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NHH



# Can entrepreneurial skills be taught?

## Experimental evidence from young Tanzania

By

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Master thesis for Master in Economics

NORWEGIAN SCHOOL OF ECONOMICS

Bergen, 2014

“This thesis was written as part of the Master of Science in Economics and Business Administration at NHH. Neither the institutions, the advisor, nor the sensor are – through the approval of this thesis – responsible for neither the theories and methods used, nor results and conclusions drawn in this work.”

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## **Abstract**

In this paper we are interested in measuring the impact of a business training program held in Dar es Salaam as a partnership between the Norwegian School of Economics and the University of Dar es Salaam Entrepreneurship Centre (UDEEC) on participants' entrepreneurial skills.

Our findings show that weekend-long business training had a strong positive effect on business knowledge and indicates some effect on financial and risk management skills.

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## **Preface**

This paper is written as a thesis of my Master Degree at the Norwegian School of Economics. This thesis is written as part of a research project on edutainment fruit of collaboration between The Choice Lab and Femina HIP.

I am very grateful for being given the opportunity of becoming a research assistant for the The Choice Lab and participating, not only in this project, but several others in Tanzania and Kenya in the past years.

I would like to direct a sincere thank you to my thesis supervisor Professor Kjetil Bjorvatn for invaluable assistance and useful guidance in all stages of this work, as well as Bertil Tungodden and Linda Helgesson Sekei for useful recommendations. Also, to all Tanzanian research assistants for the astounding passion in running those labs together with us and contributing to making this field experiment such a valuable and inspiring experience.

And finally, after almost 20 years of education, from primary school to master degree, from Brazil to Norway I would like register my eternal gratitude and love to my parents for unconditional support and constructive guidance through all my study life.

Norwegian School of Economics

Bergen, 20.06.2014

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**Ana Beatriz Aguilar B. Santos**

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## 1. Introduction

Two eminent challenges can be observed in the Tanzanian society: First, approximately one million youngsters enter the labour market every year (Femina HIP Magazine, 2011), this group comprising of students who have either completed secondary school or dropped out before completion. Despite the fast economy growth, evidently the economy is unable to generate enough growth in formal employment opportunities that can accommodate for all these new job seekers thus, forcing those individuals to search for alternative employment prospects.

Second, as a consequence most of those individuals engage in some micro/small-scale economic activity within the informal sector. However, those young entrepreneurs take over business activities having had little (if any) prior business training (Helgesson Sekei, 2011) which can represent a major challenge/impediment towards a successful of the business venture.

In this paper we are interested in measuring the impact of a business training program held in Dar es Salaam as a partnership between the Norwegian School of Economics and the University of Dar es Salaam Entrepreneurship Centre (UDEEC) on participants' entrepreneurial skills.

From this perspective, would training be more effective under the traditional classroom teaching method? Is the lack of business experience/ affecting student's assimilation capacity? And what lessons can we learn from classroom training? This is also aspects we would like cover in thesis.

This program follows the edutainment study, Ruka Juu promoted in 2011. Thus we are particularly interested in further investigating some of the conclusions taken from the edutainment for education project, Ruka Juu<sup>1</sup>, also held in Tanzania.

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The findings from the Ruka Juu experiment indicate that the program successfully promoted entrepreneurial motivation among the students. They come across significant differences in willingness to take an introductory course in business between the students who have been incentivised to watch the program and the ones who were not. Nevertheless, when it comes to educating young individuals on business skills, there is a mixed evidence of learning outcomes with a positive impact on the topics covered in depth during the program (e.g. customer service). Despite the program's success in inspiring students, the educational message did not reach the students as expected.

This could be attributed to two points: either 1) educational message was too unclear, overshadowed by the whole entertainment act of reality TV, or 2) the message was too **complex**; the amount of new concepts presented was too large, the lack of previous business experience made it hard to understand and assimilate the concepts, or the student's have an intrinsic difficulty in assimilating new knowledge.

Although most of the academic discussion about micro-entrepreneurship focuses on the financial constraints as a limiting factor on business growth in developing countries, there is an increasing range of literature centred on the role of human capital as an obstacle for potential entrepreneurs. According to Klinger and Schündeln (2011), at the same time limited access to capital limits micro-entrepreneurs, the lack of skills represents an obstacle towards entrepreneurship thus, they argue that some of those limitations can be overcome through business training of (potential) entrepreneurs. They show that the probability of opening a new business or expanding an existing one is higher among the individuals who took part on the business training program.

In a study with micro-entrepreneurs conducted in Tanzania by Bjorvatn and Tungodden (2010), they find that business training results in improved business skills, measured by analysing data on sales, business practice and profits.



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Our findings show that weekend-long business training had a strong positive effect on business knowledge and indicates some effect on financial and risk management skills.

The thesis proceeds as follows. First we provide a background on the educational system and youth employment scenario in Tanzania based on country-based reports from the World Bank and non-governmental organizations. We then have a brief discussion on the concept of entrepreneurship, the individual entrepreneurship orientation (IEO) model we based our study. After that we present some findings from the Ruka Juu project in order to build background on the participants and the project. We then present the NHH-UDEC workshop, participants and impact evaluation in detail.

## **2. Education and youth employment in Tanzania**

Tanzania is ranked among the world's 30 fastest growing countries according to World Bank forecast (Boesler, 2012), and spends today a high percentage of its GDP on education (Kushner, 2013) which should translate in rapid creation of jobs and an abundance of well-educated young people to fill in. However, the reality is another. Tanzania faces today a youth unemployment crisis.

An astonishing number of 900.000 young Tanzanians enter a job market every year competing for only 50.000 to 60.000 new jobs in the formal sector (Morisset, 2013). In a survey by the non-governmental organization Restless Development, out of over 1,000 young people across Tanzania, only 14 percent reported working a formal, wage-earning job.

In a country where the population is mainly rural (74%) (Restless Development, 2013) and formal employment in rural areas is rather limited, rural-urban migration

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rates are high<sup>2</sup> specially among young people; resulting “ youth in Dar es Salaam is more than 6 times (13%) more likely to be unemployed than rural youth” (Morisset, 2013).

Researchers affirm that the major problem lies on the poor educational system in Tanzania (Morisset, 2013). The educational system in Tanzania is composed of three levels: 7 years of primary, 4 years of lower secondary, 2 years of upper secondary, and 3 more years of tertiary education. The first seven years of education under primary school is compulsory and tuition free. Secondary schooling is divided in two sequential levels; the first four years know as the Ordinary level (O-Level) or Form I-IV. At the end of these four years, students must take the Certificate of Secondary Education Exam (CSEE) and are only eligible to enter the fifth year of secondary school if they have passed at least five subjects with grades A-C, being awarded Division I.

The Certificate of Secondary Education Exam awards four divisions:

- Division I: awarded to students who have either (1) passed in at least seven subjects, which must include at least one subject in civics, Kiswahili, foreign languages, social sciences or technology, mathematics, natural sciences, commercial studies or home economics. (2) Students that have passed with grades of A- C in at least four subjects; or (3) students that have reached an aggregate of not more than 17 points in the candidate's seven best subjects.
- Division II: awarded to students who have either (1) passed in at least seven subjects, which must include at least one subject as listed above. (2) Passed with grades of A-C in at least four subjects; and (3) reach an aggregate of not more than 21 points in the best seven subjects.

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<sup>2</sup> For example in Dar es Salaam, the city’s population grows at a rate of 4.2% per year, much above Tanzania’s population growth of 2.9% (Population Division of the Department of Economic and Social Affairs, 2009)

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- Division III and Division IV descending from the above standards.

Statistics from 2000 suggest that about 55% of the students achieve the lowest passing grade (Division IV) in the CSEE, while 21% have failed completely (Mukyanuzi, 2003). This corresponds to an astonishing 76% of the student body (of approximately 240,000 people) who barely passed or failed altogether their O-level exams. This means that only one tenth of the entire student body progress to the final two years of secondary school - which will allow them to apply for universities. This represents a potential development trap for Tanzania, as the skills composition demanded by the emerging job market will most likely suffer of an undersupply of skilled labour in the future.

On top of the low quality of education and high failing rates, education experts believe that Tanzanian schools fail to teach skills employers generally looking for in a prospective employee. According to Restless Development, “the system of education in Tanzania—it teaches people general things, not skills they need for employment”(Kushner, 2013) which results in better-educated young people from neighbouring countries e.g. Kenya moving to Tanzania and filling these skilled jobs.

The only way for young Tanzanians to effectively address the high rates of unemployment in the short run is through the rediscovery of entrepreneurship. The proliferation of micro and small enterprises contributes significantly to job creation, social stability, and economic welfare. Thus, fostering entrepreneurial activity has become a central topic in public policy with a focus on the need for young people to be trained and educated in field of entrepreneurship.

