trained entrepreneurs improved their business practices as a result of the training (Drexler et al., 2012; Karlan and Valdivia, 2011; Bruhn and Zia, 2011; Karlan et al., 2012; Giné and Manusri, 2011; Berge et al., 2012; de Mel et al., 2012; de Mel et al., 2014). With regards to the duration of effects, de Mel et al. (2014) and Berge et al. (2012) indicate that the improvement in business practices was stronger in the short term and declined over time.

Although studies comparing different types of trainings are scarce, the available ones suggest that the type of training offered matters, and that different types of training can produce very different results. One of the few examples of studies comparing different business training programs was performed with microfinance clients in the Dominican Republic (Drexler et al., 2014). The authors tested two types of training. While a standard accounting training did not have an impact on financial practices or revenues, a rule of thumb training had positive impacts on the use of business practices and on sales.

Furthermore, while economists are increasingly paying attention to the importance of non-cognitive skills and personality traits to educational and wage employment outcomes (Heckman & Kautz, 2012; Heckman, Stixrud, & Urzua, 2006), there has been limited work at the intersection between soft skills training and entrepreneurial development. In fact, the economics literature has mostly focused on business trainings focusing on managerial and financial literacy skills. By contrast, the psychology literature has long noted the importance of psychological factors for entrepreneurial success. Specifically, several authors noted that proactive behavior is correlated with business success (Frese et al., 2007; Koop et al., 2000; Krauss et al., 2005; Van Gelderen et al., 2000; as cited in Glaub, Frese, Fischer, & Hoppe, 2014). In a review of 27 evaluation studies of entrepreneurial trainings with a psychological component, however, Glaub (2009) point out that many of these studies did not have a control group and were subject to significant self-selection biases.

A noteworthy exception to these methodological pitfalls is the study by Glaub et al. (2014), who tested the impact of a personal initiative training on entrepreneurs in Uganda using a randomized controlled trial (2014). The training increased personal initiative behavior and entrepreneurial success over a 12-month period following the intervention, with sales growing by 27% and the number of employees by 35%.[2] This study, despite some methodological pitfalls, provides some promising results and is relevant in calling the attention to business trainings focused on psychological factors that increase entrepreneurs' personal initiative.

The current paper contributes to the existing body of literature and completes some of the knowledge gaps in several ways. The first contribution is that it compares two very different types of training. The evaluation measures the impact of the IFC's Business Edge training program, an internationally accredited managerial training program. Although this program is used in many developing countries to improve business management and foster growth, to the best of our knowledge no rigorous impact evaluations of this training program exist to date. The evaluation measures the impact of a psychological personal initiative training, which teaches entrepreneurs how to be proactive, set goals, plan, overcome obstacles, evaluate their actions and make adjustments. In this perspective, we building off of Drexler et al. (2014), in terms of comparing two alternative training curriculum; however, we take their research further by comparing training of different types of skills instead of different ways of teaching the same skills. In addition, this paper uniquely relies on data collected at multiple points in time, which enables us not only to increase our statistical power but also to study the trajectory of impacts. As McKenzie and Woodruff (2014) noted, most of the existing literature on business training does not examine the effects of the training at different points in time. The few studies that have explored this aspect have demonstrated that different effects can be noted at different points in time and that some effects may disappear in the longer term.

3. Experimental Design

a. Interventions

The World Bank project funding this intervention offered training to 1,000 entrepreneurs in one of two curricula. 500 entrepreneurs were offered IFC Business Edge training, an internationally accredited managerial training program developed by the International Finance Corporation (IFC). This managerial training focuses on skills such as accounting, cash flow management, customer relations, human resource management, marketing, fiscal obligations, and formalities of a business. An additional 500 entrepreneurs were offered an innovative entrepreneurial training developed by a team led by Prof. Frese from the Leuphana University of Lüneburg. This

[2] Despite being one of the most rigorous studies of entrepreneurial training with psychological components, some caution is needed in interpreting their conclusions. In particular, the study excluded non-compliers, thus casting some doubt on the sensitivity of the results to self-selection. In addition, the study rely on a small sample of entrepreneurs.

training focuses on developing personal initiative, learning how to set goals and make plans to work toward them, becoming proactive, using innovation to improve business performance, learning how to overcome obstacles and accessing unconventional financing opportunities.[3] Finally, a third sample of 500 entrepreneurs constituted our control group.

Both types of training took place during 12 half-day sessions over a period of 4 weeks in April 2014, and the trainers used a mix of simple French and local language in order to accommodate entrepreneurs with limited education. In order to assist illiterate participants during case studies and exercises, a training intern was present in each classroom. To ensure that the learned skills were transferred into practice, each entrepreneur also received four months of personalized mentoring with a trainer visiting each business three hours a month for the four months following the training. During these visits, the trainer would answer questions and assist the entrepreneurs with the implementation of the skills that they had learned during the classes.

b. Sampling process

In order to mobilize eligible entrepreneurs to apply to the program, the World Bank project launched a four-month communication campaign using traditional means such as radio and television but also working with local partners. The project hired and trained 34 interns who worked with institutional and Internet café partners to reach out to eligible entrepreneurs and to help them with the application process. The project's seven institutional partners included three micro finance institutions, an association of artisans, an association of women entrepreneurs, a government agency that works with the informal sector, and the Regional Chamber of Artisans. These partners organized information sessions with their members and other local entrepreneurs to diffuse information about the program and its expected benefits. At the end of the information sessions, the interns assisted the entrepreneurs with the application form.

To be eligible for the program, businesses had to be informal (they could not be registered at the Chamber of Commerce or the Center of Enterprise Formalities at the time of their application), have less than 50 employees, exist for at least 12 months, and be in any sector other than agriculture. All of the targeted businesses were in the greater Lomé area. To apply, companies needed to fill out a form and provide proof that they had existed for at least 12 months, such as receipts, memberships in professional associations or trade unions, business bank or micro finance accounts, etc. Applications were accepted either online or in paper format at the project's partner institutions.

At the end of the four-month application window, the project had received 3396 applications, of which 3220 were eligible. The random selection process among eligible applicants took place in two steps. First, using the application data, we generated strata based on average monthly sales and sector of activity. We then randomly selected the same number of companies in each strata totaling 1,500 enterprises for the baseline survey. After conducting the baseline survey, we used the more precise data to divide the sample of 1,500 firms into three groups: 500 in the managerial

[3] Appendix A provides further details about the content of each of these types of training.

training, 500 in the entrepreneurial training, and 500 in the control group. To assign the groups, we allocated the sample into strata n gender, sector and whether they had a business practice score above or below the median score. Finally, within these strata we formed triplets based on profits and randomly assigned treatment within the triplets.

