THE IMPACT OF PERSONAL INITIATIVE (PI) TRAINING AND BUSINESS SKILLS (BSED) TRAINING FOR WOMEN MICROENTREPRENEURS IN ETHIOPIA

Pre-Analysis Plan

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1. Introduction

This plan outlines the hypotheses to be tested and specifications to be used in the analysis of the impact of the Personal Initiative (PI) and Business Skills and Entrepreneurship Development Training (BSED) training programs in Ethiopia. The plan was created before the midline data was collected and analyzed and so can provide a useful reference in evaluating the results of the study. The plan is outlined as follows: Section 2 reviews the motivation for the study, the sample selection and data sources; Section 3 outlines the hypotheses to be tested as part of the study; Section 4 outlines the specifications to be used in analyzing the data. Appendices A-F provide additional details on the trainings, the sampling process, the decisions made during the data collection process, risk mitigation strategies undertaken during the survey and the coding schemes for two psychological variables.

2. Overview of the Study

2.1 Motivation and Program Description

This study offers a rigorous evaluation of two types of training programs offered to women entrepreneurs in Ethiopia who are part of the World Bank's Women Entrepreneurship Development Project (WEDP). WEDP seeks to support growth-oriented women entrepreneurs owning micro and small businesses in Ethiopia by facilitating access to finance and entrepreneurial training and advocacy (World Bank, 2017).

Women entrepreneurship is critical towards economic growth and empowerment in developing countries (Bruton, Ketchen Jr., & Ireland, 2013; Duflo, 2012). Yet, women entrepreneurs still lag behind their male counterparts in entrepreneurial activity and performance (Jennings & Brush, 2013; Kelley, Brush, Greene, & Litovsky, 2013). Entrepreneurship trainings constitute a popular approach to support women entrepreneurs to increase their business success and catch up with male business owners (Coduras Martínez, Levie, Kelley, Saemundsson, & Schott, 2010; McKenzie & Woodruff, 2013). However, existing trainings are highly heterogeneous and evidence on whether

entrepreneurship training affects women entrepreneurs' performance is limited (McKenzie & Woodruff, 2013). In addition, only little is known about the conditions under which entrepreneurship training is effective and the specific mechanisms of different types of entrepreneurship training (Anderson-Macdonald, Chandy, & Zia, 2016).

Most female entrepreneurs in Ethiopia lack access to high-quality business development services, which can help them to enhance their skills and succeed as entrepreneurs. Existing skills development opportunities for entrepreneurs are offered mainly through government TVET colleges which provide textbook and classroom-based training on fixed schedules to large groups. While these trainings are often helpful for youth, unemployed and start-up entrepreneurs; growth-oriented women entrepreneurs, such as those targeted by WEDP, are unlikely to participate, and those who do report limited impact on their approach to managing their business. Traditionally, entrepreneurship trainings have focused on business knowledge transfer, often with a particular emphasis on the improvement of financial practices (Drexler, Fischer, & Schoar, 2014; Frese, Gielnik, & Mensmann, 2016). More recently, the psychology of entrepreneurship has gained increasing attention (Frese & Gielnik, 2014; Walton, 2014) and scholars have used resulting scientific knowledge to develop psychological training interventions (Frese et al., 2016). These trainings apply an action-based approach and seek to create an entrepreneurial mind-set (Frese et al., 2016).

Most likely, different types of entrepreneurship training lead to different kinds or degrees of training outcomes (McKenzie & Woodruff, 2013). Evidence shows that traditional business trainings increase business knowledge and practices (Cho & Honorati, 2014; McKenzie & Woodruff, 2013), whereas psychological training interventions promote entrepreneurial self-efficacy, goal intentions, action planning and knowledge, opportunity identification (Gielnik et al., 2015), and personal initiative (Glaub, Frese, Fischer, & Hoppe, 2014). Whereas business knowledge and practices rarely translate into higher profits and sales (Cho & Honorati, 2014; McKenzie & Woodruff, 2013), there is initial evidence that personal initiative increases entrepreneurs' economic performance (Glaub et al., 2014; Togo PI Impact Evaluation).

In this impact evaluation we will compare an innovative action-based entrepreneurship skills training course, called "Personal Initiative (PI) Training" (Glaub et al., 2014) with a more traditional business training, called "Basic Business Skills and Entrepreneurship Development (BSED) Training". The innovative action-based entrepreneurship skills training course focuses on helping entrepreneurs develop their personal initiative, on getting entrepreneurs to think about longer-term horizons, and on helping entrepreneurs to overcome barriers and deal with failure. Developed by Matthias Glaub and Michael Frese, the action-oriented approach to entrepreneurship training relies on heavily psychological approaches, and ultimately aims to encourage entrepreneurs to show proactive

behavior. It starts with the development of an active mindset through action principles which is then refined and routinized with active practice during the training (Mensmann & Frese, 2017; see Appendix A for a detailed description of PI training). The intervention was done through Technical and Vocational Education Training (TVET) colleges and will be compared to the standard vocational training offered by the WEDP program that focuses on teaching traditional managerial skills. The BSED training employs a strong gender orientation and focuses on business management skills but also teaches some psychological competencies. The personal initiative training will focus, not purely on textbooks and classroom-based learning, but on developing entrepreneurial qualities and behaviors, as well as the ability to identify and exploit profitable business opportunities.

The content of the Personal Initiative training for entrepreneurship covers the *entire* entrepreneurial process starting from opportunity identification, via goal setting and planning, up to the implementation of action and seeking feedback. Entrepreneurial skills acquired during these modules include innovation and creative thinking, information seeking, identifying and evaluating business ideas, translating business ideas into concrete business goals, finding and using financial resources, developing action plans to put goals into practice, identifying risks and barriers, using problem solving techniques, and monitoring the business performance by taking into account different sources of feedback. Additional modules emphasize the importance of self-starting behavior and overcoming barriers. The content of the BSED training includes, competency, knowledge, skill and behavioral change that incorporate fourteen modules. For each training round, the trainers choose the most relevant modules based on the training needs of the training participants. Some of the key modules include: financial literacy, business and marketing, tax rules and regulation, enterprise management, book keeping, business plan, financial transaction, gender and gender related challenges.

The impact evaluation will examine the effectiveness of a psychology-focused training as well as a more standard business training, to provide evidence on the impact of varied approaches to entrepreneurship training. The trained trainers will deliver an entrepreneurship training course to the WEDP women entrepreneurs. The research design identified 2,000 women entrepreneurs as part of the impact evaluation where 1,500 will be offered the training immediately after a baseline survey and 500 will act as a waiting/control group. The trainings will be offered in six TVET colleges in Addis Ababa (Akaki, Entoto, G. Wingate, Misrak, Nefas Silk and Tegbareid) and each training round will be over a two-week cycle (the training duration is 10 half-days) with a gap in between training rounds. Training classes will be grouped by the survey company and lists of interested participants will be sent to the TVET colleges to take attendance. The aim for each class size is 25 women entrepreneurs.

2.2 Sample Selection

For this training experiment, the impact evaluation team drew upon the WEDP registration database of clients in Addis Ababa only and randomly assigned 2000 women entrepreneurs to the different treatment arms. The research team randomly assigned WEDP clients into a treatment group who will be offered the PI training (750), a treatment group who will receive BSED training (750) and a control group (500) who will not be offered training for at least one year.

From the registered WEDP clients in Addis Ababa the research team excluded all those who were already part of the overall WEDP program impact evaluation and those who had recorded that they already received some form of business training in the registration database. The research team randomly selected the 2000 names from the WEDP registration database in Addis Ababa using Stata in November 2015 when the random sampling for the experiment was initiated.

The sample size of the study draws on the methodological strategies of previous entrepreneurship training studies (see McKenzie and Woodruff 2012). The initial research design outlined four randomized groups: (i) 500 waiting/control group that receives no training for at least 12 months, (ii) 500 Business Skills training, (iii) 500 Personal Initiative (PI) training, and (iv) 500 combined training (both PI and Business Skills sequentially). However, before randomization it was decided that logistically it will be difficult to administer a combined training since it is unlikely that women will attend a second 10 half-day training session. The research team therefore decided to randomize into 3 groups: to train 750 in PI; 750 in Business Skills; and 500 in control with the possibility to train an additional 250 from each treatment arm to generate a 'combined' treatment arm at a later date as per the original design.

2.3 Key data sources

Baseline Survey

The baseline data collection for the impact evaluation of the training experiment began in November 2015 and ended in April 2016 as interviews were done on a rolling basis before the entrepreneurs attended a training. As a first step, enumerators phoned each women entrepreneur in the list to establish existence and location of the business since WEDP registration data was fairly outdated. Baseline data was collected over a 6-month period to tie-in with the implementation of all the training rounds. For each training round approximately 50 women assigned to both the PI and BSED treatment group were interviewed for the baseline survey and then once the interview was complete the enumerator told the respondent that they were to be offered a training. Enumerators from the survey company pitched the benefits of the training to the WEDP clients who were invited to

attend a training using fliers, a lottery, and successful case studies as examples to motivate take-up among the invited group of entrepreneurs. A baseline survey was administered to the control group concurrently with the treatment groups but when the interview was complete no training was offered. Since the survey firm faced issues with locating all the women in the original list, the survey firm were provided with replacement names and were instructed to survey until they reach 750 PI, 750 BSED and 500 Control. Details of the decisions made during data collection and sampling are provided in Appendix B.

treatment_final	Number of firms	Percent
Control	497	24.84
BSED training	757	37.83
PI training	747	37.33
Total	2,001	100

Table 1: Survey sample

Midline Survey

A follow-up survey was conducted between May and September 2017 i.e. approximately one and a half years after the training was received. The timing of the interviews attempted to follow the timing of the baseline surveys by visiting localities of respondents who were surveyed first during the baseline survey and then moving to localities in sequence

2.4 Take-up of the training

Overall, the training interventions had a take-up rate of 40%. Initial interest in business training was high (94% said they were interested in entrepreneurship training during the baseline survey) but actual take-up of the training among those who were offered training was 41.4% for the PI training and 38.6% for the BSED training. Table 2 below shows the number of WEDP clients who attended PI or BSED training and the number of sessions attended out of a total of 10 half-day sessions according to administrative training data.