### **3. Entrepreneurship**

In spite of a widely accepted notion that entrepreneurial activity contributes significantly to economic development (e.g. Schumpeter, 1934; Baumol, 1968); there is little agreement regarding the definition of entrepreneurship and entrepreneurs.

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Before entering the central discussion of this paper on whether entrepreneurial skills can be taught or not, the following session seeks to briefly present the different types of entrepreneurship and entrepreneurs in order to better understand their behavior, profile and specific needs.

### **3.1. Entrepreneurs**

According to the Oxford Dictionary, *entrepreneurship* is the quality of being an entrepreneur: “a person who sets up a business or businesses, taking on financial risks in the hope of profit (Oxford Dictionary, n.d).”

Schloss (1968) argues it is useful to divide the concept of entrepreneurship in three subfunctions: (1) Schumpeterian entrepreneurship, (2) financial risk-taking entrepreneurship, and (3) managerial entrepreneurship.

The first one relates to the classic definition of entrepreneurship introduced by Schumpeter (1934) which defines an entrepreneur as the main agent of the process of creative destruction. According to Klein & Bullock (2006) individuals act as entrepreneurs only when they, for example, develop new combinations, new production methods, or new products/services. In this case, “*the crucial element is the innovative aspect of entrepreneurship* (Schloss, 1968, p. 230).”

The second subfunction describes a financial risk-taking entrepreneur as an individual who must be willing to undertake financial risks in view of potential financial gain; he does not necessarily introduces new modes of production nor innovative ideas, but he is ready to exploit profit opportunities (e.g. arbitrageur) (Klein & Bullock, 2006).

The third subfunction presented by Schloss (1968) refers to the managerial entrepreneur. Schumpeter (1934) clearly disregards this type of entrepreneurship when he proposes that once an entrepreneur have built up their business he loses its entrepreneurial character. However, Schloss (1968) argues in favor of management

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entrepreneurs as essential figures to the vitality of the business once it has been established.

As observed in Tanzania – and in most developing countries where formal employment opportunities are limited – poor urban neighborhoods pulse with a vibrant economic activity where every corner becomes a seedbed of entrepreneurship (Berner, et al., 2012). However, the great majority of these micro-business owners do not fit in the classical Schumpeterian model. They are what we call *survival entrepreneurs*; they enter a new business not because they feel the need to explore path-breaking innovative ideas but merely because informal entrepreneurship (self-employment) is their only option for generating the income they need to survive (Vivarelli, 2013).

Henceforth, given the context Tanzanian youth faces, this study will focus on entrepreneurship not as the classic entrepreneur concept presented by Schumpeter (1934) but as the contemporary concept of *survival entrepreneur* (Naude, 2009; Vivarelli, 2013).

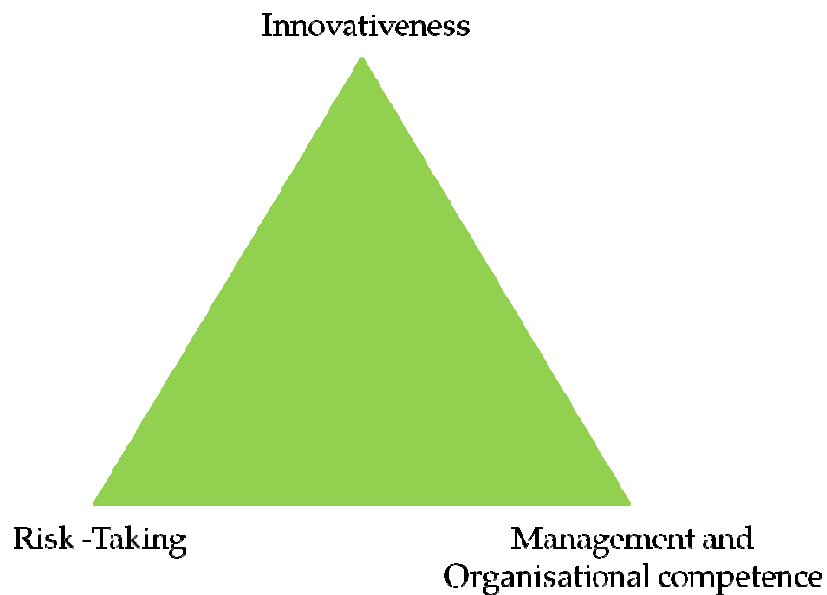
### **3.2. The entrepreneurial orientation model**

The concept of individual entrepreneurial orientation (IEO) derives from the numerous definitions of entrepreneurship as a set of dimensions of individual behaviour traits to help us understand the emergence and the success of different entrepreneurs.

The literature explores criteria ranging from creativity and innovation to personal traits such as appearance and style. Nevertheless, in this paper we approach IEO from a three dimensional perspective of fundamental aspects of entrepreneurial activity (Figure 1) based on the model presented by Deschoolmeester, et al. (2004):

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**Figure 1: Individual Entrepreneurial Orientation Model**



### *Innovativeness*

The core characteristic of an entrepreneur based on the classic Schumpeterian definition relates to the innovative role of the entrepreneur. According to Deschoolmeester, et al. (2004) "innovation, creativity and discovery are the vital core subjects" when discussing entrepreneurship orientation

Nevertheless, as discussed in previous session, our target group does not fit entirely in the classic entrepreneur concept but the contemporary concept of survival entrepreneurs. While innovation oriented entrepreneurs seek to find innovative ideas and solutions that can guarantee them a competitive advantage over their competitors (Deschoolmeester, et al., 2004) our survival entrepreneurs have a self-employment orientation under the concept of entrepreneurship.

### *Risk-taking*

Entrepreneurs are risk-takers. They undertake the risk of self-employment and running their own business with the perspective of a higher financial gain. This decision increases his/hers exposure to all uncertainties, competition and fluctuations in the market (Deschoolmeester, et al., 2004). Nevertheless, it is

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important to stress that successful entrepreneurs do not take uncalculated risks, entrepreneurs as not only risk-takers but also as risk-dealers.

### *Management and Organizational Competence*

Entrepreneurs are also administrators. They are required to perform administrative tasks and decision making based on managerial science in order to keep the business operational, such as optimization of production/service, cost management and customer relation, for example.

### **3.3. Can entrepreneurship be taught?**

At the same time there is a rise in the number of small business ventures, it is also clear that a considerable number of them fail.

Undoubtedly, credit and financial constraints impose one of the highest entry barriers for small-scale entrepreneurs; hence a large body of academic research has focused on the role of microfinance in improving business outcomes. However, we can observe an increasing awareness/interest among researchers that micro-entrepreneurs in developing countries require more than credit infusion in order to succeed (Bjorvatn & Tungodden, 2010).

The lack of preparedness and business education supports the idea that human capital represents an important limiting factor to the development of micro/small scale businesses (Bjorvatn & Tungodden, 2010). Survival entrepreneurs have rarely any formal training on business skills (Karlan & Valdiva, 2011); especially considering that many would prefer the stability of a formal employment which does not necessarily required business skills.

Karlan & Valdiva (2011) study the impact of incorporating business training courses in a microcredit program in Peru through mainly testing the effects of the training on business outcomes such as sales and number of workers; and business skills such as marketing strategies, use of profit and book keeping. They observe that clients who

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have participated in the training sessions do report keeping records, using profits for business growth, and implementation of innovations in the business. Only five out of fourteen business skills dimensions are statistically significant, however most of them over in the expected direction<sup>3</sup>.

Another study focused on business training of microcredit entrepreneurs was conducted by Bjorvatn & Tungodden (2010). In this study they find that business training results in improved business skills. In particular, they find that among male participants the business training sessions had a strong effect on sales, business practice and sales outcomes, with increased sales and profits of around 30%.

According to Klein & Bullock (2006) specialists in entrepreneurship education believe that entrepreneurial skills can be taught, in other words, individuals can be developed to entrepreneurs and are not necessarily born as entrepreneurs. In their paper, they affirm that different approaches to entrepreneurship training should be taken for different groups of skills or abilities. Furthermore, they present a three-category framework by which to organize entrepreneurship education.

First, *education about enterprise* has the specific objective of raising awareness regarding how to set up and manage a business. Second, *education for enterprise* refers to educating people to start their own business with an emphasis on small scale enterprises. In this case, participants are taught practical set of skills, most of the times involving the creation of a business plan. And third, education in enterprise focus on already established entrepreneurs and developing their managerial skills (Henry, et al., 2005).

Furthermore, Henry et. al (2005) present a useful separation of entrepreneurial skills:

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<sup>3</sup> A clear draw-back of this study is that is based on self-reported information; outcomes are not direct observations but based on what they clients have reported using. From this perspective, this study presents an innovative solution to measuring business skills through knowledge questions.