The second part of the selection was conducted in a semi-public ceremony involving representatives from the government, the project, the partners, the beneficiaries, and the World Bank representative. A bailiff sanctioned the transparency of the whole process. The results from the randomization ceremony were posted at the partner institutions, and all selected beneficiaries were contacted by telephone and by text message to pay the 5 000 FCFA (approximately 10 USD) enrollment fee within one month. Reminder text messages were sent two weeks before the deadline, and approximately one week before the deadline, all of the entrepreneurs that had not yet paid were contacted again over the phone. During this conversation, the entrepreneurs were reminded about the potential benefits of the training and encouraged to participate.

c. Take-up rate and treatment assignment

Overall, the interventions had a high take up rate. 83.8% of individuals assigned to the managerial training and 84.4% of individuals assigned to the entrepreneurial training attended the training to which they were assigned. Despite close collaboration with the training provider and the project team to ensure the respect of training group assignments, a small group of entrepreneurs received the wrong type of training or received training despite assignment to the control group. One contributing factor to this was that the two types of training took place in different rooms of the same hotels in order to facilitate logistics. As a result, some entrepreneurs made a mistake about the room in the hotel to which they were assigned. Table 1 details the number and percentage of individuals from each of the three groups that participated in the managerial or entrepreneurial training.

d. Analysis outline

The empirical analysis can be divided into four parts:[4] primary outcomes, secondary outcomes, mechanisms and heterogeneity. Our first research objective focused on how the managerial and entrepreneurial trainings fared against each other, as well as against the control group, with respect to the primary and secondary outcomes. The next step was to assess whether the two types of training were arriving at their respective outcomes through different mechanisms. Finally, we compared the managerial and entrepreneurial trainings in terms of their respective heterogeneous treatment effects.

The primary outcomes of interest included sales, profits and survival of firms. The secondary outcomes analyzed were the different types of inputs to a firm's productivity. We assume a simple form of a firm's production function to be:

$Y = f\,(K, L, A, E)$

[4] More details on the analysis conducted were presented in the pre-analysis plan registered online at AEAweb.org

Whereas:
K = Capital
L = Labor
A = Productivity
E = Entrepreneurial skill of the owner

An entrepreneur chooses the appropriate levels of K and L, depending on A and E and such that the marginal productivity is equal to the market interest rate and the market wage rate respectively. Our analysis thus estimated the effects of the two trainings on the levels of K and L utilized by the entrepreneur, as well as the owner's productivity-related skills.

In terms of mechanisms of change, the underlying hypothesis is that by participating in and learning from the programs, entrepreneurs would implement what they had learned – but potentially through different channels. Hence, while the two training programs might lead to similar results in terms of the primary and secondary outcomes, the process through which that happens might differ. We thus investigate the extent to which the training programs allow firms to become more innovative, change sectors of activity, have better access to finance, and improve their ability to network.

Finally, our heterogeneity analysis examines the different effects of the trainings based on gender, tenure of the company, initial business practices, initial profits, motivation, and ability of the entrepreneur.

4. Data

a. Survey waves and response rates

The analysis conducted relies on four rounds of original survey data. The baseline survey was conducted between October 2013 and January 2014, and 100% of our sample was interviewed. The baseline survey included questions about the business, the entrepreneur, and the entrepreneur's household. Table 2 shows baseline descriptive information, showing no significant differences across treatment arms before the intervention.

The team planned for four follow-up surveys. The first follow up survey (FU1) was a short survey focusing on key outcome variables, participation in the training and mentoring program, and knowledge of principles taught in the training. The survey took place in September 2014, the month following the end of the mentoring. The response rate was above 95%, and there was no evidence that higher response rates were correlated with treatment assignment. The second follow up survey (FU2) was a short survey focusing on key outcome variables and key mechanism variables. While originally planned for six months after the first follow up, the survey was conducted in January 2014 in order to be finished before the presidential electoral period. The survey had almost a 93% response rate; however, there was a statistically significant difference between the participation of treatment and control groups[5]. The third follow-up survey (FU3) was conducted in September 2015, and, like FU2, had nearly 93% of response rate. The fourth follow-up survey was conducted in September 2016, but it is not yet reported in this paper.

October 2013 - January 2014	• Baseline survey
April 2014	• Training
May 2014 - August 2014	• In-house mentoring
September 2014	• First follow-up survey (FU1)
January 2015	• Second follow-up survey (FU2)
September 2015	• Third follow-up survey (FU3)
September 2016	• Fourth follow-up survey (FU4)

5. Methodology

a. Identifying the treatment effect

For the variables for which we have baseline values, we calculated the intent to treat (ITT) effect using the following ANCOVA estimation:

$$Y_{i,t} = \beta_0 + \beta_M T_{iMA} + \beta_E T_{iENT} + \beta_1 Y_{i,t=0} + \beta_2 C_{i,t=0} + \varepsilon_i \qquad \text{(E1)}$$

Where:

Y_{it} is the outcome variable measured post-treatment.

T_{iMAl} and T_{iENT} are dummy variables taking the value of one if the individual was in the managerial or the entrepreneurial treatment groups respectively.

β_M and β_E measure the intent-to-treat effect of being assigned to the managerial or entrepreneurial training groups respectively, compared to the control group.

$Y_{i,t=0}$ is the baseline value of the outcome variable

$C_{i,t=0}$ is a dummy variable for the final stratification variable

ε_i is the error term

For the outcomes for which we do not have baseline values, we calculated the ITT effect using the following regression:

[5] In a subsequent robustness check, we will perform the estimations for the primary and secondary outcomes using Lee bounds.

$$Y_{i,t} = \beta_0 + \beta_M T_{i\_M} + \beta_E T_{i\_E} + \beta_2 C_{i,t=0} + \varepsilon \tag{E2}$$

The interpretations of the variables are the same as for the previous equation.[6]

b. Dealing with multiple outcomes

There are two challenges when working with a large number of outcome variables. First, the volume of outcome variables can make it more difficult to interpret results. Second, analysis of multiple outcomes can increase the risk of type 1 error if the significance tests are not adjusted appropriately. To deal with these risks, we employed the following strategies:

a. We clearly identified a set of primary outcomes.

b. We followed the methodology of Kling, Katz and Liebman (2007) to test the significance of families of outcomes in a single aggregate. For each family of outcomes described above, we: (1) converted all outcomes so that the sign of all of the variables in a family goes in the same direction; (2) calculated the z-score of each variable by subtracting the control group mean and dividing by the control group standard deviation; (3) took an average of the z-scores in the family.

c. Estimating heterogeneous treatment effects

To test for the heterogeneity of effects, we interacted the variable of interest with the treatment status in equation E2 and with the treatment status and lagged dependent variable in equation E1.

6. Results

The effects of the managerial and entrepreneurial trainings on sales, profits and survival rates are displayed in Table 3. The estimations combine the first three follow-up surveys. Estimates for the effect of the managerial training, reported in column 4, are not statistically significant for all the primary outcomes being analyzed. By contrast, the entrepreneurial training has a positive and statistically significant effect for monthly sales, monthly profits, weekly profits, total profits and for the z-score index combining all measures. ADD INPUTS ON ACTUAL IMPACTS IN PERCENTAGE TERMS. We can reject equality for the impact of the two types of trainings on the z-score of these primary outcomes at the 10% level.

Our next set of results focuses on the impact of these two trainings on business practices and levels of capital and labor utilized by the entrepreneurs. Table 4 shows the effects of these trainings on various indexes of business practices. Similarly to other studies, we find a positive effect of both trainings on utilization of good business practices. The two trainings produce a

[6] For both equations, robust standard errors were used. In order to increase our power, we estimate the equations using all data points (McKenzie 2012). However, because the treatment effects may vary over time, we also estimated the equations for each survey wave in which the outcome variable was measured.

positive and statistically significant increase in all indexes analyzed: marketing and customer service practices, record keeping and financial management practices, operations and performance management practices, seeking information and new opportunities, and human resource management practices.[7] As column 6 shows, the two trainings have an impact that is significantly different, at the 1%-level, only on the record-keeping index.

From the results in Table 5, the entrepreneurial training clearly increases labor utilization relative to the control group. The coefficients obtained for the number of hours the business owner worked personally, the number of workers in the enterprise, and the number of hours the business is open per week are all statistically significant and positive. Regarding capital inputs, the entrepreneurial training has a positive and statistically significant effect on the z-score index of capital, the value of capital stock, capital investments made over the past 12 months, the value of stocks, and on the business making a large investment in capital over the past 12 months.