Training Intensity: Number of sessions attended	Freq.	Percent
5	3	0.5
6	19	3.16
7	34	5.66
8	51	8.49
9	108	17.97
10	318	52.91
Unknown	68	11.31
Total	601	100

Table 2: Training Intensity

There are some cases where we do not know the number of sessions attended and we will check the administrative training data to try and retrieve this.

2.5 Selection into training

The following analysis checks whether the sample that attended the training is systematically and significantly different from the sample that was offered the training but did not attend by comparing the baseline outcomes.

	Means by Assignment Status			
Table 3: Test of differences of training participants and non-participants	**All**	**Participated in the training**	**Offered but did not participate**	**Diff. in Means**
Age of Owner (years)	35.84	36.65	35.23	1.42***
	(8.92)	(8.36)	(9.53)	(0.48)
Digitspan score (0-7)	2.82	2.81	2.79	0.02
	(1.28)	(1.24)	(1.26)	(0.07)
Number of hours worked per week	49.37	50.19	49.09	1.10
	(25.95)	(25.98)	(25.94)	(1.37)
Log monthly profits	7.82	7.69	7.95	-0.26*
	(2.90)	(2.70)	(2.93)	(0.15)
Average monthly profits (Birr)	11712.35	8601.70	13662.00	-5060.30***
	(18983.62)	(13571.88)	(21756.84)	(1010.89)
Average monthly revenues (Birr)	63460.81	46628.11	72651.97	-26023.86***
	(139363.11)	(105345.07)	(151337.42)	(7216.27)
Revenues in a typical month (Birr)	239071.81	191553.19	269606.09	-78052.89**
	(647762.50)	(560478.00)	(718419.06)	(35743.54)
Average monthly business costs (Birr)	66297.74	53581.49	75999.84	-22418.34***
	(139552.83)	(118092.68)	(153408.67)	(7389.58)
Number of employees	4.40	3.90	4.96	-1.07***
	(7.47)	(6.09)	(8.67)	(0.41)
Save in a bank	0.63	0.62	0.62	0.00
	(0.48)	(0.49)	(0.49)	(0.03)
Borrowed from any source past 12mths	0.63	0.62	0.64	-0.02
	(0.48)	(0.49)	(0.48)	(0.03)
Household Asset Index (0-8)	6.58	6.46	6.63	-0.17***
	(1.20)	(1.23)	(1.20)	(0.06)
Personal Initiative index	0.88	0.90	0.88	0.02***
	(0.12)	(0.11)	(0.12)	(0.01)
Entrepreneurial Identity index	0.87	0.88	0.86	0.02**
	(0.17)	(0.16)	(0.18)	(0.01)
Entrepreneurial Locus of Control	0.79	0.80	0.79	0.00
	(0.16)	(0.16)	(0.16)	(0.01)
Entrepreneurial Selfefficacy	0.84	0.84	0.83	0.01
	(0.13)	(0.12)	(0.13)	(0.01)
Joint test				0.18
Number of Observations	2001	601	903	

Standard business performance indicators reported by those entrepreneurs who chose to participate in the training were lower at baseline compared to those reported by entrepreneurs who did not take-up the training amongst the treatment group. We find significantly lower measures of profits and sales measured at baseline. This selection into the training may suggest that women entrepreneurs who choose to take-up business training are those who believe they need more help with their business operations? Alternatively, the opportunity cost of attending a training program could be lower for these women, since their businesses are smaller and less profitable?

3. Hypotheses

This study will examine how each training program affects firm performance and productivity, measuring key indicators of business growth such as monthly profits and sales, employment, and hours worked. We will examine if some firms (sector, size, maturity, access to loans) respond better to a different type of training than other firms, and what the mechanisms through which the program produces those impacts. It will also examine changes in the owner's household income, consumption, power relations, decision-making and standard of living.

3.1 Impact on primary and secondary outcomes: PI training and BSED training may have positive average impacts on business performance, employment, individual well-being, household well-being, knowledge, empowerment and life satisfaction for the trainees.

Hypothesis 1a: Both training programs have a positive impact on the sales and profits of treated firms.

Hypothesis 1b: Compared to BSED training, PI training has a stronger impact on the sales and profits of treated firms.

This hypothesis will be tested using the following variables outlined in Table 4. All value estimates will be winsorized at the 99th percentile. All sales and profits will be recorded as item non-response if the entrepreneur no longer has a business. If treatment status has a statistically significant effect on business survival, we will test the robustness of our results using Lee bounds (Lee 2008).

Hypothesis 2a: Both training programs have a positive impact on the level of capital and labor that the entrepreneur chooses.

Hypothesis 2b: Compared to BSED training, PI training has a stronger impact on the level of capital and labor that the entrepreneur chooses.

This hypothesis will be tested using the following variables outlined in Table 4. All value estimates will be winsorized at the 99th percentile.

Hypothesis 3a: Both training programs have a positive impact on household wealth and share of income that the entrepreneur contributes to their household.

Hypothesis 3b: Compared to BSED training, PI training has a stronger impact on household wealth and share of income that the entrepreneur contributes to their household.

This hypothesis will be tested using the following variables outlined in Table 4. All value estimates will be winsorized at the 99th percentile.

Hypothesis 4: Both trainings have a positive impact on the entrepreneur's access to finance.

This hypothesis will be tested using the variables outlined in Table 4.

Hypothesis 5a: Both trainings have a positive impact on the entrepreneur's psychological outcomes.

Hypothesis 5b: Compared to BSED training, PI training has a stronger impact on entrepreneurs' psychological outcomes.

This hypothesis will be tested using the variables outlined in Table 4. For each reflective psychological scale, we will run a reliability analysis to test its internal consistency (Cronbach's alpha). Based on the reliability analysis results and theoretical considerations, we will select the number of items for the final scale. We will use the mean of selected scale items in our data analyses.

Hypothesis 6a: Both trainings have a positive impact on the survival rate of the firm.

Hypothesis 6b: Compared to BSED training, PI training has a stronger impact on the survival rate of the firm. This hypothesis will be tested using the variables outlined in Table 4.

Hypothesis 7a: The trainings have a positive impact on new business creation.

Hypothesis 7b: Compared to BSED training, PI training has a stronger impact on new business creation.

This hypothesis will be tested using the variables outlined in Table 4.

Hypothesis 8a: BSED training has a positive impact on the business knowledge of the trainees.

Hypothesis 8b: PI training has a positive impact on the PI knowledge of the trainees.

This hypothesis will be tested using the variables outlined in Table 4.

Table 4: Overview of primary and secondary outcomes.

Outcome variable groups	Outcome variables	Variable names at midline (variable names at baseline)	Notes and references
1 Economic business outcomes	(H1) Profits and sales	sec44_8 to sec44_12 (sec44_8 to sec44_12)	Include the log and inverse hyperbolic sine transformation of average monthly profits log(y+(y2 +1)1/2) – which is similar to the log transformation, but can deal with zero income.
	(H1) Business Costs	sec44_18 (sec44_18). sec44_32_new (only at midline)	Measured as a summation of individual costs and a total monthly measure.
	(H2) Value of capital stock	sec44_16 sec44_18 (sec44_14 sec44_15)	Owned versus rented machinery and inventory stocks. The business made a large investment in capital over the last 12months?
	(H2) Employees	sec42_1 to sec42_10 (sec42_1 to sec42_10)	Number of workers, number of hours worked. Number of hours business open per week.
	(H4) Access to finance	sec45_3 (sec45_24), sec45_6 (sec45_26), sec45_4 (if sec45_6=yes), sec45_10, sec45_11	Applied for WEDP loan? WEDP loan approved? Size of loan if approved? Loan approved outside WEDP? Size of this loan?
	(H6) Survival rate	sec4_1	The business owner still has at least one business?
	(H7) New business	sec41_19 (sec41_19), sec41_20 (sec41_21)	A business started in the past 6months?
2 Household-related outcomes	(H3) Household assets	sec3_13a - sec3_13g (sec3_18a - sec3_18g)	Index of number of household assets owned out of 8.
	(H3) Share of income contributed to the household	sec3_7a - sec3_8c (midline only)	
3 Psychological outcomes	(H5) Subjective success	sec44_2a to sec44_2b (sec44_2a to sec44_2b), sec46_12a to sec46_12e (sec7_2a to sec7_2e)	Firm goal achievement (van Dyck, Frese, Baer, & Sonnentag, 2005), firm performance (Wiklund & Shepherd, 2003)
	(H5) Satisfaction as business owner	sec44_1 (sec44_1)	
	(H5) Satisfaction with economic well-being	sec5_11	

	(H5) Entrepreneurial autonomy	sec3_13a to sec3_13f	(Parker & Axtell, 2001), Item f self-developed
4 Knowledge outcomes	(H8) Business knowledge	sec6_1 to sec6_14 (sec6_1 to sec6_14)	
	(H8) PI knowledge	sec6_15 to sec6_19	Based on WB Survey Togo 2014
	(H8) Perceived business knowledge	sec1_6 (sec2_5), sec1_7a to sec1_7i (sec2_6a to sec2_6i)	World Bank

We then want to understand why the training did or did not improve business performance outcomes by assessing the impacts on a range of potential mediators (business practices and entrepreneurial mechanisms; cf. Section 3.2, Hypothesis 7). We will also analyze whether the trainings worked better for certain types of people or courses (heterogeneity; cf. Section 3.3, Hypothesis 8).