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- *Technical skills*: includes written and oral communication, technical management and organizing skills.
  - *Business management skills*: includes planning, decision-making, marketing and accounting skills.
  - *Personal entrepreneurial skills*: includes inner control, innovation, risk taking and innovation.

The question “Can entrepreneurship be taught?” is too broad. Entrepreneurship is not necessarily an intrinsic component of all human decision-making, but a specialized activity or set of skills that some individuals are particularly better equipped to perform than others; or even developed over time with experience (Henry, et al., 2005).

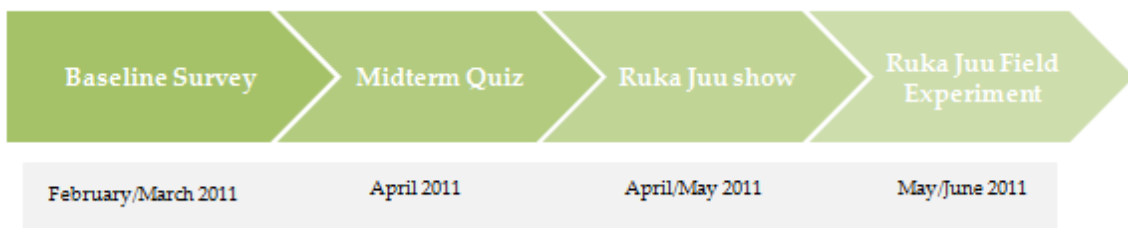
#### **4. The project and its objectives**

This study is based on an entertainment-education (E-E) research project headed by The Choice Lab from the Norwegian School of Economics, in partnership with Femina HIP – Tanzanian non-governmental organization and most influential media platforms in the country. The project itself can be separated in three phases:

- Phase 1: Ruka Juu Training;
- Phase 2: NHH-UDEC Workshop Training;
- Phase 3: Long term follow-up.

Phase 1 corresponds to the Ruka Juu training phase. Ruka Juu is a reality TV show on entrepreneurship that aims on inspiring and educating young people about to starting up their own business. This phase is composed of a baseline survey before the TV went on air, a midterm quiz after five episodes were aired and a final lab experiment after the show was aired.

Figure 2: Phase 1, Ruka Juu Training



Phase 2 corresponds to formal business training phase of the project through NHH-UDEC workshop. Some of the participants of the first lab experiment were selected to continue on course held by the University of Dar es Salaam given their willingness to receive further education in business. The impact of this program was measured five months later and a long-term assessment of the different interventions is currently being held.

Figure 3: Phase 2 (NHH-UDEC Workshop) and 3 (Long Term Follow/up)



This thesis focuses on the Phase 2 that aims on evaluating the marginal impact of formal business training on entrepreneurial skills. As it follows, this paper will present a quick review on the major findings and discussions from Phase 1, after that study the development of NHH-UDEC workshop training and assessment.

#### 4.1. Ruka Juu<sup>4</sup>

Edutainment combines both educational message and entertainment as a communication strategy that brings social and behavioural change “in order to raise awareness, increase knowledge, create favourable attitudes, and ultimately motivate people to take socially responsible actions in their own lives” (The Henry J. Kaiser

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<sup>4</sup> Please note that Ruka Juu study is not the core of this thesis. This part of the project has been already accessed in other academic projects and it is presented here only as a basis for discussion and input for our analysis of the NHH-UDEC workshop.

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Family Association, 2004, p. 1). According to Tufte (2005, p. 4) the purpose of E-E “can range from the more narrowly defined social marketing of individual behaviours to the liberating and citizen-driven articulation of social change”.

Edutainment in itself serve as an agent for social change not only by influencing the audience’s attitude, awareness and behaviour, but also by creating the necessary conditions for social change when affecting the external environment (Singhal, A., et al., 2004). Both projects presented in this proposal are part of new wave of initiatives within E-E where the focus shifted from diffusion of information to empowerment and structural change. The key element of these projects is to strengthens people’s ability to identify problems in everyday life and act upon them (Tufte, 2005).

If it is possible to educate, inform and motivate, in this particular case, young individuals through media (television and/or radio) entertainment, one would have the opportunity to reach a much larger targeted audience at a significantly lower cost.

As part of the Ruka Juu assessment experiment, we have studied a group of over 1.900 youths during May and June 2011 in their last year of O-level at secondary schools in urban Dar es Salaam. About 45% of the participants are male and 55% female (Table 1). Respondents age range from 14 to 24 years old, with a mean age of 18 years old. Differently from developed countries, we observe a wide range of ages for students in the last year of O-levels which can be attributed to common grade repetition (Glewwe, 2002). In our sample, students have on average 4 siblings and are third oldest among their siblings. This can translate in more difficult access to schools due to high costs of education.

In regards to economic aspects, approximately 75% of our sample reported having at least one television at home indicating their ability to watch Ruka Juu, but mostly no student reported having a computer at home. Moreover, approximately 46% of the surveyed students have the households owning their own business which one might

expect that students in those families have a previous knowledge on entrepreneurship.

**Table 1: Descriptive statistics of Ruka Juu participants**

<i>Participants' characteristics</i>	Mean (standard deviation)			<i>Difference</i>
	<i>Full Sample</i>	<i>Inspired</i>	<i>Not inspired</i>	
Treatment	0.45 (0.012)	0.49 (0.018)	0.43 (0.015)	0.05 (0.023)
Age	18.0 (0.073)	17.9 (0.054)	18.1 (0.12)	-0.14 (0.147)
Male	0.44 (0.012)	0.41 (0.018)	0.47 (0.015)	-0.05 (0.023)
Arts stream	0.62 (0.011)	0.60 (0.018)	0.63 (0.014)	-0.02 (0.023)
O-level division	0.61 (0.015)	0.56 (0.024)	0.63 (0.020)	-0.07 (0.031)
Math grade	0.31 (0.015)	0.25 (0.022)	0.35 (0.020)	-0.0990657 (0.030)
Initial entrepreneurship knowledge	1.97 (0.020)	1.91 (0.031)	2.00 (0.025)	-0.08 (0.039)
Siblings	4.31 (0.045)	4.47 (0.075)	4.21 (0.057)	0.27 (0.091)
Sibling number	2.82 (0.043)	2.93 (0.072)	2.74 (0.053)	0.22 (0.086)
Computer at home	0.10 (0.0071)	0.10 (0.011)	0.11 (0.0092)	0.00 (0.014)
TV at home	0.76 (0.0100)	0.76 (0.016)	0.75 (0.013)	0.00 (0.020)
Currently working	0.058 (0.0054)	0.056 (0.0085)	0.059 (0.0071)	0.00 (0.011)
<i>N</i>	1851	735	1116	

*Notes:* *Treatment* is a dummy with the value of one if the participant is in the treatment group (incentivized to watch Ruka Juu), and zero if in the control group. *Age* is equivalent to participants' age measured in years. *Male* takes the value of zero if participant is male, zero if female. *Arts stream* is a dummy variable that takes the value of one if the participant follows the arts specialization and zero if in the business. *O-level division* is equivalent to the division awarded to students on their CSEE in 2011<sup>5</sup>. *Math grade* is equivalent to the participants' math grade on CSEE 2011<sup>6</sup>. *Initial entrepreneurial*

<sup>5</sup> The highest value awarded is 4 to Division I, and following a decreasing rate: Division II assumes the value of 3; Division III assumes the value of 2; Division IV is valued as 1, and for students who have failed their exams the value equivalent to 0.

<sup>6</sup> The highest value awarded is 4 to an A grade, then following a decreasing rate: B assumes the value of 3; C assumes the value of 2; D is valued as 1, and F is equivalent to 0 (failing grade).

*knowledge* is equivalent to the number of correct answers each participant answered from the three entrepreneurship questions during the baseline survey ran in February/March 2011. *Siblings* is equivalent to the number of siblings the participants have. *Sibling number* corresponds to the participants' order of birth in family compared to all of his/her siblings. *Computer at home* represents the share of the sample which has a computer at home. *TV at home* represents the share of the sample which has a TV at home. *Currently working* corresponds to the share of the sample which is currently engaged in an income-generating activity. Standard deviations appear in parentheses for columns "Full Sample", "Inspired" and "Not inspired". The "Difference" column refers to statistical differences between participants on the inspired and not inspired group, standard errors are in parentheses.

One striking characteristic of this sample is their school performance. As shown in Table 1, the mean division awarded is 0.6 which means that most students surveyed were between Division IV (lowest passing grade) of failing completely their O-level exams. At a closer look (Figure 4), we observe that only a small 10% of our entire sample have achieved Division I in their national exam. Same trend can be observed using math grades as a proxy for school performance. Most students have failed their math exams and only approximately 10.6% of those students managed to get an A (Figure 5). Although surprising, those figures go along with figures presented before based on the National Bureau of Statistics (National Bureau of Statistics, 2011).