The impact of the managerial training, as shown in column 4 of Table 5, is less consistent across the different measures of capital and labor. The only labor variable significantly affected is the number of hours the business is open per week. On capital measures, the only positive and statistically significant coefficients for the managerial training occur for the z-score index of capital, the value of capital stock, and on making a large investment in capital. While both types of trainings produce significant increases in the z-score index combining all of the labor and capital indicators, the p-value for equality allows us to reject the hypothesis that the impact of these trainings has the same magnitude.

Focus on mechanisms

To better understand the reasons behind the results in primary and secondary outcomes, we investigate the potential mechanisms through which different business trainings may affect business outcomes.

Our first mechanism of interest is innovation, displayed in the first rows of Table 6. While both trainings have positive effects on process innovation and on the introduction of new products or services, the p-value for equality suggests that the effect of the entrepreneurial training on the introduction of new products or services is significantly larger.

Next, we test whether any of the trainings led to firms changing their primary or secondary sectors of activity, but neither one of the trainings had any significant effect on this outcome.

The third mechanism analyzed focused on the firms' access to finance. The managerial training increased access to formal finance channels, specifically on receiving at least one loan from banks or microfinance institutions and for having a business bank account. Given the strong focus of the managerial training on the formalities of a business and on acquiring technical business skills, these are expected results. The entrepreneurial training, on the other hand, led to a large and statistically significant increase in the total amount of most recent loans received from all sources

[7] A more detailed description of each of these indexes can be found in Appendix B.

relative to the control group (equivalent to more than 50% of the control mean). Again, this result can be understood with respect to the approach and content of the entrepreneurial training, with its focus on developing personal initiative, learning how to overcome obstacles and on financial bootstrapping.

Lastly, we explored the possibility that the two training programs could have different effects on entrepreneurial networks. As reported in Table 6, both trainings led to an increase in the likelihood of entrepreneurs discussing their business ideas with others, discussing new techniques or suppliers with other entrepreneurs, and meeting with at least one group of entrepreneurs. Their differential impact on these dimensions, however, is not statistically significant.

Heterogeneity analysis

Our study investigates whether training effects on sales, profits and survival differ by tenure of the company, gender, initial business practices, initial profits, and ability. As Table 7a shows, treatment effects on firm performance do not appear to be heterogeneous based on individuals' Ravens score, ability index, initial business profits or gender. However, companies with an intermediary tenure (7-14 years), and whose owners have undergone previous business training seem to benefit more from the managerial training than younger companies (0-6 years) and whose owners had never done a business training before.

The effect of the entrepreneurial training on profits and sales is dependent primarily on individuals having participated in previous business training. However, company tenure seems to be an important determinant of business survival for those who participated in the entrepreneurial training. As displayed in Table 7b, the entrepreneurial training improves survival for younger firms (0-6 years) – a result that is significant at the 1%-level. A final interaction of interest concerns entrepreneurs' levels of education. The effect of the managerial training on monthly, weekly and total profits increases with more years of schooling.

7. Conclusion

Despite the abundance of business training programs offered worldwide to enhance the performance of small businesses, our knowledge about their impact is still limited. Which business outcomes do these trainings actually affect, and what is the extent of this effect? Under which conditions do entrepreneurs benefit from these trainings – and what profiles of entrepreneurs do so? Do different types of trainings produce patently different outcomes? These are all questions with critical policy relevance. If rigorously answered, they can provide insights into how to unlock the potential of millions of individuals making a living out of small enterprises in the developing world.

There are multiple challenges in conducting impact evaluations of business training programs. These challenges include, for instance, low statistical power due to limited take-up rates, lack of multiple follow-up survey rounds, and large heterogeneity in the types of trainings available. Our study attempts at tackling these challenges through a series of design improvements. The large sample in our research increases our power to detect changes in outcomes due to the interventions. Furthermore, our multiple follow-up surveys further increases the power of our pooled regressions and allows us to study the trajectory of effects. Lastly, by studying two very different types of business trainings, we aim at arriving at a more refined understanding of what works, for whom, and through which mechanisms.

Our preliminary results indicate that the managerial training is not particularly effective in raising the sales and profits of informal small entrepreneurs in Togo. By contrast, the entrepreneurial training, with its strong emphasis on innovation, financial bootstrapping and developing personal initiative, led to improved business performance in various measures. Our analysis of secondary outcomes suggests that such a difference in training outcomes cannot be attributed to differences in learning nor in the business practices adopted – instead, it can be linked to the different ways in which entrepreneurs invest in labor and capital as a result of the trainings.

The supplementary analysis carried out for this study also produced noteworthy results. First, the trainings appear to have different impacts on different sales/profits quantiles – with a larger magnitude of the effects being observed at higher quantiles. Second, individuals with previous business training obtain considerably larger benefits from both the managerial and entrepreneurial trainings, and this is robust to controlling for the number of training sessions attended by the entrepreneurs.

Of course, a few caveats are in order. As noted in the supplementary analysis – and as other studies have pointed out as well – the business training programs affect the reporting quality of sales, profits and costs information. Relative to the control group, individuals who underwent training are more likely to provide sales, profits and expenses information with written records, and to have calculated their profits in the past 6 months. Hence, if shown that micro-entrepreneurs systematically underestimate their sales and profits, then the training impact could be attributed to a higher reporting and information accuracy.

Moreover, although the coefficients for the impact of the managerial and entrepreneurial trainings were *seemingly* different, their difference was rarely statistically significant. We expect the data from the final follow-up survey in September 2016 to increase the precision of our estimates, as well as to shed more light on potential mechanisms through which both types of trainings operate. The last follow-up survey will also allow us to better understand the trajectory of impacts. As previously shown, the managerial training appears to have a punctual effect, and the entrepreneurial training effects seem to fade away after the second follow-up survey – puzzling results that we hope to investigate further in the future.

8. References

Banerjee, A. V., & Duflo, E. (2011). *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*. New York: PublicAffairs.

Berge, L. I. O., Bjorvatn, K., & Tungodden, B. (2012). *Human and financial capital for microenterprise development : Short-term and long-term evidence from a field experiment in Tanzania*. Retrieved from https://www.dartmouth.edu/~neudc2012/docs/paper_173.pdf

Bloom, N., & Van Reenen, J. (2007). Measuring and Explaining Management Practices Across Firms and Countries. *Quarterly Journal of Economics*, *122*(4), 1341–1408.

Bloom, N., & Van Reenen, J. (2010). Why Do Management Practices Differ across Firms and Countries? *The Journal of Economic Perspectives*, *24*(1), 203–224.

Bowles, S., Gintis, H., & Osborne, M. (2001). Incentive-enhancing Preferences: Personality, Behavior and Earnings. *American Economic Review*, *91*(2), 155–158.

Bruhn, M., & Zia, B. (2011). *Stimulating Managerial Capital in Emerging Markets: The Impact of Business and Financial Literacy for Young Entrepreneurs* (No. 5642). Retrieved from http://dx.doi.org/10.1596/1813-9450-5642

Canay, I. A. (2011). A simple approach to quantile regression for panel data. *Econometrics Journal*, *14*, 368–386. doi:10.1111/j.1368-423X.2011.00349.x

Daley, J. (2013, September). Are Entrepreneurs Born or Made? *Entrepreneur*.

de Mel, S., McKenzie, D., & Woodruff, C. (2012). *Business Training and Female Enterprise Start-up, Growth, and Dynamics: Experimental Evidence from Sri Lanka* (No. 6145). Retrieved from http://www2.warwick.ac.uk/fac/soc/economics/research/centres/cage/manage/publications/212-2014_woodruff.pdf

de Mel, S., McKenzie, D., & Woodruff, C. (2014). *What Generates Growth in Microenterprises? Experimental Evidence on Capital, Labor and Training* (No. 212).