3.2 Identifying mechanisms which mediate the training-success relationship

Hypothesis 7: The trainings may have impact through the following channels:

Potential mediators:

1 Personal initiative behavior
- Introduced changes
- Error management
- Future orientation
- Overcoming barriers
- Dealing with challenges
- Competitive approach
- Competitor orientation

2 Entrepreneurial attitudes, beliefs, and orientations
- Entrepreneurial self-efficacy
- Entrepreneurial locus of control
- Entrepreneurial passion
- Entrepreneurial identity
- Growth goal aspirations
- Risk preferences
- Opportunity costs

3 Business ideas, planning, and practices
- Business ideas

- Innovativeness (of business ideas)
- Entrepreneurial activity planning
- Entrepreneurial activity
- Introduction of new/ innovative product
- Financial bootstrapping
- Business practices indices – Record keeping
- Business practices indices – Marketing practices
- Business practices indices – Stock Control Practices
- Business practices indices – Financial Planning Practices

4 Entrepreneurial autonomy
- Approval of major decisions for the business
- Decisions about how to use business profits
- Share of business decisions
- Entrepreneurial autonomy

5 Business knowledge
- Business knowledge (knowledge questions)
- Perceived business knowledge

To test these potential mediators, for each theme we will create an index calculated by summing each question encapsulating the theme in the midline survey, we will score 1 for a correct answer and 0 for an incorrect answer. Doesn't know and refusal will be coded as incorrect. We will then take the average for all of the questions or if the coding for the questions are from strongly disagree to strongly agree we will divide the total scores by the maximum score possible. In case of reflective scales, sufficient scale reliability is a precondition for the analysis and will be assessed using Cronbach's alpha.

For the business practices, we will calculate the proportion of a number of business practices that the entrepreneur uses as adapted from McKenzie and Woodruff (2015). Missing values will not be recoded, and the percentage will be taken considering the total number of practices for which the entrepreneur responded. A simple index of the frequency with which the entrepreneur uses the business practices will be calculated in a similar way. The business practice indexes will be recoded to 0 for those who no longer have a business at follow-up.

The two psychological variables with an open response format will be coded by trained and independent coders according to detailed coding schemes (see Appendix E). We will assess interrater reliability by calculating intra-class correlation coefficients (ICCs; Shrout & Fleiss, 1979). High coefficients will then allow us to use the mean across the raters for further analyses.

We hypothesize:

Hypothesis 7.1: Personal initiative behavior mediates the relationship between PI training and training outcomes.

Hypothesis 7.2: Entrepreneurial attitudes, beliefs, and orientations mediate the relationship between PI/BSED training and training outcomes.

Hypothesis 7.3: Business ideas, planning, and practices mediate the relationship between PI/BSED training and training outcomes.

Hypothesis 7.4: Entrepreneurial autonomy (decision making ability in the business) mediates the relationship between PI/BSED training and training outcomes.

Hypothesis 7.5: Business knowledge and perceived business knowledge mediate the relationship between BSED training and training outcomes.

Table 5 displays all mechanisms that are hypothesized to mediate the relationship between training and training outcomes. The table also illustrates in which cases mechanisms are hypothesized for one type of training only.

Table 5. Overview of variables mediating the relationship between training and outcomes.

Mediator variable groups	**Mediator variable**	**Mediator variable at midline (mediator variable at baseline)**	**Reference**
1 Personal initiative behavior *(only for PI training)*	Introduced changes	sec47_1a to sec47_1i (see Appendix E)	(Frese, Fay, Hilburger, Leng, & Tag, 1997)
	Error management	sec5_1h to sec5_1l (sec5_1h to sec5_1l)	Error competence subscale (Rybowiak, Garst, Frese, & Batinic, 1999)
	Future orientation	sec5_5a to sec5_5f, sec5_6a to sec5_6f	Strategic scanning and problem prevention (Parker & Collins, 2010); opportunity and problem identification (Gielnik et al., 2015; Hills, Lumpkin, & Singh, 1997; Ucbasaran, Westhead, & Wright, 2008)
	Overcoming barriers	sec5_2 to sec5_3	(Glaub et al., 2014; Parker, Williams, & Turner, 2006)
	Dealing with challenges	sec44_3a to sec44_3e (sec44_1)	Based on WB Survey Togo 2014
	Competitive approach	sec46_10a to sec46_10d	(Krauss, Frese, Friedrich, & Unger, 2005; Lumpkin & Dess, 2001)
	Competitor orientation	sec46_11a to sec46_11f	(Frambach, Prabhu, & Verhallen, 2003; Narver & Slater, 1990)
2	Entrepreneurial self-efficacy	sec5_4a to sec5_4g (sec5_5a to	(Krauss, 2003)

Entrepreneurial attitudes, beliefs, and orientations		sec5_5g)	
	Entrepreneurial locus of control	sec5_4h to sec5_4n (sec5_5h to sec5_5n)	(Levenson, 1974) & World Bank Survey conducted in Mexico
	Entrepreneurial passion	sec5_8a to sec5_8i	(Cardon, Gregoire, Stevens, & Patel, 2013)
	Entrepreneurial identity	sec5_1m to sec5_1q (sec5_1m to sec5_1n)	(Murnieks, Mosakowski, & Cardon, 2011, 2014) (except Item n)
	Growth goal aspirations	sec47_4a to sec47_4f (sec47_4a to sec47_4f)	(Delmar & Wiklund, 2008)
	Risk preferences	sec5_9 (sec5_6)	Based on WB Survey Togo 2014
	Opportunity costs	sec41_24d to sec41_24g	(Gundry & Welsch, 2001)
3 Business ideas, planning, and practices	Business ideas	sec43_11 (sec43_11)	
	Innovativeness *(only for PI training)*	sec43_12a to sec43_12b (see Appendix E)	Based on WB Survey Togo 2014
	Entrepreneurial activity planning *(only for PI training)*	sec47_5a to sec47_5n (sec47_5a to sec47_5n)	(Gielnik et al., 2015)
	Entrepreneurial activity *(only for PI training)*	sec47_2a to sec47_2h (sec47_2a to sec47_2h)	(Gielnik et al., 2015)
	Introduction of new/ innovative product *(only for PI training)*	sec43_6 to sec43_10 (sec43_6 to sec43_10)	
	Financial bootstrapping *(only for PI training)*	sec44_33a to sec44_33	(Grichnik, Brinckmann, Singh, & Manigart, 2014; Winborg & Landström, 2001)
	Business practices indices – Record keeping *(only for BSED training)*	sec44_4 - sec44_6 Has a written business plan; Has a written annual budget; Keeps financial records	
	Business practices indices - Marketing Practices	sec47_2a; sec47_2b; sec47_2f; sec47_2h; sec47_2j and sec47_2k Visited at least one of its competitor's businesses to see what prices they are charging; Visited at least one of its competitor's businesses to see what products he or she offers; Asked existing customers whether there are products they would like you to offer; Asked a supplier about which products are selling well in this business' industry; looked for ways to	Coded as 1 for each of the following that the business has done in the last 12 months. (Note: coded as zero if not applicable)

		improve your marketing and advertising strategies; Advertised in any form.	
	Business practices indices - Stock Control Practices	sec47_2c and sec47_2i Negotiated with a supplier for a lower price on raw material; Compared the prices or quality offered by your supplier's product/service with other suppliers	Coded as 1 for each of the following that the business has done in the last 12 months. (Note: coded as zero if not applicable)
	Business practices indices - Financial Planning Practices	sec47_2d; sec47_2e and sec47_2g analyzed if the sales of your most important product/services have increased, decreased or remained the same; looked for additional financial resources for your business; looked for new markets	Coded as 1 for each of the following that the business has done in the last 12 months. (Note: coded as zero if not applicable)
4 Entrepreneurial autonomy	Approval of major decisions for the business	sec41_22a to sec41_22b (sec41_26)	
	Decision about how to use business profits	sec3_15a to sec3_15c (sec3_19i to sec3_19j)	
	Share of business decisions	sec41_23a to sec41_23e	
	Entrepreneurial autonomy	sec5_13a to sec5_13f	(Parker & Axtell, 2001), Item f self-developed
5 Business knowledge	Business knowledge *(only for BSED training)*	sec6_1 to sec6_14 (sec6_1 to sec6_14)	
	Perceived business knowledge *(only for BSED training)*	sec1_6 (sec2_5), sec1_7a to sec1_7i (sec2_6a to sec2_6i)	World Bank

3.3 Identifying conditions which moderate the training-success relationship

Hypothesis 8: The training programs may have different effects depending on different types of entrepreneurs, background variables, and the quality of the training.