**Figure 4: School Performance Ruka Juu Sample**

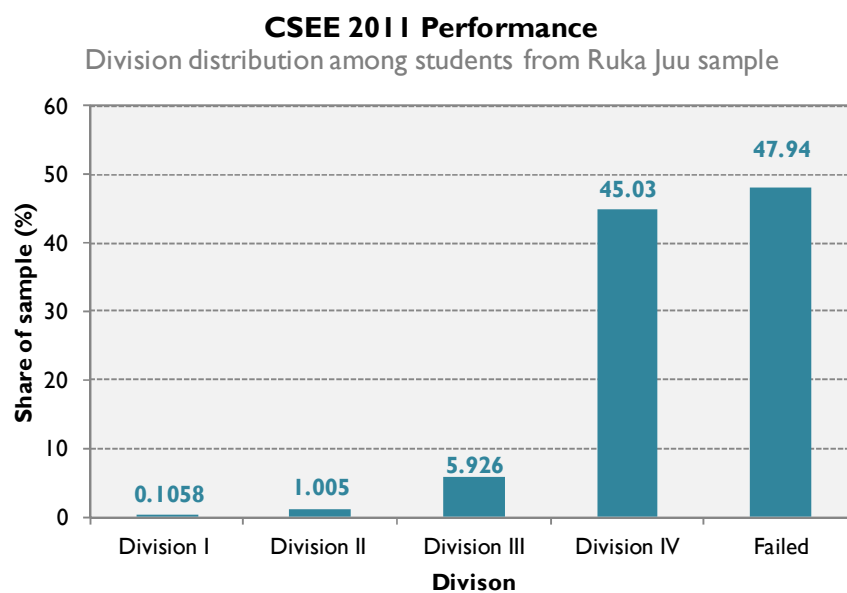
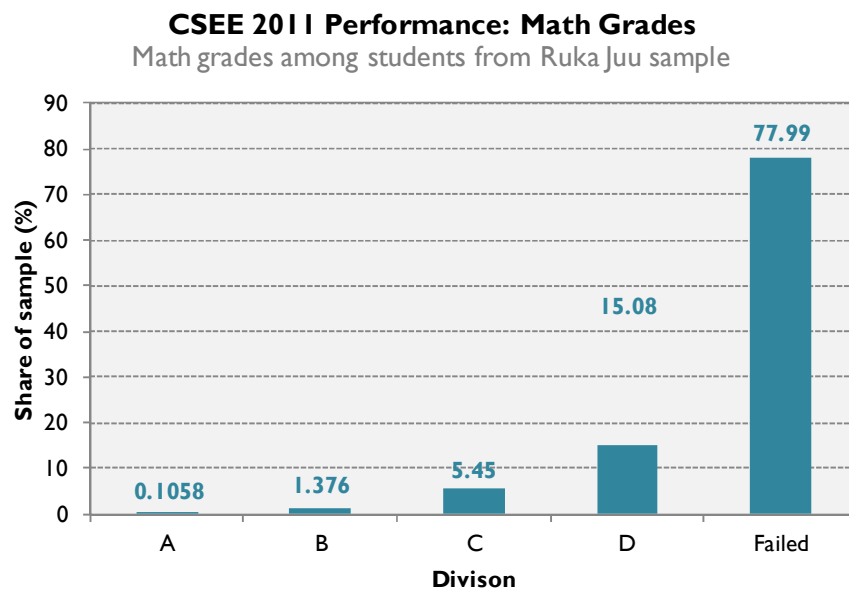
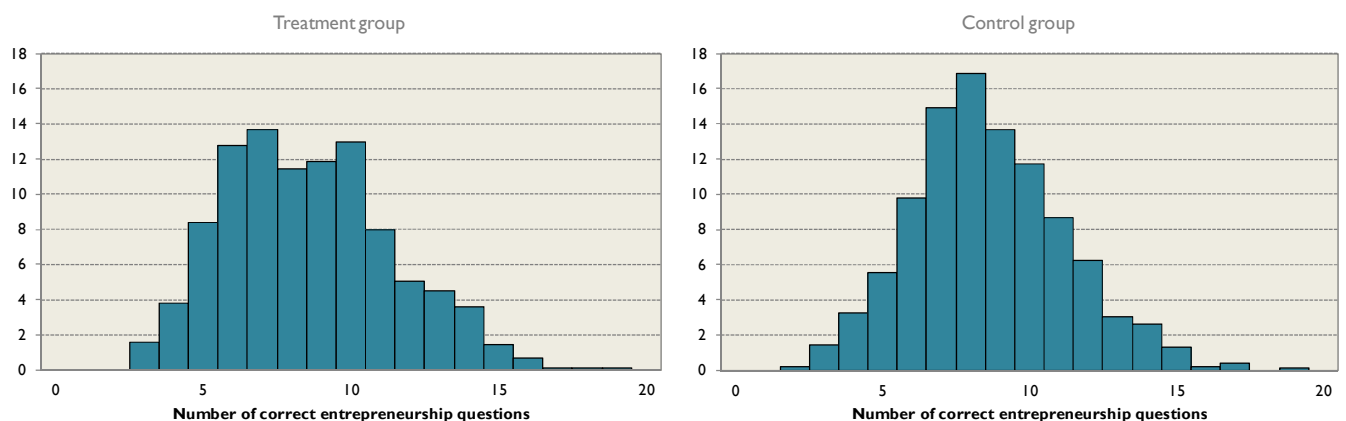


Figure 5: Math Performance Ruka Juu Sample



The participants were randomly assigned to treatment and control groups at the schools level, where treatment group was incentivised to watch Ruka Juu and the control group to watch a Saturday movie. We find statistically significant results on the informational impact of Ruka Juu overall (Figure 6), if we narrow our analysis to only male participants then it is possible to find a small causal effect on entrepreneurial knowledge; however, nothing significant among females viewers.

Figure 6: Information impact of Ruka Juu



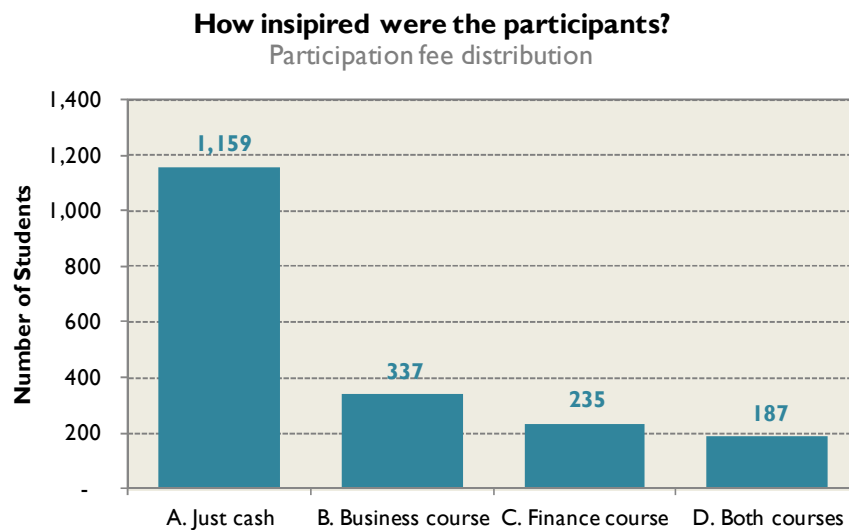
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First argument supporting the lack of informational impact on the Ruka Juu participants could be explained by the unreliability of TV access due to constant power cuts in the different regions of Dar es Salaam and also “fight” for TV time among the different family members which could have been an impediment for participants trying to watch the show constantly without any interruptions in order to assimilate knowledge.

Second argument revolves around the learning capabilities of the participants. Based on the observations on participants’ fairly weak school performance we could raise an assumption that most students are not capable of assimilating knowledge at all or if so, very little of it. By all means, one could argue that low educational attainment is a reflection of, for example, school characteristics, teacher’s preparedness, but also one could argue in favour of deficient cognitive abilities that hinder knowledge assimilation.

On the other hand, if we consider the students’ willingness to pursue further training in business and financial skills (Figure 7) as a proxy for inspiration we find a significant impact of Ruka Juu on female students. On a more broad perspective, we observe that more students who were part of the treatment group willing to take further training than participants of the control group, however this is not statistically significant.

Figure 7: Inspiration impact of Ruka Juu



## 4.2. UDEC-NHH Workshop

The intervention was designed as a randomized field experiment to assess the marginal impact of the workshop on general entrepreneurial skills among our target group. The project itself was conducted in two parts: 1) Participants were invited into a workshop on entrepreneurship and financial education in November 2011 following their Ruka Juu participation, and afterwards, invited to take part in a controlled lab experiment in March 2012. Both workshop and assessment lab experiment took place in collaboration with the University of Dar es Salaam Entrepreneurship Centre (UDEC).