Drexler, A., Fischer, G., & Schoar, A. (2014). Keeping it simple : Financial Literacy and Rules of Thumb Keeping it Simple : Financial Literacy and Rules of Thumb. *American Economic Journal*, *6*(2), 1–31.

Giné, X., & Mansuri, G. (2011). *Money or Ideas? A field experiment on constraints to entrepreneurship in rural Pakistan*.

Glaub, M. E. (2009). *Training Personal Initiative to Business Owners in Developing Countries: A Theoretically Derived Intervention and its Evaluation*. Justus Liebig University Giessen.

Glaub, M., Frese, M., Fischer, S., & Hoppe, M. (2014). Increasing personal initiative in small business managers/owners leads to entrepreneurial success: A theory-based controlled randomized field intervention for evidence based management. *Academy of Management Learning and Education*, *13*, 354–379.

Gollin, D. (2002). Getting Income Shares Right. *Journal of Political Economy*, *110*(2), 458–474.

Heckman, J., & Kautz, T. (2012). *Hard evidence on soft skills* (No. 6580).

Heckman, J., Stixrud, J., & Urzua, S. (2006). The Effects of Cognitive and Noncognitive Abilities on Labor Market Outcomes and Social Behavior. *Journal of Labor Economics*, *24*(3), 411–482.

Karlan, D., Knight, R., & Udry, C. (2012). *Hoping to Win, Expected to Lose: Theory and Lessons on Micro Enterprise Development* (No. 18325).

Karlan, D., & Valdivia, M. (2011). Teaching Entrepreneurship: Impact of Business Training on Microfinance Clients and Institutions. *The Review of Economics and Statistics*, *93*(2), 510–527.

McKenzie, D., & Woodruff, C. (forthcoming). Business Practices in Small Firms in Developing Countries. *Management Science*.

McKenzie, D., & Woodruff, C. (2014). What Are We Learning from Business Training and Entrepreneurship Evaluations around the Developing World? *World Bank Research Observer*, *29*(1), 48–82. doi:10.1093/wbro/lkt007

Table 1. Take-up rate and treatment group assignment

Type of training in which the person participated	Treatment group assignment: Managerial	Entrepreneurial	Not selected	Total
Managerial	420	17	5	442
%	84%	3%	1%	29%
Entrepreneurial	10	421	5	436
%	2%	84%	1%	29%
None	70	62	490	622
%	14%	12%	98%	41%
Total	500	500	500	1,500
%	100%	100%	100%	100%

Table 2. Baseline characteristics

Table 3. Effects of training programs on primary outcomes: sales, profits and survival

	N	control_mean	Managerial	Entrepreneurial	p_value
A1 zscore	4165	0	0.02	0.08***	0.053
			(0.03)	(0.03)	
Monthly sales	4200	871,903.00	-155,131.77	150,151.49	0.035
			(139,848.32)	(165,223.60)	
Monthly sales win	4200	692,909.57	30,383.79	105,942.27*	0.188
			(57,108.29)	(57,981.26)	
Monthly sales IHS	4200	12.3611	-0.13	0.18	0.022
			(0.14)	(0.14)	
Weekly sales win	4201	197,132.60	20,759.10	10,572.56	0.551
			(17,510.68)	(17,467.51)	
Monthly profits	4199	107,051.03	15,308.67	28,940.79**	0.397
			(12,126.09)	(13,505.71)	
Monthly profits win	4199	101,004.62	8,430.00	21,848.15***	0.07
			(6,923.68)	(7,082.34)	
Monthly profits IHS	4199	10.5197	-0.16	0.1	0.102
			(0.16)	(0.16)	
Weekly profits win	4201	31,004.07	2,470.64	4,777.51**	0.293
			(2,078.08)	(2,022.77)	
Total profits win	4201	113,076.98	9,427.52	22,918.38***	0.114
			(7,939.94)	(8,073.52)	
Survival	4203	0.981	0	0	0.8299
			(0.01)	(0.01)	

* p<.1, **p<.05, *** p<.01

Table 4. Business practices and skills

	N	Control mean	Managerial training coefficient	Entrepreneurial training coefficient	p-value for equality
Business practice index	4205	0.691	0.053***	0.044***	0.241
			(0.007)	(0.007)	
Marketing index	4202	0.758	0.050***	0.050***	0.983
			(0.009)	(0.009)	
Record keeping index	4202	0.365	0.182***	0.116***	0
			(0.012)	(0.012)	
Operations index	4185	0.809	0.035***	0.035***	0.974
			(0.008)	(0.008)	
Info seeking index	4202	0.824	0.029***	0.033***	0.655
			(0.008)	(0.008)	
HR index	4202	0.384	0.040***	0.049***	0.483
			(0.013)	(0.013)	

* p<.1, **p<.05, *** p<.01

Table 5. Capital and labor inputs

	N	Control mean	Managerial training coefficient	Entrepreneurial training coefficient	p-value for equality
B1 zscore	4311	-0.012	0.048***	0.088***	0.038
			(0.018)	(0.019)	
B1 Capital zscore	2882	-0.011	0.098***	0.122***	0.454
			(0.032)	(0.033)	
Labor					
Hours owner worked	4179	58.767	0.971	2.020**	0.294
			(1.000)	(0.991)	
Number of workers	4183	3.048	-0.114	0.249*	0.015
			(0.142)	(0.150)	
Number of paid workers	4168	1.56	-0.054	0.058	0.465
			(0.145)	(0.151)	
Hours business open	4180	63.058	1.974*	2.667***	0.505
			(1.057)	(1.011)	
Number of workers receiving only transport subsidy	4169	1.073	0.062	0.188*	0.185
			(0.092)	(0.097)	
Number of unpaid workers	4169	0.419	-0.071	0.01	0.129
			(0.053)	(0.057)	
Capital					
Value of K stock	2744	838,110.99	314,037.702**	369,120.780***	0.664
			(125,862.308)	(132,106.391)	
K Investment	2882	183,709.99	42,474.70	77,029.110**	0.315
			(32,607.710)	(33,521.049)	
Value of stocks	4180	865,084.90	98,891.63	133,630.635*	0.643
			(75,090.788)	(75,345.557)	
Big investment	2882	0.179	0.053***	0.070***	0.322
			(0.018)	(0.017)	

* p<.1, **p<.05, *** p<.01

Table 6. Mechanisms

	N	Control mean	Managerial training coefficient	Entrepreneurial training coefficient	p-value for equality
Innovation					
Introduction of new products	4113	0.2949	0.085***	0.179***	0
			(0.018)	(0.018)	
Number of new products	923	6.2112	-2.431	-2.487	0.96
			(2.445)	(1.838)	
Process innovation	4111	0.919	0.031***	0.037***	0.434
			(0.009)	(0.008)	
Sector change					
Main sector change	4109	0.1605	0.016	0.025	0.598
			(0.018)	(0.018)	
2ary sector change	938	0.5664	0.023	0.056	0.649
			(0.071)	(0.069)	