Potential moderators:

1 Characteristics of women entrepreneurs

- Socio-economic characteristics
    - Age
    - Ethnicity
    - Place of birth

    - Religion
    - Educational background
    - Entrepreneurial educational background
    - Number of running businesses
    - Business experience
    - Started businesses
    - Reason to start the business
    - Motivation to start the business (opportunity vs. necessity)
    - Life satisfaction
    - Family background
        - Marital status
        - Husband/ partner's education
        - Professional status of husband
        - Parents' education
        - Number of children
    - Household variables
        - Number of household members
        - Head of household
        - Businesses in household
        - Decision making/Household-related autonomy
        - Household income
- Personal initiative related characteristics
    - Personal initiative personality
    - Error management
    - Grit
- Entrepreneurial attitudes, beliefs, and orientations
    - Entrepreneurial self-efficacy
    - Entrepreneurial locus of control
    - Entrepreneurial identity
    - Growth goal aspirations
    - Risk preferences
    - Satisfaction as business owner
    - Required salary to move to employment
    - Opportunity costs
- Business ideas, planning, and practices
    - Business ideas
    - Entrepreneurial activity planning
    - Entrepreneurial activity
    - Business practices indices – Record keeping
    - Business practices indices - Marketing Practices
    - Business practices indices - Stock Control Practices
    - Business practices indices - Financial Planning Practices
- Entrepreneurial autonomy
    - Approval of major decisions for the business
    - Decisions about how to use business profits
- Work-family interference
    - Work overload
    - Time-based work-family conflict
- Business knowledge

    - Business knowledge
    - Perceived business knowledge
- Cognitive abilities
- Attitudes towards training
    - Training utility
    - Perceived confidence during training
    - Satisfaction with trainer
- Social networks (during/after training)
    - Knowing other training participants
    - Meeting other training participants
- Perceived environment
    - Social norms towards gender roles/ working women
    - Perceived environmental hostility
    - Perceived economic development
    - Competitive environment

2 Spousal involvement
- Spousal role
    - Overall
    - As business partner
    - In day-to-day production
    - Husband's responsibilities
    - Husbands' working hours
- Spousal support
    - Financial support
    - Practical business support
    - Household support
    - Emotional support

3 Business characteristics prior to training
    - Business age
    - Business sector
    - Male/female dominated sector
    - Amount of starting capital
    - Written business plan
    - Employees
    - Profits and sales

We hypothesize:

Hypothesis 8.1: Characteristics of women entrepreneurs moderate the relationship between PI/BSED training and training outcomes.

Hypothesis 8.2: Spousal involvement moderates the relationship between PI/BSED training and training outcomes.

Hypothesis 8.3: Business characteristics moderate the relationship between PI/BSED training and training outcomes.

Table 6 provides an overview of all variables for which we postulate a moderating influence on the relationship between training and training outcomes. For each of the hypotheses we will test the heterogeneous effects of the training on the primary and secondary business performance outcomes.

Table 6. Overview of variables moderating the relationship between training and outcomes.

Moderator variable groups	Moderator variables	Variable names at baseline	Notes and Reference
1 Characteristics of women entrepreneurs prior to training			
Socio-economic characteristics	Age	sec1_6	
	Ethnicity	sec3_1	
	Place of birth	sec1_7	
	Religion	sec3_2	
	Educational background	sec2_3, sec2_4	
	Entrepreneurial educational background	sec2_9, sec2_11, sec2_12	
	Number of running businesses	sec1_9	
	Business experience	sec41_2	
	Started businesses	sec41_19 to sec41_21	
	Reason to start the business	sec41_18	
	Motivation to start the business (opportunity vs. necessity)	sec41_3	
	Life satisfaction	sec5_8a to sec5_8c	
	Family background - Marital status - Husband/ partner's education - Professional status of husband - Parents' education - Number of children	 sec3_8 sec3_9 sec3_10 sec2_17, sec2_18 sec3_12	
	Household variables - Number of household	 sec3_3	

	members - Head of household - Businesses in household - Decision making - Household income	sec3_4 sec3_7 sec3_5, sec3_19a to sec3_19j, sec3_20a to sec3_20f	
Personal initiative related characteristics	Personal initiative personality	sec5_1a to sec5_1g	(Frese et al., 1997)
	Error management	sec5_1h to sec5_1l	Error competence subscale (Rybowiak et al., 1999)
	Grit	sec5_7a to sec5_7h (midline)[1]	(Duckworth & Quinn, 2009)
Entrepreneurial attitudes, beliefs, and orientations	Entrepreneurial self-efficacy	sec5_5a to sec5_5g	(Krauss, 2003)
	Entrepreneurial locus of control	sec5_5h to sec5_5n	(Levenson, 1974) & World Bank Survey conducted in Mexico
	Entrepreneurial identity	sec5_5m to sec5_5n	(Murnieks et al., 2011, 2014), Item n self-developed
	Growth goal aspirations	sec47_4a to sec47_4f	(Delmar & Wiklund, 2008)
	Risk preferences	sec5_6	Based on WB Survey Togo 2014
	Satisfaction as business owner	sec44_1	
	Required salary to move to employment	sec41_25	
	Opportunity costs	sec41_24a to sec41_24g (midline)	(Gundry & Welsch, 2001)
Business ideas, planning, and practices	Business ideas	sec43_11	
	Entrepreneurial activity planning	sec47_5a to sec47_5n	(Gielnik et al., 2015)
	Entrepreneurial activity	sec47_2a to sec47_2h	(Gielnik et al., 2015)
	Business practices indices – Record keeping	sec44_4 - sec44_6 Has a written business plan; Has a written annual budget; Keeps financial	

[1] These moderators need to be treated with caution since they were collected subsequent to the training – see also Methods Section.

		records	
	Business practices indices - Marketing Practices	sec47_2a; sec47_2b; sec47_2f; sec47_2h; sec47_2j and sec47_2k Visited at least one of its competitor's businesses to see what prices they are charging; Visited at least one of its competitor's businesses to see what products he or she offers; Asked existing customers whether there are products they would like you to offer; Asked a supplier about which products are selling well in this business' industry; looked for ways to improve your marketing and advertising strategies; Advertised in any form.	Coded as 1 for each of the following that the business has done in the last 12 months. (Note: coded as zero if not applicable)
	Business practices indices - Stock Control Practices	sec47_2c and sec47_2i Negotiated with a supplier for a lower price on raw material; Compared the prices or quality offered by your supplier's product/service with other suppliers;	Coded as 1 for each of the following that the business has done in the last 12 months. (Note: coded as zero if not applicable)
	Business practices indices - Financial Planning Practices	sec47_2d; sec47_2e and sec47_2g analyzed if the sales of your most important product/services have increased, decreased or remained the same; looked for additional financial resources for your business; looked for new markets	Coded as 1 for each of the following that the business has done in the last 12 months. (Note: coded as zero if not applicable)
Entrepreneurial autonomy	Approval of major decisions for the business	sec41_26	
	Decision about how to use business profits	sec3_19i to sec3_19j	
Work-family interference	Work overload	sec3_19a to sec3_19c (midline)	(Beehr, Walsh, & Taber, 1976; Bolino & Turnley, 2005; Schaubroeck, Cotton, & Jennings, 1989)
	Time-based work-family conflict	sec3_18a to sec3_18d (midline)	(Geurts et al., 2005), Items c and d self-developed
Business knowledge	Business knowledge	sec6_1 to sec6_14	
	Perceived business knowledge	sec2_5, sec2_6a to sec2_6i	World Bank
Cognitive abilities	Working memory (Digit span	sec5_7a to sec5_7b	

	test)		
Attitudes towards training (after training)	Training utility	sec1_12a (midline)	
	Perceived confidence during training	sec1_12b (midline)	
	Satisfaction with trainer	sec1_13 (midline)	
Social networks (during/after training)	Knowing other training participants	sec1_14a, sec1_14b (midline)	
	Meeting other training participants	sec1_15a, sec1_15b (midline)	
Perceived environment	Social norms towards gender roles/ working women	sec3_20a to sec3_20e (midline)	ISSP 2002, WVS Wave 6 (Item e) (Constantin & Voicu, 2015)
	Perceived environmental hostility	sec46_13a to sec46_13b (midline)	(Slevin & Covin, 1997)
	Perceived economic development	sec44_2c to sec44_2d (midline)	
	Competitive environment	sec46_5a to sec46_5c (midline)	(McKenzie & Woodruff, 2015)
	Household constraints	• hours (not) spent for child and elderly care out of those spent for the business at baseline (sec42_25). • Percentage of household decisions women make on their own (sec3_19; women responded either “me, by myself” or “me and my husband” • Women participate in more than half of household decisions (sec3_5) • Women are head of household • Women can decide on their own how to use business profits (sec3_19i)	
2 Spousal involvement (as perceived by women entrepreneurs)[2]			
Spousal role	Overall	sec48_1a	
	As business partner	sec41_8 to sec41_10 (baseline); sec48_1b	

[2] These moderators need to be treated with caution since they were collected subsequent to the training – see also Methods Section.

	In day-to-day production	sec48_1c	
	Husband's responsibilities	sec48_2	
	Husbands' working hours	sec48_3	
Spousal support	Financial support	sec45_1 (baseline); sec48_6, sec48_7	
	Practical business support	sec48_8a to sec48_8c	(King, Mattimore, King, & Adams, 1995)
	Household support	sec48_9a to sec48_9c	(King et al., 1995)
	Emotional support	sec48_10a to sec48_10c	(King et al., 1995)
3 Business characteristics prior to training			
	Business age	sec41_2	
	Business sector	sec41_13	
	Male/female dominated sector	sec41_16, sec41_17	
	Amount of starting capital	sec45_2	
	Written business plan	sec44_4	
	Employees	sec42_1 to sec42_10	
	Profits and sales	sec44_8 to sec44_12	

We expect there to be a stronger impact of the PI/BSED trainings for those women entrepreneurs who are more socially disadvantaged at baseline i.e. those who have faced social structures that make life more difficult (for example, beliefs on gender or social norms, laws and matrilocal versus patrilocal societies).

Hypothesis 9: The businesses performance impacts are less for those who attended fewer sessions of the training

We will not have a robust measure of this due to endogeneity.

4. Estimation methodology

Estimation of Treatment Effects

For outcomes in which the same question was asked in both the baseline and midline survey, our main specification will be the following ANCOVA specification:

$$Y_{i,t=1} = \beta_0 + \beta_1 T_{iPI} + \beta_2 T_{iBSED} + \beta_3 Y_{i,t=0} + \beta_4 X'_{i,t=0} + \beta_5 M_{i,t=0} + \varepsilon_{it} \quad \text{(E1)}$$

Where:

$Y_{i,t=1}$ is the outcome variable measured at midline.

T_{iPI} and T_{iBSED} are dummy variables taking the value of one if the individual was in the PI training or the BSED training treatment groups respectively.