The training program focused on teaching basic entrepreneurship and financial management concepts during four days of activities. Our goal with the training intervention is twofold: (1) improve business knowledge among youth and (2) prompt secondary-school leavers to pursue their own employment opportunities when further education is not an option, diverging away from unemployment. However, for the arguments and evidences raised earlier it is not particularly evident that these participants are able to easily assimilate the concepts taught



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throughout the training program. Neither is clear that these participants will feel inspired by the course and seek an entrepreneurial path.

Therefore, in order to assess the improvement in the participants' entrepreneurial knowledge and skills, we have developed an evaluation lab experiment under which participants were asked to answer and perform several tasks. Additionally, in order to adopt a more qualitative approach to this research some of the participants were randomly invited to join a focus group discussion that followed the lab experiment. Both workshop and lab experiment will be discussed in detail in the following sections.

This program was held in partnership with the University of Dar es Salaam Entrepreneurship Centre (UDEC) and took form of a training workshop through two full weekends of activities (from 5<sup>th</sup> to 6<sup>th</sup> and 12<sup>nd</sup> to 13<sup>rd</sup> November, 2011)<sup>7</sup>.

In the beginning of the session, our facilitator presented the participants with the concept of workshop training and encouraged them to be expressive and confident. In order to further deepen their understanding and learning opportunities from the workshop, all participants were encouraged throughout the sessions to interact with each other as much as possible by exchanging opinions, experiences and asking questions.

The topics covered by the workshop ranged from a more broad discussion of what is entrepreneurship, what are the objectives and main qualities of a successful entrepreneur, to a more specific discussion on how to identify good business opportunities, build a business plan and manage your business. The workshop had the participation of 61 secondary-school leavers from different areas of Dar es Salaam randomly selected from the Ruka Juu pool abovementioned.

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<sup>7</sup> The workshop had as a main facilitator Goodluck Urassa, professor at UDEC, and supporting facilitators Eliya Yobu, Linda Helgesson, Richard Jackson and Jacqueline Mgunia.

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### 4.2.1. Content

The NHH-UDEC workshop training was designed to cover a comprehensive spectrum of entrepreneurship and financial management topics throughout four full days of activities. The workshop was divided in two modules:

- Module 1: Embracing entrepreneurship;
- Module 2: Starting your own business;
- Module 3: Managing your business, and
- Module 4: financial management.

Each module can be subdivided within seven topics (Table 2). For each topic, the facilitator would present the theory using the supporting material<sup>8</sup> previously developed, guide a short discussion with the participants and coordinate a wrap-up exercise. This format aims on maximizing the learning opportunities for each participant by encouraging them to have a critical view on the concepts presented and fixing the content by applied exercises.

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<sup>8</sup> Material was presented in PowerPoint format; the content was carefully developed with the joint effort of professors at NHH and UDEC focusing on presenting business concepts but also taking into consideration cultural aspects of doing business in Tanzania.

**Table 2: UDEC-NHH training workshop topics**

		<i>Topics</i>
		<i>Opening activities</i>
<b>Module 1:</b> <i>Embracing entrepreneurship</i>	<b>1</b>	What challenges do you face?
	<b>2</b>	What it is to be an entrepreneur? <i>- Exercise 1: visual and verbal aspects of entrepreneurship</i> <i>- Exercise 2: Identifying entrepreneurial skills</i>
<b>Module 2:</b> <i>Starting your own business</i>	<b>3</b>	Opportunity and business ideas <i>- Exercise 3: evaluating business ideas</i> <i>- Exercise 4: managing perceptions</i> Building a business plan <i>- Case presentation: Idrissa - Ruka Juu winner</i>
	<b>4</b>	Business Ownership
	<b>5</b>	Marketing strategies <i>- Exercise 5: presenting marketing strategies</i> <i>- Exercise 6: identifying good and bad service</i>
<b>Module 3:</b> <i>Managing your business</i>	<b>6</b>	Team work
	<b>7</b>	Financial Management <i>- Exercise 7: Case - Record keeping</i> <i>- Case presentation: Eric Crispin and Veronica</i> <i>- Exercise 8: Writing your own business plan</i>
<b>Module 4:</b> <i>Financial management</i>		
	<i>Closing activities</i>	

Notes: This table presents the descriptive list of topics covered during the NHH-UDEC training workshop divided by day of activity, as well as its respective wrap-up exercises.

As part of the official opening, the participants were asked to join a “Candle Party” as their first activity. For this, all participants were provided with candles while only a few received matches. The ones who have received the matches were told to light their own candles and pass the light to their neighbours. Once all participants had lighted their candles, they were told that each candle was a metaphor for “knowledge”. Then, they were asked to repeat the following phrase: “I use this candle to light me during this session”. This activity aimed on building a symbolic representation of the main value supported throughout this workshop: knowledge sharing and active participation.

Following, the participants were invited to introduce themselves to the group by answering five questions.

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- 1) What is your name?
  - 2) Where do you study?
  - 3) What is your major (Business/Arts)?
  - 4) What would you like to be in the future<sup>9</sup>?
  - 5) What do you expect to get out of this workshop<sup>10</sup>?

As part of topic 1 “*What challenges do you face?*”, the participants were asked to share their first-hand experiences on what they believe to be the main challenges they face in society as a representative group of Tanzanian youth. The group showed strong awareness of their future challenges and outlined important issues such as poverty, gender inequality, unemployment risk, lack of quality education, existence of drugs, etc. Our facilitator wrapped up the discussion by acknowledging those challenges and presenting entrepreneurship as a possible career that can broaden their opportunities as secondary school-leavers.

Topic 2, “*What it is to be an entrepreneur?*”, started with a brainstorm session where the students were asked to present their own interpretation of who is an entrepreneur, what are the main qualities of an entrepreneur and what are the objectives of an entrepreneurship. Thereafter, the facilitator presented the material prepared previously with the theory of entrepreneurship. Students were then engaged into two exercises.

For the first exercise, students were asked to draw pictures of an entrepreneur who represented what they would like to do as a business person, also using five words to describe the entrepreneur. As for the second, participants were presented with the story of a fictional entrepreneur, then they were asked to identify the

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<sup>9</sup> Out of 61 participants, the majority answered they would like to follow an entrepreneurial/business path (33 students in total). Other participants reported the wish of becoming teachers, accountants, lawyers, engineers, or politicians. We can withdraw two noteworthy observations from this question. First, the choice of career followed clear gender patterns – all the participants who chose a career as teachers, accountants and small business owners were female, while lawyers, engineers, politicians and big business owners were male students. Second, most of the participants chose a dual career future. For example, they would present themselves as “I want to be a politician who is also an entrepreneur”.

<sup>10</sup> The majority of participants were interested on learning how to be a successful entrepreneur and how to get start-up capital for their businesses.

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characteristics that contributed to his success and outline some characteristics which they resembled this character.

Afterwards, the facilitator wrapped up the topic by presenting the main characteristics of entrepreneurship and explaining the students that some entrepreneurial skills are inborn, but there are also a full set of entrepreneurial skills that can be taught, which was the goal of this workshop.

The second day of activities started with a discussion on topic 3, "*Opportunity and business ideas*". The participants were first asked to define "opportunity" and present their ideas of good business opportunities. Next, the facilitator defined the idea of business as an exchange market where the seller offers what interest the most their potential buyers, and from there he presented a clear definition of business opportunity as well as various ways of differentiating your business on a competitive market.

At this point, the participants were required to perform an exercise under which they had to revisit their business ideas presented earlier and evaluate them according to the criteria (quality of the idea, personal interest, skills/capacity necessary, and resources needed) presented by our facilitator. Following this exercise, students were presented with a picture of a couple (very beautiful woman and ugly husband looking very happy in the picture) and asked to comment on the picture. The facilitator explained the point of this exercise was to show how people can have different perceptions on things. Thus, participants needed to be less judgmental of other people's ideas on business and be proud of their own ideas.

Under the same topic, our facilitator presented the importance of developing a business plan as a guide towards project growth. The facilitator focused on the point that business plan not only serve as a guide for implementation and expansion of a business, but most importantly can help an entrepreneur to raise capital.

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At this point, the participants received a visit from Idrissa Mannah, a barbershop owner in Dar es Salaam who won the first edition of Ruka Juu. His talk focused on presenting the students with his path towards his current business, experience and strategies used to become a successful business owner, and his experience in love and marriage as a small business man.

Topic 4 and final topic discussed on the second module was "*Business Ownership*". The facilitator introduced the four different types of business ownership providing several examples to differentiate the ownerships. He focused on the importance of registering the business for protecting your business, for taxation purposes and legal requirements.