Access to finance					
Amount can borrow 2 weeks	2705	450,037.33	168,843.18**	237,095.20**	0.48
			(81,333.47)	(116,864.07)	
Received loan from any source	2693	0.5692	0.01	0.02	0.813
			(0.02)	(0.02)	
Received loan from bank or MFI	2700	0.4032	0.04*	0.03	0.63
			(0.02)	(0.02)	
Total recent loans	2692	438,470.95	10,205.83	238,445.57***	0.024
			(73,706.97)	(90,646.17)	
Has account at bank or MFI	2704	0.94	0	0.01	0.549
			(0.01)	(0.01)	
Has a business account	2771	0.1132	0.03**	0	0.021
			(0.01)	(0.01)	
Access to networks					
Discusses business ideas	4201	0.9031	0.023**	0.032***	0.326
			(0.011)	(0.010)	
Discusses techniques	4201	0.898	0.020*	0.020*	0.988
			(0.011)	(0.011)	
Meets a group of entrepreneurs	2772	0.4095	0.131***	0.112***	0.468
			(0.025)	(0.025)	
Frequency of meeting entrepreneurs per year	3000	23.043	21.940**	9.304	0.159
			(8.923)	(7.887)	
Number of entrepreneurs in network	1666	52.462	23.657	-2.661	0.72
			(38.746)	(39.000)	
Receives benefits from networks	1366	0	0.045	0.059	0.764
			(0.052)	(0.054)	

* p<.1, **p<.05, *** p<.01

Table 7a. Heterogeneity for individuals assigned to the managerial training

	A1 zscore	Monthly sales	Monthly sales win	Weekly sales win	Monthly profits	Monthly profits win	Weekly profits win	Total profits win	Survival
Age cat 2 (7-14yrs)*assign_man	**0.18****	**845,146.50****	**493,661.86*****	**87,706.67***	31,238.52	28,854.85	4,889.73	24,037.69	-0.01
	(0.09)	(424,247.02)	(170,576.76)	(51,803.36)	(34,450.09)	(21,088.09)	(6,550.15)	(24,160.26)	(0.02)
Age cat 3 (15+yrs)*assign_man	0.11	493,195.67	**339,892.24****	55,716.34	14,744.10	10,140.85	449.87	21,415.34	-0.02
	(0.09)	(366,740.27)	(160,071.59)	(50,860.27)	(37,885.04)	(20,534.44)	(6,089.11)	(23,746.01)	(0.02)
Female*assign_man	-0.05	-241,019.82	-122,660.76	-13,517.17	-14,952.57	-19,610.13	-6,477.29	-24,315.22	0.00
	(0.06)	(265,027.39)	(115,124.66)	(35,317.26)	(23,416.13)	(13,977.12)	(4,249.03)	(16,248.22)	(0.01)
Initial business practice*with assign_man	0.00	-118,002.67	54,133.73	23,432.56	5,104.61	10,879.23	6,878.16	12,278.07	0.03
	(0.07)	(303,770.40)	(142,784.47)	(40,051.60)	(29,613.74)	(16,748.15)	(5,059.89)	(19,245.28)	(0.02)
Initial profits*assign_man	0.02	-460,719.43	-73,015.99	-2,148.41	593.12	-3,499.03	-1,376.47	-3,862.28	0.00
	(0.06)	(283,220.65)	(114,870.95)	(35,254.97)	(24,198.80)	(14,093.87)	(4,205.16)	(16,208.11)	(0.01)
Ability index*assign_man	0.13*	151,007.85	130,553.30	62,557.46	20,621.41	24,146.32	**14,027.37*****	28,093.36	0.01
	(0.07)	(268,398.65)	(139,916.48)	(43,910.71)	(28,145.89)	(16,780.12)	(5,114.46)	(19,544.97)	(0.02)
Ravens score *assign_man	0.06	-285,355.72	11,185.30	25,344.47	-1,624.26	11,733.60	5,166.77	20,790.57	0.02
	(0.08)	(412,667.03)	(140,126.53)	(43,658.94)	(29,873.05)	(17,123.64)	(4,739.98)	(19,875.08)	(0.02)
Previous business training*assign_man	**0.20****	**867,831.05****	**396,409.29****	**109,990.17****	54,764.86	**39,158.61***	**14,956.19****	**53,994.77****	-0.02
	(0.10)	(350,508.99)	(182,267.31)	(50,762.94)	(42,591.46)	(23,467.71)	(6,928.00)	(25,763.19)	(0.02)
Schooling* assign_man	**0.16****	305,668.29	95,763.95	50,065.90	36,681.71	**46,729.09*****	**17,924.09*****	**50,670.20****	-0.00
	(0.08)	(374,112.54)	(151,654.14)	(45,809.90)	(30,506.32)	(17,616.24)	(5,232.23)	(20,399.36)	(0.02)
Sector experience* assign_man	0.00	10,275.23	4,803.58	199.96	-180.33	-120.22	-155.73	121.67	-0.00
	(0.00)	(10,330.54)	(5,068.02)	(1,534.69)	(886.51)	(595.79)	(166.65)	(677.83)	(0.00)

* p<.1, **p<.05, *** p<.01

Table 7b. Heterogeneity for individuals assigned to the entrepreneurial training

	A1 zscore	Monthly sales	Monthly sales win	Weekly sales win	Monthly profits	Monthly profits win	Weekly profits win	Total profits win	Survival
Age cat 2 (7-14yrs)*assign_ent	0.10	326,070.73	191,939.66	64,322.67	-44,358.27	31,363.80	4,277.02	28,065.70	**-0.04***
	(0.10)	(451,568.39)	(178,748.69)	(54,814.52)	(43,511.31)	(22,207.31)	(6,461.11)	(25,651.05)	(0.02)
Age cat 3 (15+yrs)*assign_ent	0.13	432,178.70	149,417.57	59,416.67	20,536.00	15,860.34	3,372.65	18,974.56	**-0.06*****
	(0.09)	(474,432.95)	(156,850.30)	(52,213.47)	(37,893.35)	(20,494.26)	(6,040.64)	(22,975.82)	(0.02)
Female*assign_ent	0.07	235,207.96	114,624.86	49,253.49	16,073.79	4,302.51	2,281.36	-2,057.59	**-0.02***
	(0.06)	(300,967.07)	(116,864.57)	(34,984.76)	(26,895.36)	(14,219.75)	(4,103.45)	(16,213.69)	(0.01)
Initial business practice*with assign_ent	-0.02	-3,991.22	74,742.36	-2,488.13	50,672.70	8,988.85	4,684.80	6,787.42	0.02
	(0.08)	(470,708.26)	(152,342.37)	(44,334.64)	(36,037.84)	(17,676.18)	(5,055.55)	(20,277.13)	(0.01)
Initial profits*assign_ent	0.08	201,469.31	71,572.60	21,151.30	27,226.45	13,645.34	3,129.77	9,223.35	**0.02***
	(0.06)	(334,952.27)	(113,986.26)	(34,329.31)	(26,638.07)	(14,417.44)	(4,102.21)	(16,457.76)	(0.01)
Ability index*assign_ent	0.10	196,558.88	163,660.64	36,360.57	29,757.77	17,189.37	**7,869.69***	16,884.00	0.02
	(0.07)	(347,436.83)	(137,779.66)	(39,996.83)	(32,609.04)	(15,923.09)	(4,693.07)	(18,382.57)	(0.02)
Ravens score *assign_ent	0.03	-58,785.69	-104,267.88	-2,570.04	17,661.16	-3,902.08	820.65	1,360.08	0.02
	(0.07)	(279,595.42)	(136,328.64)	(38,687.74)	(29,154.26)	(16,486.59)	(4,944.94)	(18,898.00)	(0.02)
Previous business training*assign_ent	**0.42*****	**1,670,020.66*****	**821,604.88*****	**228,826.54*****	**121,988.37*****	**76,505.61*****	**18,026.30*****	**91,465.81*****	-0.02
	(0.10)	(575,541.12)	(203,071.65)	(54,894.35)	(43,222.32)	(23,498.44)	(6,966.37)	(26,863.34)	(0.02)
Schooling* assign_ent	0.07	372,176.02	170,348.18	37,227.42	35,660.36	25,562.78	**9,307.70***	23,816.85	0.01
	(0.08)	(396,827.28)	(148,483.29)	(42,454.59)	(34,399.09)	(17,741.51)	(5,167.40)	(20,177.30)	(0.02)
Sector experience* assign_ent	0.00	16,578.13	351.52	2,002.79	694.69	352.05	-125.93	451.17	-0.00
	(0.00)	(12,924.78)	(5,746.45)	(1,579.66)	(1,048.54)	(702.51)	(194.13)	(783.37)	(0.00)