β_1 and β_2 will measure the intent-to-treat effect of being assigned to the PI or BSED training groups respectively, compared to the control group.

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

$X'_{i,t=0}$ is a vector of control variables.

$M_{i,t=0}$ is a dummy variable indicating whether the baseline value is missing

ε_i is the error term

E1 will provide the intent-to-treat (ITT) effect which is the effect of being offered to participate in the training among the experimental sample. Huber White standard errors will be used. In addition to calculating the intent to treat effect, we will also estimate the treatment on the treated effect by instrumenting the participation in the training program with the random assignment to the treatment group. This estimate will enable us to control for non-compliance with treatment assignment.

Since not all those who were selected to participate in the training actually attended, in addition to intention-to-treat (ITT) analyses, we will use instrumental variables (IV) estimation to estimate the local average treatment effect (LATE):

y = a + b*Received training + error

We use the assignment to training as an instrumental variable for receipt of training. The first stage IV regression is:

Received training = c + d*Assigned Training + error

We will use the predicted values from this regression in the second stage IV regression. where *Received training* is a dummy variable, which is instrumented by assignment to treatment status, *Assigned Training*. This measures the treatment-on-the-treated – the impact of PI or BSED training for those who took the training when selected for it and do not take it otherwise. In cases where an outcome variable was not collected at baseline, these same specifications will be estimated without the control for baseline outcome.

The LATE is only valid under the assumption that the act of being invited to training has no impact on firm performance if you do not attend training. While this may seem reasonable, there might be psychological reasons why this assumption might not hold for some people. Some women invited for training might start to introspect and decide to make changes in the business anyway. Other women might use the offer of training as a bargaining chip in discussing the business with their husband ("I could go away and go to training, and will do this unless we do X in the business."). Since for most businesses this assumption is probably a reasonable one we will focus on the LATEs.

Estimation of Heterogeneous Treatment Effects

Heterogeneous treatment effects will be estimated by interacting treatment status and all control variables in E1 with the variable of interest. To test moderating (interaction) effects, we will use multiple regression analyses and include the product of centered variables as interaction term (Aiken & West, 1991). We will predominantly include baseline variables as moderators. If baseline variables are not available to test moderating effects of interest, we will need to argue theoretically and show statistically that the moderator is stable over time.

Estimation of mediation and moderated mediation effects

The Frese Group will use bootstrapping analysis to test mediation and moderated mediation effects. Bootstrapping analysis is a nonparametric procedure that calculates the statistics of interests in multiple resamples of the data (Preacher & Hayes, 2004, 2008). Bootstrapping is particularly useful since confidence intervals for the indirect effects can be derived which is not possible in other approaches (e.g. causal step approach suggested by Baron & Kenny, 1986). To apply bootstrapping analysis, we use the PROCESS macro for SPSS (Hayes, 2012). As long as only baseline and midline data is available, we will use midline variables for both mediators and outcomes while being aware of the related risks (e.g. common method variance; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Whenever mediators and outcomes of interest have been collected at baseline, we will control for baseline measures.

Survey attrition

If A_i represents whether individual i attrits from the study because the individual cannot be found or refuses to participate, we will estimate the following equation to test whether survey attrition is related to treatment status:

$$A_i = \beta_0 + \beta_1 T_i + \delta C_i + \varepsilon$$

where C is a vector of control variables used during the stratification (gender, baseline profits, sector of activity and being above/below the median business practice index score).

If treatment status does not affect survey attrition at the 5% significance level, then we will not adjust the estimates for attrition.

If treatment status does have a statistically significant effect on survey attrition, we will test the robustness of our results using Lee bounds (Lee 2008).

Item non-response

Firms that have closed at midline will be treated as item non-response. We will test to see if item non-response is statistically significantly related to treatment status using the same methodology as in the survey attrition section. If the treatment status does not have an effect on item non-response at the 5% level, then no corrections or imputations for the values will be made. If the treatment status does affect item non-response, then we will test the robustness of our results using Lee bounds.

Outliers

As mentioned in the variable specifications, we will test for the sensitivity of our results on profits and sales to outliers by estimating windsorized versions of these variables at the 99th percentile.

Appendix A: Information on Personal initiative training

Personal initiative training builds on the psychological concept of personal initiative which is critical for business success of small and medium-size business owners (Frese & Fay, 2001; Glaub et al., 2014; Krauss et al., 2005). It is characterized by acting in a self-starting, future oriented and persistent way (Fay & Frese, 2001).

Entrepreneurs show *self-starting behavior* when they start actions themselves instead of being passive or reactive (Frese & Fay, 2001; Grant & Ashford, 2008). They do not wait for changes to happen or instructions to initiate change but are change agents themselves. Moreover, they continuously try new and innovative ways instead of sticking to old routines. Entrepreneurs act in a *future oriented* way by anticipating potential future opportunities as well as possible setbacks (Fay & Frese, 2001). Importantly, they do not wait for these opportunities or setbacks to occur but immediately take measures in order to either exploit or prevent them. Entrepreneurs behave *persistently* when they do not give up facing internal (e.g. lack of motivation) or external (e.g. lack of financial resources) barriers but actively attempt to overcome them (Frese & Fay, 2001). Persistent behavior also includes learning from errors.

In the entrepreneurial context, personal initiative is indispensable (Mensmann & Frese, 2017). As entrepreneurs have to exploit innovative business opportunities without guidance from supervisors or organizational structures (Frese, 2009; Shane & Venkataraman, 2000), self-starting behavior is required. Faced with competitors, entrepreneurs have to proactively search for information and develop ways and ideas to stay ahead of those offering similar products or services. Moreover, entrepreneurs continuously face conditions (e.g. risk, uncertainty), which are likely to produce errors and setbacks from time to time. Thus, entrepreneurs need to take errors as a source of feedback and learning and constantly overcome setbacks to remain successful.

Personal initiative training builds on action-regulation theory (Frese, 2009; Frese & Zapf, 1994) and increases personal initiative through four training components.[3] First, the training combines knowledge acquisition with direct actions, requiring all participants to act as entrepreneurs. Second, participants should acquire adequate operative mental models containing action-relevant knowledge. These operative mental models should be evidence-based and communicated through action principles. Action principles are action-ready rules of thumb from which non-essential knowledge is stripped away (Drexler et al., 2014; Gielnik et al., 2015; Glaub et al., 2014). Third, action-regulation theory holds that actively practicing and repeating actions during the training is important for deep processing and routinization of the training content. Moreover, active practicing is key to transform

[3] The following section is taken from Frese et al. (2016).

theoretical (declarative) knowledge into practical (procedural) knowledge. Fourth, the training emphasizes feedback, including negative feedback. Negative feedback provides participants with information about deficiencies in their actions and thus contributes to learning and the ability to deal with gaps in knowledge and experience. Negative feedback can also have a motivating function because it discloses a gap between the status quo and desired end states, prompting people to invest additional effort. Finally, participants develop a personal project (Little, 1983) – for example, introducing new products or services or using unconventional marketing techniques. The personal project facilitates the transfer of the knowledge, mindsets and skills gained in the training intervention to their own businesses.

When and for whom does personal initiative training work?

Existing research shows that traditional entrepreneurship training in developing countries is often less effective for women entrepreneurs than for male entrepreneurs (e.g. Berge, Bjorvatn, & Tungodden, 2015; Bulte, Lensink, & Vu, 2016; de Mel, McKenzie, & Woodruff, 2014). Up to date, the reasons for this gender gap in performance largely remain unknown. Thus, there is a high need to better understand the factors that constrain and facilitate the effectiveness of entrepreneurship training for women entrepreneurs. However, despite this need, research seeking to detect corresponding factors is limited (McKenzie & Woodruff, 2013; Strauss & Parker, 2015). With the current study, we aim to identify factors that influence training success in order to develop and implement more target-group specific entrepreneurship training in future. We look at four sets of factors that moderate the relationship between training and training outcomes (see table 3).

The first set of factors includes characteristics of women entrepreneurs. The training literature widely acknowledges that trainee characteristics are critical for training effectiveness (Baldwin & Ford, 1988; Colquitt, LePine, & Noe, 2000; Grossman & Salas, 2011). This set comprises a wide range of women entrepreneurs' characteristics, such as personal initiative related characteristics, entrepreneurial attitudes, beliefs and orientations, and business ideas and practices prior to the training. Table 2 provides a detailed overview.

The second set of factors refers to characteristics of entrepreneurship trainers, such as trainers' entrepreneurial and teaching background. To date, there is only little empirical evidence on how trainers shape training effectiveness. For example, research has neglected to look at the motivation of the trainer although it has extensively studied the importance of trainee motivation. Other scholars have suggested investigating the trainer's entrepreneurial experience as influencing factor (Henry, Hill, & Leitch, 2005). To our knowledge, trainer characteristics have not been systematically integrated into entrepreneurship training research so far. For this set of factors, we focus on the PI training group since BSED training was often delivered by more than one trainer and our individual-level data does not cater for the resulting trainer team dynamics.

The third set of factors assesses women entrepreneurs' perception of spousal involvement in the business. In line with a family embeddedness perspective of entrepreneurship (Aldrich & Cliff, 2003), we argue that entrepreneurial decisions, processes, and outcomes are embedded in the family system and should not be investigated in isolation (Aldrich & Cliff, 2003; Jennings & Brush, 2013; Stafford, Duncan, Danes, & Winter, 1999). Due to the joint responsibility for the family and the economic bonds of marriage, husbands are important stakeholders in the context of entrepreneurship (Heck et al., 2006; Jang & Danes, 2013). They influence choices, opportunities, and challenges that their partners experience as entrepreneurs. In the current study, we focus on how husbands' involvement in the business and different types of support influence training success.