The third day of workshop initiated with the discussion on how to manage a business, focusing on the topic 5, "*Marketing strategies*". Participants were presented with the key marketing mix (product, price, place and promotion). As a collective exercise, participants who already have a small business were called upon to present their strategies for attracting and maintaining their customers. The facilitator contributed by summarizing the ideas presented and by creating a link with the theory he then presented. As a closing exercise for this topic, the participants were presented with one case from the Ruka Juu show on customer service. They were asked to outline what they identified as bad and good service attitudes in each of the cases. The facilitator then closed the topic emphasizing the importance of treating customers as not being temporary and on giving clear examples of good and bad service.

The final topic for this day discussed was topic 6, "*Team work*". The discussion started with an illustrative video of children playing football where there were several activities going on in parallel to the game, some kids were eating, other were chatting or playing other games. After this, the participants were asked present their

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observations from the game. Following on this, the facilitator presented the concept for good team management.

For the last day of workshop, our facilitator discussed the topic 7, “*Financial management*” which approached two main concepts: record keeping and sources of capital. The presentation started with the facilitator discussing the importance of keeping business record, how to calculate profits, and definition of business costs (fixed and variable). Then the participants were presented with case exercise of a small chicken breeding business which they were asked to calculate the profits of this business, as well as classifying the different business costs.

Finally, the facilitator discussed the possible sources of capital<sup>11</sup> for starting a business, advantages and disadvantages of each one of these options. After this, the participants were given a presentation from two entrepreneurs in their early twenties: Eric Crispin (story writer) and Veronica (clothes reseller). The two entrepreneurs shared their experience, the challenges they have faced and what they believe to be the main values for success endeavours.

As a final exercise, the participants were asked to develop their own business plan having a 100,000 Tanzanian shillings start-up capital. The students were reminded of the concepts presented during the past sessions and encouraged to apply all they have learned throughout.

#### **4.2.2. NHH-UDEC workshop participants**

Our sample of participants was selected from a wide pool of approximately 2,000 Tanzanian secondary school students who had previously participated in the Ruka Juu Project presented above. Therefore, we have access to comprehensive data set on each of these participants. We have identified a group of inspired students which are

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<sup>11</sup> Own capital, bank loans, microfinance loans, community saving groups, etc.

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approximately 750 students who have shown interest in seeking further training on entrepreneurship and/or financial education.

From those, we have selected 61 to participate on the NHH-UDEC workshop to receive the training described above. Table 3 presents the detailed descriptive statistics for the NHH-UDEC workshop participants compared to the full Ruka Juu sample.

Table 1 in this group we have 41% as male, with a mean age of 18 years old varying from 14 to 24 years old. They have on average 4 siblings in the family, and they are mostly number 3 among their siblings.

Regarding their school performance, we observe similar national trend of low scoring in overall O-level exams with mean of our observations have been among Division IV and failing completely. Same is valid when looking into the math grades, most students were graded a D (lowest passing grade) or failed completely. On the initial knowledge, the group has had a mean of 2 correct questions out the 3 during the baseline survey in Phase 1 back in 2011. From an economic perspective, most students (84%) reported have access to television in their own homes but only 10% have computers.

This compared to the full Ruka Juu sample and basic national statistics shows that our sample for NHH-UDEC workshop is comparably relevant group of participants; especially in regards to age distribution, male-female balance, siblings, siblings numbers, TV at home and computer at home.

However, it is important to note that compared to the Ruka Juu sample, 72% of NHH-UDEC participants follows an arts stream instead of business stream which could potentially impact our treatment effect given that the students under the workshop training have had less contact with business education previously. This however, does not pose as a treat to the consistency of the results when we observe that initial entrepreneurial knowledge was higher among NHH-UDEC participants



as of the baseline survey. Also important to note that the O-level division and math grade means for the NHH-UDEC participants are much lower than in the full Ruka Juu sample. These significantly lower performance than the base sample could translate into a poorer result in absorbing the content of the training, based on the assumption that the school results can reflect a deficient learning skills.

**Table 3: Descriptive statistics of the NHH-UDEC training participants**

<i>Participants' characteristics</i>	<b>Mean</b> (standard deviation)			<i>Difference</i>
	<i>Ruka Juu Sample</i>	<i>UDEC trained</i>	<i>No training</i>	
Treatment	0.45 (0.012)	0.46 (0.064)	0.45 (0.012)	0.00 (0.064)
Age	18.0 (0.073)	18.0 (0.16)	18.0 (0.075)	0.04 (0.403)
Male	0.44 (0.012)	0.41 (0.063)	0.45 (0.012)	-0.04 (0.064)
Arts stream	0.62 (0.011)	0.72 (0.058)	0.62 (0.011)	0.10 (0.063)
O-level division	0.61 (0.015)	0.46 (0.080)	0.61 (0.016)	-0.15 (0.086)
Math grades	0.31 (0.015)	0.21 (0.067)	0.31 (0.015)	-0.09 (0.084)
Initial entrepreneurship knowledge	1.97 (0.020)	2.03 (0.093)	1.96 (0.020)	0.09 (0.109)
Siblings	4.31 (0.045)	4.54 (0.28)	4.30 (0.046)	0.21 (0.252)
Sibling number	2.82 (0.043)	2.93 (0.26)	2.81 (0.044)	0.13 (0.238)
Computer at home	0.10 (0.0071)	0.11 (0.041)	0.10 (0.0072)	0.01 (0.039)
TV at home	0.76 (0.0100)	0.84 (0.048)	0.75 (0.010)	0.08 (0.055)
Currently Work	0.058 (0.0054)	0.033 (0.023)	0.059 (0.0056)	-0.03 (0.030)
<i>N</i>	1851	61	1790	

*Notes:* *Treatment* is a dummy with the value of one if the participant is in the treatment group (participated in the NHH-UDEC workshop), and zero if in the control group. *Age* is equivalent to participants' age measured in years. *Male* takes the value of zero if participant is male, zero if female. *Arts stream* is a dummy variable that takes the value of one if the participant follows the arts specialization and zero if in the business. *O-level division* is equivalent to the division awarded to

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students on their CSEE in 2011<sup>12</sup>. *Math grade* is equivalent to the participants' math grade on CSEE 2011<sup>13</sup>. *Initial entrepreneurial knowledge* is equivalent to the number of correct answers each participant answered from the three entrepreneurship questions during the baseline survey ran in February/March 2011. *Siblings* is equivalent to the number of siblings the participants have. *Sibling number* corresponds to the participants' order of birth in family compared to all of his/her siblings. *Computer at home* represents the share of the sample which has a computer at home. *TV at home* represents the share of the sample which has a TV at home. *Currently working* corresponds to the share of the sample which is currently engaged in an income-generating activity. Standard deviations appear in parentheses for columns "*Full Sample*", "*Inspired*" and "*Not inspired*". The "*Difference*" column refers to statistical differences between participants on the inspired and not inspired group, standard errors are in parentheses.

## 5. Empirical design

As a concluding part of our intervention, we held a controlled lab experiment for assessing the effectiveness of the NHH-UDEC training. The lab experiment was conducted between March 10<sup>th</sup> and 11<sup>st</sup>, 2012 at the UDEC quarters. Students who have participated in the UDEC workshop were assigned into the treatment group, and another 60 students, also from the Ruka Juu database, who have not participated on the training, but were inspired in taking further training were randomly selected and assigned into a control group.

### 5.1. Randomization procedure

In this study we attempt on answering the question "What are the learning effects of an introductory business workshop on entrepreneurial skills?" However, our main challenge lies on how to draw the proper counterfactual: how those individuals who have taken the NHH-UDEC workshop would have performed in the absence of such training? Answering this question is hard in its essence since, at an individual basis, these actions are mutually exclusive, either one individual is subjected to the training or he is not. Nevertheless, we can correctly estimate the average treatment effect of the training among the *treatment group* by comparing them to a similar

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<sup>12</sup> The highest value awarded is 4 to Division I, then following a decreasing rate: Division II assumes the value of 3; Division III assumes the value of 2; Division IV is valued as 1, and for students who have failed their exams the value equivalent to 0.

<sup>13</sup> The highest value awarded is 4 to an A grade, then following a decreasing rate: B assumes the value of 3; C assumes the value of 2; D is valued as 1, and F is equivalent to 0 (failing grade).

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group of individuals who have not been exposed to the training – the *control group* (Duflo, et al., 2006).

The randomization technique allows us to build such comparison group. We therefore assume that the comparison individuals would have had similar outcomes to those who have participated on the workshop. In reality these two groups of individuals are different from each other; however, when we randomly assign a group of individuals to receive the treatment or not receive it, we ensure that the assignment of individuals into a treatment is independent of other sources of variation that could lead to a biased average estimated treatment effect (List, et al., 2011; Duflo, et al., 2006).

Randomization can be done at different levels; so one must decide whether the random assignment will be based on individuals or groupings of individuals (i.e. households, schools, villages, etc.). Even though literature suggests that cluster randomized trials are favoured over individual level when the outcome of interest is measured individually (Duflo, et al., 2006), this is a highly contextual choice.