* p<.1, **p<.05, *** p<.01

Appendix A

Business Edge training

The Business Edge training program is an internationally accredited management training program developed by the International Finance Corporation (IFC). It has been used in 56 countries around the world to train more than 200,000 individuals. The Business Edge curriculum includes 59 modules on 7 management topics. Only firms that are recognized by Business Edge can deliver the Business Edge training, and all trainers must have completed a training program led by a certified Master Trainer. After leading a certain number of successful trainings and being evaluated by Certified and Master trainers, a Business Edge trainer can become certified.

The Business Edge training program is always tailored to the needs of the target population. Before starting a program, the methodology requires the firm to conduct a training needs assessment with the participants. The appropriate modules that respond to the participants' identified needs are then selected from the existing curriculum and adapted to the level and existing knowledge of the target population.

Preparation of the training

The selection criteria for trainers included:

- 4 year university degree or higher in one of the following fields: (i) Fiscal affairs (ii) Marketing (iii) Human resource management (iv) Operations management and quality control (v) Accounting and financial management (vi) Management
- Minimum of 3 years of experience doing training or coaching for business in one of the following domains: (i) Marketing (ii) Finance (iii) Accounting or fiscal relations (iv) Human resources (v) Operations and quality control (vi) Personal productivity
- At least 2 years of professional experience in management
- Availability for the entirety of the mission
- Initiative and ability to adapt
- Ability to motivate micro-entrepreneurs
- Good communication and pedagogical skills
- Fluent in French and at least one national language

Fifteen trainers were selected from the interview process described above for the training of trainers, and twelve trainers were selected after the training of trainers based on observations during the training and the master trainer's recommendations.

The training of trainers for the Business Edge training took place over five days from March 3-7, 2014. The master trainer was Laban Mawungwe from Uganda, an accredited Business Edge master trainer. As the master trainer was not fluent in French, he conducted the training in English, and the Chief of Party, Bibiana Taku who is a Business Edge certified trainer, interpreted the training into French. As the Business Edge methodology is founded on the principal that the trainers are experts in the field that they will be teaching, the training of trainers was not focused on the content of the training. The training of trainers was instead focused on the Business Edge methodology and approach to training, including didactic tools.

After the training of trainers, the Business Edge methodology requires a training needs assessment, which enables the trainers to select the appropriate training modules and adapt them to the local context and to the needs and current knowledge levels of the target beneficiaries. The workshop involved two different steps, and a subsample of 85 entrepreneurs participated in the workshop. In the first step, the entrepreneurs discussed their challenges, opportunities, strengths and external threats to their businesses in groups and with the trainers, which enabled a qualitative SWOT diagnostic of the target beneficiaries. In the second step, the entrepreneurs completed questionnaires that quantified the perceived training needs and interests. The 12 selected local trainers lead the one-day training needs assessment workshop with support from certified Business Edge trainers from Cote d'Ivoire, the certified Business Edge master trainer, and the certified Business Edge trainer and Chief of Party. The combination of the quantitative and qualitative results of the workshop enabled the team to identify the training needs of the target population and the current level of the entrepreneurs' knowledge and ability. At the end of the training needs assessment, the certified trainers assisted the local trainers with the selection and adaptation of the training modules.

Content of the training

The Business Edge training included 12 modules that can be grouped into four different themes: accounting and financial management, commercial management and marketing, human resource management, and formalization and fiscal responsibilities. Each module lasted for one half-day training session and was designed to be independent of the other modules. A different trainer who was an expert in the subject taught each one of the modules. As such, each training group received one training module from each trainer. The below table describes the objectives of each module and the main pedagogical tools used during the module.

Module	Objective	Included topics	Pedagogical Tools
Theme 1: Accounting and financial management			
Accounting records and inventory	• Identify the advantages of accounting record keeping • Use simple accounting tools • Establish an inventory record	• What are accounting records? • Advantages of keeping accounting records • Cash book • Supplier ledger • Customer ledger • How to conduct inventory	• PowerPoint and participant workbook including key notions and examples of the documents • Activities in which entrepreneurs helped a fictive entrepreneur note her operations in her cash book, her supplier ledger, her customer ledger and her inventory book. • Correction of the exercises and discussion.
Calculating costs, fixing prices and analyzing profits	• Understand the financial situation of their business • Calculate the unit cost of a product or service • Interpret the profits of their activity using a simple accounting tool	• How to fix the price of your product • Elements of cost in a business • Calculating unit cost • Calculating profits	• PowerPoint and participant workbook including key notions. • After explaining elements of cost and calculating unit cost, there was an activity with a fictive baker. Entrepreneurs had to identify the total production cost and the unit cost of bread. • After explaining how to calculate and interpret profits, there was another activity of a fictive entrepreneur, and entrepreneurs had to calculate sales, costs, and profits. They also had to analyze if the sale price of the services were too low and make recommendations for how to improve profits.
Cash flow management	• Indicate the importance of planning your cash flow • Demonstrate how to establish a cash flow plan • Explain what constitutes a good cash flow plan • Identify means to increase cash flow	• Cash flow management as a way to avoid liquidity problems • What is a cash flow plan? • Advantages of a cash flow plan • How to establish an exact cash flow plan • How to increase inflows and reduce outflows • What to do when cash flow is low	• Introductory activity introducing the case of a fictive entrepreneur who has cash flow problems. Group discussion about whether the entrepreneurs have experienced similar problems, how it affected their businesses, how they resolved them, and if they think they're avoidable. • PowerPoint and participant workbook introducing the principles of cash flow management and cash flow plans.