The fourth set of factors includes business characteristics, such as business age or business performance prior to the training. Glaub and Frese (2011), for example, suggest that training effectiveness depends on the stage of the business in the entrepreneurial process. They build on former studies to argue that business management training is more effective for start-ups whereas psychological training positively affects business growth at more mature stages (Klinger & Schündeln, 2011; Miron & McClelland, 1979).

Why and how does personal initiative training work?

In order to increase the effectiveness of entrepreneurship training, it is critical to understand the underlying training processes. To date, our knowledge about the specific mechanisms of different training approaches is limited (Anderson-Macdonald et al., 2016). Gielnik et al. (2015) find evidence that action-regulatory constructs, such as entrepreneurial self-efficacy, action knowledge, entrepreneurial goals, and action planning, are important mechanisms towards business creation. Previous research also indicates that an increase in personal initiative resulting from personal initiative training is key to entrepreneurial success after training (Glaub et al., 2014; Togo PI Impact Evaluation). The current study aims to foster existing evidence by testing these mechanisms in a sample of women entrepreneurs in Ethiopia.

In addition, the current study seeks to extend current knowledge by identifying additional pathways of training success. The personal initiative facets and competitive behavior are two of these additional pathways. First, our study targets to look at the different facets of personal initiative in more detail. Previous research has mainly focused on the self-starting facet of personal initiative (Glaub et al., 2014; Togo PI Impact Evaluation) but neglected to investigate whether and how future oriented and persistent behavior contribute to entrepreneurial outcomes. Second, we investigate women entrepreneurs' competitive behavior. Research shows that women are usually less likely to choose competitive situations than their male counterparts (e.g. Datta Gupta, Poulsen, & Villeval, 2013; Niederle & Vesterlund, 2007) and that this difference in preferences contributes to performance

gaps between men and women in several domains. However, once engaging in competitive behavior, the gender gap disappears (Croson & Gneezy, 2009). Personal initiative training encourages competitive behavior by teaching action principles that ask entrepreneurs to differentiate themselves from competitors. Given the positive effect of competitive behavior on entrepreneurial outcomes (Covin & Slevin, 1991; Krauss et al., 2005; Lumpkin & Dess, 2001), we suggest that competitive behavior might be an important driver of personal initiative training success.

Integrating training conditions and mechanisms

In order to integrate training conditions and mechanisms, we will examine conditional indirect effects, referred to as moderated mediation effects (Preacher, Rucker, & Hayes, 2007). We will use the factors (see table 3) and mechanisms (see table 2) listed above to test different models. Figure 1 illustrates the theoretical model of entrepreneurship training effectiveness.

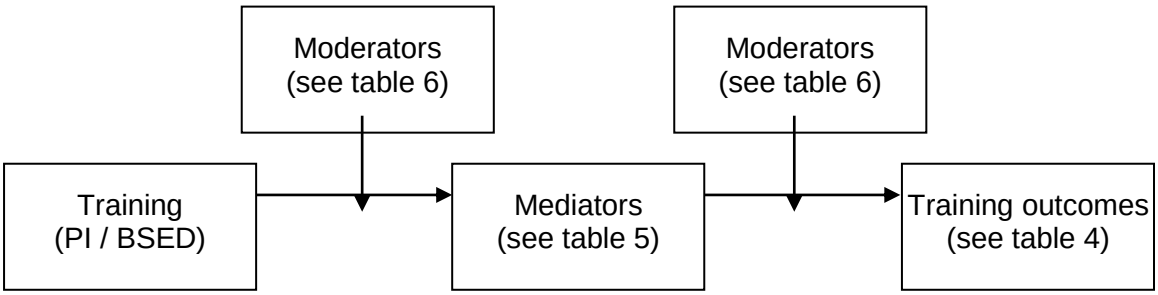

Figure 1. Model of entrepreneurship training effectiveness.

Appendix B: Details of sample selection and addition of replacements

The initial IE design considered establishing four groups: 500 controls, 500 BSED training, 500 Personal Initiative (PI) training, 500 combined training (both PI and BSED sequentially). However, logistically the combined training was proving difficult so it was decided by the research team to start with just three groups: 500 controls, 750 BSED, 750 PI, and have 250 from both BSED and PI who could potentially form a combined group by being offered the other training at a later date. The initial plan was to train 750 in each group, and then afterwards to train an additional 250 from each group with the training they haven't yet received, in order to generate a 'combined' treatment arm that would allow us to retain our planned research design, but do it in a way that should also be easier to implement.

In the registration data of WEDP clients there was a total of 3,534 clients in Addis Ababa that could potentially be included in our sample. It was decided to exclude all those who already had received a baseline survey as part of the overall WEDP project IE analysis. That gave us 2,982 clients in Addis

without baseline data that could be included in our sample. It was also agreed to exclude all those who already had received some form of business training (866 WEDP clients in Addis Ababa had already received some form of training). Note: it was decided that the DOT training could potentially contaminate the IE and since we did not have full information on the type of training that the WEDP clients received we decided to exclude all those who had already received some form of training. The training lists were provided by the City Coordinators in two batches - first all the trainings until June 2015 and then the second for July to September 2015. There were 2,308 WEDP clients in Addis Ababa who were not part of the baseline survey and who did not receive any training so far. The sample was drawn from the 2,308 WEDP clients who were not part of the baseline in Addis Ababa and did not yet receive any training. From the sample of 2,308 clients who were in the randomization we first randomly selected 2000 to be part of the sample.

Initial randomization balance checks on the initial 2000 sample showed the groups were balanced across most outcomes. There was a significant difference at the 10% level for PI vs BSED groups in age and education attainment. PI group are, on average, one year younger and are 4% more likely to have attained higher than primary school education. This difference in age shows up in the years of business experience with the PI group having one year less than the BSED group. The BSED group are, on average, 4% less likely to have attained higher than primary school education than the Control group (this outcome is significant at the 10% level). BSED is also less likely to have ever borrowed money than the Combined group. Any differences in whether the business is licensed is misleading since 99% of businesses in our sample are licensed.

Adding Replacements: On January 11th 2016 it was decided that it was necessary to add some replacement names to the survey firm to continue with the data collection as there were reports of issues with phone numbers not working in the original list. Although we had 308 names left over in Addis from the original list that we sampled from - it was decided to instead use the newly registered list of WEDP clients that was received in late December 2015 since those names could potentially have less issues with phone numbers. Therefore, the initial replacement names sent to the survey firm only used newly registered WEDP Clients for replacement and not the “unused” WEDP Clients from the former database. There were 2,420 newly registered clients in Addis Ababa that could potentially be included in the sample. During January 2016 we also received an updated list of those WEDP clients who already received some sort of training in the past - there were 1,216 WEDP clients who have received training according to the updated lists (539 match with those in the newly registered clients list). We also dropped those clients from this list (138) who already have baseline data as part of the original WEDP baseline survey in November 2014. This left 1,743 clients in the new registration list without baseline data and did not receive any training that could be included in the

sampling. We then double checked that these names were not actually in the previous database of registered clients in Addis (2308) that we sampled from. There was an overlap of 760 clients between these databases. That meant 983 clients remained in the newly registered lists who potentially could be sampled from for the IE. The first batch of replacement names were sent to the survey firm on January 13th 2016 - 600 WEDP clients (270 PI, 210 BSED and 120 Control) since that was approximately the number that were identified to have either had phone problems, refused, travelled or had a closed business. A second batch of replacements totaled 682 new replacements and were sent to EDRI on 16th February 2016.

Appendix C: Issues discussed during design phase

Combined training

The reasons given for difficulty in providing a combined training were: problem of having enough participants; problems of getting enough participants to take time for a second training; and a greater overlap between training contents than foreseen at the design stage. Given the difficulties we had with take-up and for the reasons outlined above we did not go ahead with a combined training and instead decided to consider the possibility of offering a combined training in the future in combination with a coaching or mentoring intervention.

One proposed strategy to realize the combined training approach was an offering of a condensed2-days training (of either PI/ BSED) to the assigned WEDP Clients. This plan did not materialize and the combined training group was not formed. Instead, the team discussed offering a coaching intervention in the future that would include the content of each training and would help overcome the challenges of take-up.

Stratification

It was also discussed whether we could stratify the sample on male/female dominated business. Using the 50% male/female sector cutoff there were 23 sectors considered male-dominated. That means in Addis Ababa there would be 1,123 businesses in male dominated sectors and 2,407 in traditionally female sectors. If we were to exclude those who already received some training then these numbers would be 878 in male-dominated sectors and 1786 in traditionally female sectors. Also, after excluding the baseline sample the number of crossovers drop to 894 in Addis. Since we needed at least 1000 for all treatment/control groups we decided not to stratify at all but only focus on those entrepreneurs who haven't been interviewed for the baseline and those who had not yet received training.

Business Closures

There were 50 cases of "business closed" in the field survey update for the baseline survey sent in January. It was deliberated that we could potentially still interview them as they might still be interested in the training for their next business endeavor. However, it was decided by the research team that we will not interview them as it might be inappropriate to offer them entrepreneurship training if they are in fact no longer entrepreneurs. Despite the reasoning that training might encourage them to become entrepreneurs we thought that with just 50 businesses it will be difficult to perform any analysis. If EDRI keeps track of those that have closed businesses then there is still the possibility of interviewing those clients just for the endline in the future.

Appendix D: Risk Mitigation undertaken during the survey

There are a number of threats that might undermine the validity of the proposed design. They are described, together with their potential impact and proposed mitigation strategies below:

Low take-up of the training

Participation in the WEDP program activities is voluntary. The risk is greater for the training interventions where some entrepreneurs may not be able to commit time away from the business to attend the training. Sample sizes were determined to achieve a given "detection power": in theory, any decrease in sample sizes reduces it. Low take-up rates of the training would dilute the treatment effect, reducing power. In practice, calculations have shown that the chosen sample size is quite conservative and should thus allow some reduction without too much affecting power.