This experiment is based on an individual-level randomization procedure, mainly for two reasons. First one lies on the nature of the intervention itself: providing the treatment group with a training course. As Duflo et. al (2006) presents, randomization at a group-level would require larger sample size in order to achieve a given power; which in our context, would translate into larger classes' sizes. Thus, a group-level randomization would not only have a strong impact on the project's budget, but also have a large effect on the administrative burden of ministering the training course and further on, operating the evaluation lab experiment. Another important concern is that larger class sizes could decrease the learning potential of participants during the workshop itself. Second, since we are interested in capturing an individual average treatment effect it is natural to randomly assign the participants to a treatment group at an individual level.

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Since we opted for randomizing at the individual level, it will be the case where in the same school some students will be assigned to the treatment group and others to the control group. Thus, one must be aware of potential spill over effects on participants in the experiment who have taken the course and the ones who have not.

Although randomized controlled trials are widely applied in empirical approaches within development economics.

## **5.2. Lab experiment structure and content**

In order to guarantee the quality of the data collected, we have taken some quality assurance measures.

First, participants' assigned to different groups (treatment or control) joined different lab session. Being so that in the first day, we received the control group and in the second day, the treatment group. Although our lab assistants made sure there was minimum interaction among participants before and during the experiment, it is hard to avoid it completely, thus this measure aimed on minimizing spill-over effects that could arise from the interaction between treatment and control participants if they had joined the same session. Even though the treatment and control group were placed in different sessions, the questions/tasks were exactly the same regardless of group or day.

Second, since all participants were previously informed of the possibility of earning money throughout the experiment, it was of great importance to ensure there was not cheating. Thus, before allowing the participants to enter the experiment, they were asked a set of control questions based on previously collected data<sup>14</sup>. This procedure minimized the risk of a student - who had not been invited - to take part on the experiment pretending to be an actual participant. Also, during

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<sup>14</sup> This data was collected yearly 2011 as part of the Ruka Juu experiment during the baseline and the midterm quiz.

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the experiment, participants were seated far from each other (one desk distance) which, reinforced by the lab assistants' vigilance, minimized the cheating opportunities.

Third, to ensure anonymity, each participant was randomly assigned to an identification number as they entered the session. This number served as an identifier for their respective handouts and envelopes with payments distributed at the end of the session. It is important to note that the lab assistant responsible for registering participants and assigning the identification numbers were not the same assistants leading the session, nor the ones responsible for calculating the payments and preparing the payment envelopes<sup>15</sup>.

Finally, in order to increase the understanding of the tasks, the moderator would explain each task reading question by question out loud. The participants were encouraged to react to any doubts they might face; in this case, the moderator would come to their desk and clarify the doubt personally, however if this doubt was particularly recurrent among the participants, the moderator would repeat the question and explain it again to the whole group making sure everyone had understood it correctly before progressing with the experiment. Moreover, since the experiment was conducted on paper handouts, the moderator would insist that the students selected only one correct answer among the multiple choices<sup>16</sup>, increasing then, the quality and quantity of data collected.

The moderator started the lab experiment with presenting a short introduction, the rules of conduct and the structure of the experiment. The lab experiment lasted an average of three hours. In order to maintain the participants'

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<sup>15</sup> In addition, money counting and envelope preparation was done in a separate room while the participants were finalizing the session.

<sup>16</sup> The lab assistants responsible for collecting the handouts were also instructed to skim through the handouts and check for possible errors.

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motivation and concentration, they were given a break and some refreshments half-way through the experiment<sup>17</sup>.

The content of the lab can be divided in two parts: i) incentivised-knowledge section and ii) non-incentivised attitude section. The participants started the experiment answering the incentivised section, and concluded by answering the non-incentivised attitude questions. Participants were asked to perform a total of 17 tasks, shown in Table 4.

Handouts 2 to 9 comprised of incentivised tasks, the remaining tasks were not incentivised. For Handouts 2 and 4 (entrepreneurship and financial management), participants could received 200 TZS per correct answer. For Handout 5 (adding numbers 1), participants would receive 100 TZS per correct answer. In Handout 7, participants had two payment schemes: 1) a competition rate, they would be paid 300 TZS per correct answer if they had performed better than the average in class otherwise they would receive nothing; and 2) a flat rate of 100 TZS in case they had decided not to compete.

In this paper we base our analysis on the answers to Handout 2 (Entrepreneurship) and Handout 4 (Financial Management), which both addresses directly the topics discussed during the workshop; thus, they represent key handouts for estimating the average treatment effect.

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<sup>17</sup> During the break, the lab assistants made sure that the participants did not communicate to each other, especially regarding the experiment.

**Table 4: Handouts in lab experiment**

<i># Handout</i>	<i>Handout</i>	<i>Description</i>
1	Registration	Personal information about the students
2	Entrepreneurship	20 questions about entrepreneurship
3	Beliefs Entrepreneurship	Beliefs about the students' own performance
4	Financial Management	14 questions about on financial management
5	Adding Numbers 1	Adding number within a certain time limit
6	Competition choice	The students could decide whether they would like to compete with the rest of the class in the next task of adding numbers
7	Adding Numbers 2	Student exercise: adding numbers within a time limit
8	Beliefs Adding Numbers	Beliefs about the students' own performance compared to their classmates
9	Risk	3 questions on risk options
10	Plans for the future 1	Questions about career choices in a time spam of 5 years
11	Plans for the future 2	Questions about career choices in a time spam of 5 years
12	Plans for the future 3	Questions about their dreams for the future
13	Fairness	Questions on their views about fairness
14	Attitudes	Questions on entrepeurial attitudes
15	Training	Questions about participants' willingness on pursuing further training
16	Business plan contest	Participants' presented their plan on how to invest a possible grant of 10,000 TZS
17	Ranking	Question about key factos on how to succed as an entrepreneur

*Notes:* This table presents the order under which the handouts were distributed as well as a brief description of its content.

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### 5.2.1. Entrepreneurship knowledge questions

The entrepreneurship questionnaire presented as multiple-choice questions with four alternatives which allowed for only one correct answer (Appendix 1). All questions were elaborated by the professors involved in the project both from NHH and UDEC, so that it reflected the content presented during the NHH-UDEC workshop. Thus, assuming the workshop has served its teaching objective, we shall expect its participants to perform comparatively better than the control group respondents.

The questionnaire is composed of 20 questions that can be categorized in three distinctive groups: 1) business concepts, 2) business practice and 3) business facts. Five questions fall into the "*Business concepts*" category; they aim on testing participants' ability to define universal business concepts. Typical questions under this category are "What is profit?", "What is entrepreneurship?" or "What is business insurance".

Ten questions are related to "*Business practice*", those try to measure the participants' ability to comprehend best practices. In this category, we aim on capturing whether the students have not only assimilated the concept discussed, but also understood the importance following such practice. A good representation of this category is the question: "Why is it important for your business to have enough working capital?" In this question, students must not only show they know the concept of working capital, but also what it represents and how to apply that on a real life situation.

Finally, there are five more questions under the last category "*Business facts*". These questions refer to practices or rules regarding the Tanzanian business environment. For instance, "Which business need to be registered in Tanzania" or "If you want to register a business and your capital is between 20,000 and 500,000 Tanzanian shillings, how much does it cost to register the business?". These



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questions represent an important feature of the workshop. Although, we aim on educating those participants on basic business concepts, we also identify the importance of presenting the concepts that have been adapted to local cultural values.

In regards to their level of difficulty, the entrepreneurship questionnaire is composed by fair mix of ten easy (basic level) and ten difficult (advanced level) questions. Being so, participants would be able to answer the basic level questions correctly mostly based on their previous knowledge and common sense, while the difficult questions would require a more advanced knowledge on entrepreneurial subjects. Therefore, we shall expect control group respondents to answer an average of 10 correct answers, while treatment group participants to perform significantly above ten on average.

### **5.2.2. Financial management questions**

The second part of the NHH-UDEC workshop addressed financial management topics, thus Handout 4 (Appendix 2) aims on capturing the learning effect of the workshop on financial skills, specifically record keeping.

Handout 4 comprehends of two short tasks; however, instead of having to answer multiple-choice questions, respondents are presented with two mini-cases and asked to answer a few questions based on the information available. One important feature is that both cases present situations that are pertinent to the participant's reality, so that they treat small scale entrepreneurs in Dar es Salaam with common businesses (fruit juice retailer and poultry farming).

The first case introduces a male fruit juice retailer in Dar es Salaam. After reading the description of the business, the participants were asked to identify which expenses should be included in the business profit calculation<sup>18</sup>. In this case, a non-

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<sup>18</sup> Participants were presented with seven alternatives and they were asked to classify each one of them as either "yes" for business expenses and "no" for non-business expenses.