	• Efficiently manage urgent needs		• Activity in which they establish a cash flow plan for a fictive entrepreneur and use it to make recommendations for the entrepreneur to avoid problems.
Business plans: Planning for the expansion of the business	• Create a plan for the expansion of the business • Know how to finance the expansion of the business	• The future of your business: ○ Set objectives ○ Identify opportunities and constraints ○ Determine how to overcome obstacles • Understand your business's finances ○ Describe the financial cycle of a business ○ Describe the source and use of funds • Plan the expansion of the business ○ Make a list of current problems impeding the activity's development ○ Identify what is needed for the activity to develop ○ Seek necessary financing ○ How to qualify for a bank loan	• PowerPoint and participant workbook introducing the principles and techniques to master the objectives. • Discussion activity after the explanation of understanding a business's finances using the case of a fictive entrepreneur to practice identifying financing needs, analyzing the available financing sources and understanding the objectives that the financing enables the entrepreneur to achieve. • Activity after the explanation of planning the expansion of the business in which the entrepreneurs write a simplified business plan for a fictive entrepreneur.
Theme 2: Commercial management and marketing			
Improving customer service	• Explain the importance of customer service • Identify the customer base of a company • Apply techniques to better serve customers	• Understand the importance of customers • Identify customers ○ Internal and external customers ○ Identify customers' needs and wants • Define what customer service is ○ The three pillars of customer satisfaction ○ Managing customer satisfaction • How to guarantee customer satisfaction ○ Evaluating customer satisfaction	• PowerPoint and participant workbook to present the basic principles • Group discussions in which they share experiences about customer service and dealing with complaints • Group activities in which they use case studies of different fictive entrepreneurs to identify the customer base and to identify causes and consequences of bad customer service • Role play in which they simulate different types of customer service and common situations and then discuss the scenarios as a group

		○ Treating causes of bad customer service and complaints	
Improving sales techniques	• Explain the difference between consultative and transactional sales • Describe the 6 steps of the consultative sales cycle • Put consultative sales techniques into practice	• What is consultative sales and why is it useful? ○ What are the differences between the two sales approaches • What are the six steps of the consultative sales cycle? ○ How to capture the attention of your customer and to prepare yourself to make a sale ○ How to generate your customer's interest in your product or service ○ How to create a desire to purchase ○ How to negotiate and address objections ○ How to conclude the sale ○ How to verify customer satisfaction	• PowerPoint and participant workbook to present the basic principles • Case studies of two fictive entrepreneurs—one with good sales techniques and one without good sales techniques. The entrepreneurs discuss in groups the actions the entrepreneurs took and what they could learn from this in their own business.
Market positioning	• Explain how to do a market segmentation and to identify a target audience • Identify the key advantageds of a product • Be able to position oneself in a market	• The process of market segmentation • Criteria used to segment a market • Advantages of market segmentation • How to position a business in the market • What are the necessary elements for market positioning?	• PowerPoint and participant workbook to present the basic principles • Case studies in which the entrepreneurs study different fictive entrepreneurs and identify the problems related to the lack of a target audience, the different needs of different customers, recommendations to improve customer service and to tailor services to specific types of customers, and ways to distinguish the business from competitors
Marketing-mix strategy	• Know the 4 key elements (4 Ps) of marketing	• Understand the different components of a product and the importance of packaging	• PowerPoint and participant workbook to present the basic principles

	• Understand the interaction between different steps in the marketing mix	• Describe price fixing methods and pricing strategies • Distribution methods • Types of communication and essential elements of communication	• Group discussion in which entrepreneurs share experiences of how they fix prices and brainstorm alternative ways of fixing prices. • Case study of a fictive entrepreneur in which the participants have to identify the secrets to success and draw parallels within their businesses • Development of an action plan for their business in which they elaborate how they will use the tools learned to improve the marketing of their business
Commercial negotiations	• Define commercial negotiations • Master the process of negotiations • Effectively conduct a negotiation • Manage difficult situations and disputes	• Definition of commercial negotiations • Identification of negotiation partners and the advantages of a good negotiation • Steps in the process of negotiation • Types of negotiation • How to manage difficult situations and disputes • Practical advice for negotiating	• PowerPoint and participant workbook to present the basic principles • Case study of two fictive entrepreneurs: one who negotiates well and the other that does not negotiate well with his supplier. The participants must identify the advantages and disadvantages of each and the strengths and weaknesses of the two entrepreneurs' approaches with the supplier • Role play exercise of a negotiation between a fictive entrepreneur and her financial institution • Case study of a negotiation between a juice producer and a hotel that sells juice. The entrepreneurs discuss in groups who wins and loses in the deal, how the deal was reached, and the advantages in the negotiation approach used.
Theme 3: Human resource management			
Recruitment	• Examine all of the steps preceding the decision to hire • Master the recruitment procedures	• Evaluating personnel needs • Measuring and planning the impact of the salary • Defining the job description and the profile needed	• PowerPoint and participant workbook to present the basic principles • Case study of a fictive entrepreneur who hired a worker for whom there ended up not being enough orders. The entrepreneurs had to identify the consequences of this for

		• Selecting candidates • Signing trial contracts and the trial period of the contract • Confirming the trial period and finalizing the recruitment	the business and propose how the entrepreneur should have proceeded. The entrepreneurs share similar stories from their own experiences. • Case study of a fictive entrepreneur in which the entrepreneurs discuss each step of the hiring process and its importance in detail
Motivating and making employees loyal	• Identify the importance of making employees loyal to the competitiveness of the business • Explain the functions of human resource management • Identify the best employees • Describe tools to make employees loyal and how to put them into practice	• The role of gaining employee's support • Planning and managing human resources • Reasons and consequences of employees quitting • Identifying the best employees • Performance evaluations • How to attract and keep motivated and happy employees	• PowerPoint and participant workbook to present the basic principles • Case studies of fictive entrepreneurs: one who treats his employees very well and the other who treats them poorly. The participants discuss the ways the employees must feel, how they would act if they were in the employee's place, the reasons why the employees would help or hurt the business and draw parallels between the case studies and their experiences.
Theme 4: Formalization and fiscal responsibilities			
Formalization and basic fiscal notions	• Know the basic fiscal notions about taxes for the development of their business • Understand the advantages of formalizing the business and the necessary process and procedures	• The different types of taxes for different fiscal regimes, the period of payment and who is obligated to pay • The importance of paying taxes • Advantages of paying taxes • How to formally register a company: necessary documents and procedures • Advantages of formally registering a company	• Discussion about the participants previous interactions with the fiscal authority and understanding of why they pay taxes • PowerPoint and participant workbook to present the basic principles • Case study of two fictive entrepreneurs who avoid paying taxes. The participants discuss the advantages and disadvantages of their situations • Case study of a fictive entrepreneur that shows the importance of registering the business

			• Exercise in which they complete the business registration form

Personal initiative training

Professor Michael Frese and his research group from Leuphania University of Luneburg, Germany developed the personal initiative training. The training is based on the psychological literature concerning personal initiative and action regulation theory, and it is designed to help entrepreneurs understand and internalize the three principals of personal initiative and to develop self-starting behavior.

The training program has been used in other contexts, such as Uganda, and there is evidence that the program can effectively change personal initiative behavior and business performance (Glaub et al. 2014). However, the existing training program was shorter and targeted newer businesses and entrepreneurs with a higher education level. As such, the curriculum was modified significantly in order to fit the duration of the training program and to be adapted to the target population of entrepreneurs. Additional modules on opportunity identification and alternative sources of financing were developed. In addition, individual activities were transformed into group activities and simplified for those with little or no formal education. The language in pedagogical tools was simplified and images were associated with each principle in order to facilitate the learning and retention of ideas for those who are illiterate. As such, this was the first time that this program had been used in precisely this form.