- Training Marketing: enumerators from the survey company pitched the benefits of the training to the WEDP clients who were invited to attend a training. The training pitch was made using fliers and successful cases as examples to motivate take up among the invited group of entrepreneurs. Incentives that tied enumerators' effort with successful invitation of respondents was also designed to motivate enumerators to make a "perfect pitch" of the training program.
- Incentive to Training Participants: WEDP clients who attend the training receive a lottery ticket that gives them the chance of winning a business grant. Three lottery draws (3 x business grant of 25,000 ETB) will take place for the training groups. To take part in the lottery, WEDP clients have to regularly attend the training. The WEDP client will submit their voucher on the last day of training to be in the lottery draw and have a chance of winning the grant.
- Flexible attendance schedule: trainees could choose a training location from 6 locations across Addis Ababa. If they were not available for a particular training round they were asked whether they would like to be notified about a different round.

- Screening on initial interest in training: a question in the baseline survey asked whether the respondent had interest in entrepreneurship training.
- Follow-up phone calls: the survey company called the interested trainees to confirm via phone one week before the training start about location and start date. In addition, the City Coordinator called one day before the start of the training to those interested.

Survey Attrition (i.e. loss of program participants at follow-up stage). It can be expected that some entrepreneurs will close their businesses or relocate before the follow-up survey is completed. Attrition, especially systematic attrition can compromise the validity of the evaluation.

- To reduce the risk of attrition, the baseline survey will include detailed tracking information of the clients in the sample.
- All WEDP clients will be tracked for follow-up and will be surveyed even if their business is closed - information about reason for business closure will be collected.

Spill-over effects/contamination.

Treatment clients may share with their control friends' advice and material from the training or treatment clients may invite their control friends to attend the training with them. The results of the impact evaluation would be biased by underestimating the program's effect. WEDP clients will be registered by a City Coordinator at the training. Any clients assigned to the control group will be turned away.

Quality assurance of the training

As the training program will be offered at 6 different locations by multiple trainers it will be necessary to track the quality of the training being offered. The impacts could be very heterogeneous, depending on the quality of the trainer.

- Quality assessment in person: each trainer will be visited by a quality assurer on a rotational basis.
- Video recording of trainings: will be used as a back-check for quality assurance.
- Feedback Forms: training recipients fill a feedback form after the training session to rate the trainer and suggest improvements.
- Trainer survey: an instrument was administered to each trainer as a tool for capturing fixed-effects of individual trainers. It will help us to know how much a 'good trainer' accounts for the potential impact of the training.

Appendix E: Coding schemes

1. Coding scheme personal initiative behavior (PI Change)

1 Quantitative Coding

The quantitative measure of personal initiative refers to the number of changes the respondent has introduced in her business in the last 12 months and the type of change (small vs. big).

First, look at the changes the respondent has mentioned (question a). For each response, you need to decide whether this is a small or a big change. Pay attention to the rules regarding similar changes (see below)! Finally, add the scores of all changes. The **sum of scores** constitutes the value for quantitative initiative.

Code	Description	Examples
0	No change mentioned	
1	**Small Change** - Did not need much effort (e.g. time, money) *and / or* - No novelty	- I changed the way of welcoming customers - I did advertisement by showing pictures of the furniture I made - I bought a TV for guests - I changed the color of the wall - I repaired the desk - I built a shelf - I added cultural decorations
2	**Big change** - Needed a lot of effort (e.g. time, money) *and / or* - Novelty ***Note:*** Big changes are rather rare!	- I bought a big machine for transporting wood - I introduced a delivery service for my restaurant - I conducted a *weekly* evaluation of my work - I relocated the business

Pay attention that **each change is really new** and not already part of the list. If two changes are similar to each other (see examples below), only count one change by following the rules below:

- If two changes are similar and one of them is larger than the other, count the bigger change.
- If both changes are equally small/ big, count the change which has been mentioned first.

Examples for similar changes:

Example 1:

1. I have bought two new chairs.
2. I have bought a new wardrobe.
3. I have bought a flash drive.

→ Here, the respondent has given three answers which are similar since these are all purchases for the business. These are all small changes, thus, only count the first change (I have bought a new chair). Code "1" for the first change, "0" for the second change, and "0" for the third change.

Example 2:

1. I have visited my customers in order to tell them about my offers.
2. I motivated my customers to buy at my business.
3. → Here, the respondent has given two answers which are similar. Both answers are small changes, thus, only count the first change (I have visited my customers in order to tell them about my offers). Code "1" for the first change and "0" for the second change.

Example 3:

1. I have done word-of-mouth advertisement.
2. I have called at least 20 customers every day and asked them to bring their friends.

→ Here, the respondent has given two answers which are similar. The first change is a small change and the second one is a big change since the respondent has been active every day. Thus, count the second change only. Code "0" for the first change and "2" for the second change.

Example 4:

1. I painted the floor.
2. I colored the ceiling.
3. I changed the light.

→ Here, the respondent has given three answers which are similar. As you can see, the respondent has renovated her business. All three changes are small changes, thus, only count the first change (I painted the floor). Code "1" for the first change, "0" for the second change and "0" for the third change.

2 Qualitative Coding

Now look at the questions b to j. For the qualitative measure of personal initiative, we first need to know which change was the change in which the respondent has been most active and involved – the change in which she has put the most effort. The response to question b provides this information. We will measure the qualitative measure of personal initiative in four steps.

STEP 1: Has respondent shown active behavior in realizing the change?

To assess whether the respondent was active, look at the response to question c. Here, the respondent has described all steps she has taken to implement the change. You need to assess whether the respondent was really active in introducing the change or if she was rather reactive. This decision is usually the most difficult one. Below, you find some indicators for active and reactive behavior. However, each case is different (for example, there might be cases in which the respondent has mainly delegated the single tasks but has still been very active in the implementation process) and needs to be coded by taking into account all information provided for question c.

Active:

- She has been involved in every single step
- She has taken the actions herself
- She has invested a lot of effort
- She has invested a lot of time
- Her actions are rather planned than spontaneous
- She has raised a lot of money

Reactive:

- She has not been involved in the implementation process
- She has not invested too much effort (Ask yourself: Could she have invested more effort?)
- She has not invested too much time
- Actions were rather taken by someone else
- Actions are rather spontaneous than planned

Code	Description	Examples
0	**Not very active/ reactive**	- I got up in the morning and had some interviews with potential customers. I presented them my services. *(not very much action, actions rather spontaneous than planned)* - I have a friend who is a painter and who had to move as well. After she had found a place for us, we each paid half of the price to buy this place. *(respondent is not very active, action comes rather from another person)* - It is the training which brought me the idea to buy a new TV. *(not very much action)* - I bought the computer and then my son made it ready. (*not very much action; change is rather implemented by her son)* - I took my savings and bough the new machine. (*not very much action, respondent uses her saving instead of finding other financial resources)*
1	**Active**	- After the training, I decided that I should invest some money to renovate my workshop. Thus, I bought two packages of cement and called a bricklayer. I also hired a carpenter to build new shelves, tables, and chairs. I also called a scrap dealer to bring me strong material…*(very active, respondent is involved in every single step of the change)* - I have sacrificed a lot and even when the apprentices have gone home, I worked hard and late during the night or early in the morning before the apprentices arrive in order to satisfy my customers. *(very active, respondent invests a lot of time to introduce the change* - The flash drive was hard to find. I asked suppliers to let me know as soon as they have new ones. After visiting four suppliers, I finally

		found one…*(very active, respondent puts a lot of effort in finding the flash drive she is looking for)* - I introduced daily training for my employee. Every morning before I opened the shop, I trained my employee for 1h in new hairstyles. *(very active, respondent herself gives training to her employee on a very regular and time-intense basis)*

STEP 2: Did someone tell the respondent or was it her own idea?

To assess whether it was the respondent's own idea, look at the responses to questions d to e. Here, the respondent states whether someone else has told her to make that change or whether it was her own idea (and how she came to this idea). Pay attention: There are cases in which the respondent states that it has been her own idea but when she describes how she came to this idea it becomes clear that somebody else has raised the idea (see examples below). In this case, you need to code 0 as well.

Code	Description	Examples
0	**Someone else told her**	- They told me in the training. - The owner of another business told me to do so… - It was my own idea. I sought advice from people and they told me to get rid of this location in order to avoid further problems. *(idea of somebody else even though she labels it as own idea)* - It was my husband's idea.
1	**Own idea**	- This was my own idea. I noticed that my apprentices were not able to do this work, so I decided to fill this gap by… - It was my own idea – after the training I started to… - It was my own idea to protect my customers against the sun and the rain by…

STEP 3: Has respondent tried to be different from her competitors?

To assess whether the respondent has been actively trying to be different from her competitors, look at the response to questions f to i. Here, the respondent tells if her competitors have introduced the same change (question f) and if so, whether they have introduced it prior to the respondent (question g). If the respondent states that her competitors have introduced the same change beforehand, you also need to consider the question concerning the difference between the change introduced by the respondent and by the competitor (question h). If the respondent states that the competitors have introduced the same change after her, you also need to consider the question of how she has reacted when competitors copied her change (question i).

Code	Description
0	**Respondent's competitors introduced change before she did (g = YES) and there is no difference (h)**
0	**Respondent's competitors introduced change after she did (g = NO) and she did nothing (i)**
1	**Respondent's competitors introduced change before she did (g = YES) BUT there is a difference (h)**
1	**Respondent's competitors introduced change after she did (g = NO) BUT she did something (i)**
1	**Respondent's competitors did not introduce change as well (f = NO)**
-99	**Respondent does not know**

STEP 4: Is the change or way of introducing the change very innovative?