Preparation of the training

The selection criteria for trainers included:

- 4 year university degree or higher in one of the following fields: (i) Entrepreneurship (ii) Development sociology or social sciences (iii) Human resources (iv) Psychology (v) Management
- Minimum of 3 years of experience training or coaching businesses in the domains of entrepreneurship, development sociology, social sciences, human resource management, psychology, or management
- At least 2 years of professional experience in the domain of entrepreneurship
- Availability for the entirety of the mission
- Initiative and ability to adapt
- Ability to motivate micro-entrepreneurs
- Good communication and pedagogical skills
- Fluent in French and at least one national language
- Experience working with illiterate adults is desirable

Eighteen trainers were selected from the interview process described above for the training of trainers. After the training of trainers, the trainers were evaluated using both a written and an oral examination. The written test evaluated the trainer's understanding of the basic principles of personal initiative. The oral test was conducted during the pilot phase, during which each trainer conducted part of the pilot training. The Frese research group developed an evaluation scale, which evaluated the trainers during the pilot session using four criteria: 1) The charisma of the trainer 2) Time management and use 3) Ability to motivate the entrepreneurs 4) Comprehension of and ability to explain personal initiative. The twelve trainers with the best performance on the written and oral tests were selected for the full training program.

The training of trainers for the personal initiative training took place over five days from March 3-7, 2014. The master trainer was Mona Mensmann, and Professor Michael Frese and Thorsten Dlugosch were both present to assist with the training. The first day focused on the basic principals of the training and the methodology. The remaining four days focused on the content of the training and used a learning by doing method in which different trainers presented the content of the training and received feedback.

Content of the training

The training on personal initiative had nine modules of varying length. The goals of the modules are detailed below, followed by the training program that explains the duration and pedagogical tools used in each module.

Module 1: Introduction

This module introduces the participants to the training goals and content. The module has two main goals:

1. The **introduction of framework conditions** (plus a short description of the 3 elements of personal initiative and the feedback rules) and introducing everyone to each other
2. Giving an **overview of the training content**, its effects and the necessary evaluations that need to be done in order to guarantee the quality of the training and future success

Module 2: Being Self-Starting

The module illustrates the necessity of approaching the business environment in an active way. It helps the entrepreneur to:

1. **Identify self-starting behavior**, which is characterized by doing things without being told, actively changing the environment and actively seeking to be ahead of competitors. Entrepreneurs will also differentiate this kind of behavior from reactive business behavior that most business owners show regularly throughout their daily routine.
2. Understand that being self-starting **affects all steps of the entrepreneurial process**.
3. **Internalize that being self-starting means to spend energy** and that it requires a lot of effort. Using old ways and showing reactive behavior might seem to be the easier and safer way for most of the entrepreneurs. In this module the business owners learn that in the long run, being self-starting is the only way to sustainable success.

Module 3: Innovation and Opportunity Identification

This module teaches the entrepreneurs how to actively look for new business opportunities or opportunities to develop existing products, processes or ways of marketing or advertising. The learning goals of this module are to:

1. Understand that **innovation is needed** to be ahead of competitors in the long run.

2. Use **creativity and new ways of thinking** in order to generate new business ideas.
3. **Focus on own strengths, interests, and resources** to generate new business ideas.
4. **Identify useful sources of information** and look for new sources that are **unusual and unique**.
5. **Focus on market needs, changes and problems** to generate new business ideas.
6. **Evaluate** generated business ideas in order to see whether they are feasible or not. Understand that **feedback from different people is needed** to make a good judgment.

Module 4: Goal Setting

At the end of this module, participants should be able to:

1. **Set goals that follow the principles of good goal setting "SMART-IP"** (specific, measurable, ambitious, realistic, time-bound) and are at the same time self-starting
2. **Set long-term goals** for their businesses with time frames of about 1-2 years

Module 5: Planning

The planning module should teach the participants to plan how they want to achieve their goals beforehand and give them guidance on how they can do so. At the end of the module, the participants should be able to:

1. **Consider what they need** to achieve the goal
2. **Think of different steps** that are necessary to achieve the goal
3. **Organize these steps** and schedule them.
4. **Monitor** the progress and see what they have to change in order to reach the goal.

The module starts with a section on accessing finance. The main learning goal of this special section is to enable the participants to plan the financing of the goals for their businesses. To reach this learning goal, the module teaches how to:

1. **Estimate** how much money they need to finance their goals
2. **Evaluate** different sources of finance
3. **Prepare an overview** of the needed finances
4. **Use bootstrapping methods** in order to minimize the reliance on external sources of finance.
5. **Not to give up** just because of lack of financial resources.

Module 6: Feedback

This module underlines the importance of feedback for the entrepreneur at every step of the entrepreneurial process. At the end of the modules, the participants will:

1. Know about the **importance of feedback** and its value for all steps of the entrepreneurial process
2. Have learned that they should use **different sources of feedback** to get opinions from different points of view
3. Look for **feedback which is rare and difficult to get**, as this feedback gives new, innovative information that competitors don't receive
4. Actively look for **negative feedback** as this shows possible ways of improvement

Module 7: Overcoming Barriers

Entrepreneurs always face problems and obstacles that occur within the entrepreneurial process. Entrepreneurs that approach their environment in an active way and show personal initiative will especially have to face obstacles as new and unexpected situations result from active behavior. This module prepares the entrepreneurs to overcome these barriers. It teaches them to:

1. **Think of possible barriers beforehand**
2. **Find creative ways of overcoming** these barriers
3. **Not give up when obstacles occur** and to continue pursuing the goal. They should rather accept the presence of these problems, look for different ways to overcome the obstacles and choose solutions that can be helpful in the long run

Module 8: Repetition of the Content

The goal of this module is to help entrepreneurs remember and synthesize the content of the training. The theory and principles of action of each module are repeated, and they recall and discuss the exercises they did. Entrepreneurs reflect on how the content learned is relevant for their business.

Module 9: Personal Project

The entrepreneurs develop a personal project to implement in their business, using the skills and principles learned during the training. The participants give each other feedback on their ideas and the trainer also provides feedback to encourage projects that are a bit more innovative, action oriented and future oriented. At the end, the entrepreneurs sign a contract with themselves to implement the principles of the training.

Appendix B

The indexes in Table 4 were constructed by calculating the percentage of specific practices the respondent declared to use:

Marketing index

- Asks customers what products or services they would like to see
- Asks clients if satisfied with their product or service
- Offers promotions
- Changes the presentation of products or services to make them more attractive
- Used at least one form of publicity
- Used at least 2 forms of publicity
- Asks customers who do not come back why

Record keeping index

- Keeps accounting books
- Keeps all types of accounting books
- Has a written budget
- Has a budget that shows monthly expenses
- Has a budget that shows yearly expenses
- Gives receipts to customers systematically
- Keeps receipts from suppliers
- Has a business bank account
- Pays self a fixed salary
- Does not mix business and personal money
- Registers all sales and purchases
- Able to use accounting books to see amount of money business has
- Able to prove to a bank has money left after paying expenses to reimburse a loan

Operations index

- Sets sales objectives
- Compares real sales to objectives
- Negotiates with suppliers to get a better price
- Does not have insufficient stock
- Takes inventory of stock
- Analyzes sales trends
- Analyzes firm performance
- Calculates costs
- Calculates profits or losses
- Knows which product or service contributes most to profits

Info seeking index

- Visits competitors to know price or products
- Evaluates the need in the market for their products or services
- Seeks new markets
- Identifies potential new customers, suppliers, competitors
- Compares prices or quality of suppliers
- Discusses business ideas with friends, consultants or other entrepreneurs
- Seeks additional capital for the business
- Uses internet, books, magazines or newspapers to learn new things in the sector
- Discusses with other entrepreneurs in the sector
- Seeks new production, marketing or administrative techniques
- Asks supplier what sells well in the sector
- Meets with groups of entrepreneurs

HR index

- Has written contracts with workers
- Trained employees externally
- Provided training internally to employees
- Evaluated employee performance
- Provided feedback to employees