To assess whether the change or the way of introducing the change is very innovative, look at question c again and decide whether the change or the way of introducing the change is very innovative. In other words, is the change new for Ethiopia or new to you as coder (see examples below)?

Code	Description	Examples
0	**Ordinary change**	- I relocated the business *(change is not innovative)* - I had to negotiate with the owner of the bar next to my business premise *(way of introducing the change is not innovative)*
1	**Innovative change or innovative way of introducing change** ***Note:*** Innovative changes are very rare!	- I offered a hot balloon special as new tourist activity *(innovative change: introduction of unique service)* - I organized an online auction to sell the machine for the best price *(innovative way of introducing the change)*

2. Coding scheme Innovativeness

A. *Out of those ideas, could you describe the most innovative idea you had in detail?*
B. *What makes this idea different from what is usually done on the market?*

Code	Description	Examples
1	**No idea/ no innovation**	A : No idea B : -77
2	**Conventional idea** AND **no (big) difference** between the idea and what is usual on the market	A: Beauty salon B: No difference A: Selling tea B: Selling tea is different from just selling coffee
3	**Conventional idea**, BUT **there is a difference** between the idea and what is usual on the market	A: Selling suits B: My suits come from Italy while most of the suits from my competitors come from the US where the cut is different A: Selling at markets in other Woredas B: Normally, people stay at the market in their Woredas and I will also approach other markets in order to approach new clients
4	**Idea is unconventional for small businesses in the entrepreneurs' sector** The entrepreneur would be the first or among the first in his sector to introduce this idea	A: I go to schools and talk to the sport teachers and directors in order to negotiate providing students with reduced sport shoes, everyone benefits from this agreement B: My competitors stay in their shops, I win a new market by going directly into the schools A: Bodyguard service B: The others don't offer it, they only offer house security
5	**Idea is unconventional for all small businesses in Ethiopia, no matter of which sector** The entrepreneur would be the first or among the first small business owners in Ethiopia to introduce this idea	A: Starting a blog to present my services to clients across the country and abroad in order to win new markets B: Others present their services in brochures A: Offering home-made pasta based on teff B: Normally, people don't offer teff pasta

Appendix F: Training descriptions provided by Transtec

TVET Colleges	**11 WEDP implementer colleges**
Training Title	**Basic Business Skills and Entrepreneurship Development Training**
Target Group & requirement	**WEDP clients /women MSE with low literacy level who are at the start-up level of their business**
Objective	• Building basic financial literacy among women participants for dealing with key matters pertaining

	to money and other related transactions useful for conducing for business • Demonstrating business and market relevant to context of areas where women are likely start their businesses • Introducing basic concept of business management and entrepreneurship that enable them to manage and run their business • Empower women analyze challenges and issues on account of gender role and gender discrimination • Create adequate awareness on the legal rights of women as well as business related regulations including tax regulations.
Methodology	• Experiential learning that is specifically trainee centred • The training approach is based on adult learning training methodology that integrates gender sensitive pedagogy • The learning process is based on the process of stimulating, motivating and developing women as well rounded and competent women entrepreneur managers. • The challenges and coping mechanisms that are experienced by successful women entrepreneurs shared as a learning lesson (Their real experiences shared live to participants) • Full package of training materials including articles of regulations are provided for further reference
Summary of Content	Business Skills and Entrepreneurship Development Training has been designed for Ethiopian women target group to deal their personal, social, cultural, and economical issues and emerge as successful businesswomen. The training is based on innovative learning tools not only to transform the way they perceive the world around them and but also to apply their creative thinking to deal with their issues innovatively. The Training modules designed also ensure equipping women with requisite skills and facilitate to take key decisions about their consumers, location and key resources and skills needed to start and/or manage their business enterprises. The training will have provision for follow up assistance through business development services to ensure that trained women make smooth progress improving and growing their enterprises. Basic gender disparity issues that hider women from investing with their full capacity will be discussed to enable them to be self reliant and confident to face challenges and obstacle as well as to come up with appropriate solutions. The training includes, competency, knowledge, skill and behavioural change that incorporate fourteen modules and some of them are; financial literacy, business and marketing, tax rules and regulation, enterprise management, book keeping, business plan, financial transaction, gender and gender related challenges.
Required Effort of Trainees	• Regular attendance (trainees are expected to attend 5-10 days training regularly) • Expected to do group work and individual assignments
TVET Colleges	**11 WEDP implementer colleges**
Training Title	**Advanced Business Skills and Entrepreneurship Development Training**
Target Group & requirement	**WEDP clients /women MSE with basic education and who are growth oriented**
Objective	• To develop entrepreneurial behaviours and business skills and become aware of personal strengths and weaknesses in business • To develop creative abilities and creativity techniques for creating new ideas and solve business problems • Equip them with basic skills in management which include production planning, marketing, accounting, finance and costing, regulations and taxation and communication • To help women attain professional marketing capacity and practices and sustain product and services in changing market dynamics • Empower women analyze challenges and issues on account of gender role and gender discrimination • Create adequate awareness on the legal rights of women as well as business related regulations including tax regulations.
Methodology	• Training approach is largely to be centred on the transformation process and where participants will be initiated to a process of self-exploration and self-discovering.

	• The training approach is based on adult learning training methodology that integrates gender sensitive pedagogy • It will be participatory as the participants are expected to engage in series activities which may involve them right from spotting a market opportunity to conducting market research and prepare a tentative business plan. • Most part of the training consist of role plays, simulation games and exercises, opportunity will be created on a number occasion for interaction with successful women entrepreneurs in the same type of businesses. • Experiential learning that is specifically trainee cantered • The challenges and coping mechanisms that are experienced by successful women entrepreneurs shared as a learning lesson (Their real experiences shared live to participants) • Full package of training materials including articles of regulations are provided for further reference
Summary of Content	Women planning to start or manage small businesses in formal sector are most likely to be driven by their career aspirations to be entrepreneurs or businesswomen and they are likely to possess at least graduate level qualification. However, some of them get into small enterprises level due to non-availability of suitable job opportunities or are not comfortable in taking up stress of jobs careers. They desire to run their own enterprises professionally as much as possible within their resources and capabilities. However, they are constrained due to lack of awareness about professional approach to enterprises creation and management and also affected by gender issues in smooth and successful enterprises management. The Training modules designed also ensure equipping women with requisite skills and facilitate to take key decisions about their consumers, location and key resources and skills needed to start and/or manage their business enterprises. The training will have provision for follow up assistance through business development services to ensure that trained women make smooth progress improving and growing their enterprises. Basic gender disparity issues that hider women from investing with their full capacity will be discussed to enable them to be self reliant and confident to face challenges and obstacle as well as to come up with appropriate solutions. The training includes, competency, knowledge, skill and behavioural change that incorporate fourteen modules and some of them are; financial literacy, business and marketing, tax rules and regulation, enterprise management, book keeping, business plan, financial transaction, gender and gender related challenges.
Required Effort of Trainees	• Regular attendance (trainees are expected to attend 5-10 days training regularly) • Expected to do group work and individual assignments
TVET Colleges	**11 WEDP implementer colleges**
Training Title	**Personal Initiative Training for Entrepreneurship**
Target Group & Requirement	The Personal Initiative Training for Entrepreneurship targets micro-, small and medium-sized women entrepreneurs who aim to improve their business skills and increase their entrepreneurial performance. Since personal initiative is relevant at *all* entrepreneurial stages, the training is designed for all women entrepreneurs including WEDP clients who have successfully completed the start-up phase. Literacy is required.
Objective	• The Personal Initiative Training for Entrepreneurship is an action-oriented entrepreneurship training, equipping women entrepreneurs with entrepreneurial skills and business knowledge, while stimulating the development of personal initiative. • Personal initiative behavior has been proved to be critical for business success of micro and small enterprises. The training enables women entrepreneurs to better manage and grow their business by acting in a more self-starting, pro-active and persistent way throughout the entrepreneurial process. • It supports entrepreneurs to actively participate in a constantly changing working environment.
Methodology	• The Personal Initiative Training for Entrepreneurship follows an innovative action-oriented approach to activate women entrepreneurs' personal initiative and bring about behavioral change towards business success.

	• It encourages women entrepreneurs' personal initiative in every part of the entrepreneurial process by training Action Principles. Action Principles are "rules of thumb" derived from scientific evidence which translate abstract knowledge into action knowledge and guide successful entrepreneurial behavior. • Exercises and case studies allow for the application of Action Principles to the individual business context of every woman entrepreneur and foster their routinization. Feedback is used as important means to improve the action process and the entrepreneurial performance.
Summary of Content	The Personal Initiative Training for Entrepreneurship covers the *entire* entrepreneurial process starting from opportunity identification, via goal setting and planning, up to the implementation of action and seeking feedback. Entrepreneurial skills acquired during these modules include innovation and creative thinking, information seeking, identifying and evaluating business ideas, translating business ideas into concrete business goals, finding and using financial resources, developing action plans to put goals into practice, identifying risks and barriers, using problem solving techniques, and monitoring the business performance by taking into account different sources of feedback. Additional modules emphasize the importance of self-starting behavior and overcoming barriers. In the entrepreneurial context, personal initiative is indispensable. As women entrepreneurs have to exploit innovative business opportunities without guidance from supervisors or organizational structures, self-starting behavior is required. Faced with competitors, entrepreneurs have to pro-actively search for information and develop ways and ideas to stay ahead of those offering similar products or services. Moreover, women entrepreneurs continuously face conditions (e.g. risk, uncertainty), which are likely to lead to errors and setbacks from time to time. Thus, they need to take errors as a source of feedback and learning and constantly overcome setbacks to be successful.
Required Effort of Trainees	• Trainees are expected to regularly attend a one weeks training • Expected to do group work and individual assignments

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