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business expense could be, for instance, “Telephone calls to relatives to check on their health”; and a business expense would be “Cost of fruits used in making the juice”.

The second mini-case presents a female poultry farmer in one of Dar es Salaam’s district. The participants are then asked to classify each one of the costs presented as being a variable or fixed cost<sup>19</sup>. An example of a variable cost would be “chicken food” and a fixed cost would be “the plot of land”.

In general, we would expect the participants to have a lower overall performance in this set of questions due to the higher level of difficulty in comparison to the entrepreneurship questionnaire. This handout measures not only financial skills (that could have been obtained from the workshop) and how well participants have absorbed the concepts, but also skills such as reading comprehension and analytical thinking play an important role on defining their performance.

### **5.3. Methodological discussion**

#### **5.3.1. Treatment-control balance**

To verify that the randomization process was successful, we compare the treatment and control group on key variables: gender, education, age, number of siblings, and math skills.

Overall, out of the 96 students surveyed 40% are male and 60% are female as shown in Table 5. The participants are between 17 and 23 years old.

In the descriptive statistics of the sample, we see that participants’ characteristics are reasonably similar between the treatment and control group, indicating that the

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<sup>19</sup> In practice, participants were asked: “Which of the following are variable costs? Answer YES if it is a variable cost and NO if it is a fixed cost”.

randomisation process was successful; therefore we should not expect large randomisation biases in our estimations.

Nevertheless, we should draw attention to three variables that are not consistent between treatment and control groups: (a) Ruka Juu training, (b) Math Skills and (c) Number of siblings.

Table 5: Descriptive statistics of the participants

Participants' characteristics	Mean (standard deviation)			Difference
	Full Sample	Treatment	Control	
Male	0.40 (0.05)	0.40 (0.074)	0.39 (0.07)	0.008 (0.10)
Age	18.0 (0.16)	18.1 (0.22)	18 (0.23)	0.067 (0.32)
Ruka Juu Trained	0.50 (0.05)	0.44 (0.08)	0.55 (0.07)	-0.10 (0.10)
Math Skills	16.4 (0.71)	15.7 (1.14)	17.0 (0.89)	-1.31 (1.43)
Arts Stream	0.66 (0.05)	0.67 (0.07)	0.65 (0.07)	0.02 (0.098)
Siblings	4.74 (0.23)	4.49 (0.33)	4.96 (0.31)	-0.47 (0.45)
Computer at home	1.91 (0.03)	1.87 (0.05)	1.94 (0.03)	-0.07 (0.06)
TV at home	1.17 (0.04)	1.16 (0.06)	1.18 (0.05)	-0.02 (0.08)
Initial entrepreneurship knowledge	1.21 (0.08)	1.22 (0.13)	1.20 (0.09)	0.03 (0.15)
N	96	45	51	

Notes: The difference column refers to the difference between the treatment and control groups. Standard deviations are in parentheses for Full Sample, Treatment and Control. Standard errors in parentheses for the Difference.

From our sample size in NHH-UDEC workshop only 44% of the participants in the treatment group have been Ruka Juu trained, which means that and in the 55% in the control group were Ruka Juu trained. If previous entrepreneurial knowledge plays a strong role in defining the performance of participants' in the NHH-UDEC

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workshop we would expect this imbalance to affect our results, being so that on average treated participants would start from a disadvantage compared to average control group participants.

Furthermore, the treatment group presents on average got 15.7 questions correctly in the *Adding Numbers* task, compared to an average of 17 among the control group participants. This could of course affect the final results if we consider their math skills as a proxy to cognitive abilities. If that is true, we would expect the treated participants to have more difficulty in assimilating knowledge.

Finally, the number of siblings is on average 4.5 among the treatment group and 4.96 for the control group. In a budget-constraint family, the more siblings translate in less investment to education and less guidance regarding school and future. Thus, from this perspective, control participants' with more siblings could be expected to perform less than treated participants. But also if some of the siblings are involved in entrepreneurship we can expect the participant to carry some previous knowledge regarding this subject, be more motivated and also be able to relate more to situations.

Given this potential imbalance, we would prefer to control for these variables in our econometric specifications.

### **5.3.2. Measuring Entrepreneurial Orientation model**

This thesis basis its impact analysis of the NHH-UDEC workshop on the three dimensions of Individual Entrepreneurial Orientation model (IEO).

Innovation is a key element of entrepreneurship (Schloss, 1968). However, with the simple objective of narrowing down our study scope, innovation is not considered a central part of this analysis. Especially given that our sample is of *survival entrepreneurs* who are most motivated by the advantages of self-employment and not

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the need for introducing a new method/service in the market we do not see innovation as the core of the entrepreneurial process.

By all means, we acknowledge that innovative business ideas can play a strong role in defining the success/survival of new ventures also in the case of survival entrepreneurs.

One way to evaluate the impact of the NHH-UDEC on innovation would be to use as a proxy the different business plans proposals developed by lab participants in Handout 16 (Business Plan contest) and perform a qualitative analysis of the business plans. Also, it would be interesting to rank those in regards to level of innovation and running a regression based on treatment and control group. This however is suggested as further investigation in future work.

Management and organizational knowledge is in the heart of this project. The main goal with the NHH-UDEC workshop is to develop business skills in youth. Thus we will test the following hypothesis:

*Hypothesis 1: Business management skills can be taught.*

Successful entrepreneurs are not only risk-takers but also risk-dealers. The third dimension, risk-taking is also tested in order to evaluate the effectiveness on the project in teaching/training personality skills. One might say that personality skills are not developed, but entrepreneurs are born entrepreneurs. To test this we raise the following hypothesis:

*Hypothesis 2: Personality skills (risk-taking) can be taught.*

### **5.3.3. Econometric specifications**

We are interested in measuring the intention-to-treat factor (ITT) based on the results of the treatment group by comparing the performance of a group of individuals under treatment with the control group. In this case, we test the validity of *Hypothesis 1* and *Hypothesis 2* under the treatment group. Is it so that participants of

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the NHH-UDEC training show a stronger learning? Is it so that participants of the training are more willing to take risks?

In order to answer these questions we apply the classic liner model (CLM). For the informational impact and risk-taking we apply CLM to estimate the ITT (Wooldridge, 2009).

## 6. Results

### 6.1. Informational impact: entrepreneurship knowledge

We are interested in estimating the intention-to-treat (ITT) estimator for each individual outcome *Entrepreneurial knowledge<sub>i</sub>* which represents the number of correct answers in the entrepreneurship questionnaire. We expect the treatment (entrepreneurship and financial education workshop) to have a positive impact on entrepreneurial knowledge. Thus, we use a CLM regression for estimating the following specification:

$$(I). \quad \textit{Entrepreneurial knowledge}_i = \alpha + \beta_1 \textit{Training} + \beta_2 \bar{X}_i + u_i$$

*Training* is an indicator variable that takes a value of one if the individual has participated on the weekend workshop and zero otherwise, and  $\beta_1$  is our parameter of interest.  $\bar{X}_i$  is a vector for individual specific observable characteristics such as gender, age, and math skills.

Out of 20 entrepreneurship knowledge questions, the maximum number of correct answers in the whole sample was 17 questions and a minimum of 4 questions which shows the high level of difficulty of the questionnaire. On average, the participants managed to answer 10.67 correctly. We observe a small upside among the treated subjects if compared to the control group; the average for the treatment group was of 10.87, while the control group participants have an average of 10.47 answered correctly.

The results from the estimated equation (I) are presented in **Error! Reference source not found.**; columns (1) and (2) show the estimations for the full sample of questions. The sign of the treatment estimators for regressions presented in columns (1) and (2) goes along with our primary hypothesis that treated subjects are expected to answer more questions correctly if compared to the control group. However, this effect is not statistically significant. Thus, no trustworthy inference can be drawn from those estimations.

**Table 6: Informational impact of NHH-UDEC workshop, entrepreneurship questions**

	(1) All questions with no cov.	(2) All questions with cov.	(3) High-difficulty questions with no cov.	(4) High-difficulty questions with cov.
Training	0.396 (0.65)	0.556 (0.96)	0.682* (2.10)	0.679* (2.09)
Male		0.998 (1.64)		0.313 (0.91)
Age		-0.209 (-1.11)		-0.0548 (-0.52)
Math Skills		0.131* (3.05)		0.00965 (0.40)
Arts stream		-1.217 (-1.96)		-0.759* (-2.18)
Number of siblings		-0.0872 (-0.66)		-0.0683 (-0.92)
Constant	10.47*** (25.26)	13.45*** (3.41)	3.118*** (14.04)	4.812* (2.16)
Observations	96	96	96	96

*Notes:* This table shows estimates from OLS regressions. Column (1) and (2) show the results for the full sample of questions, and column (3) and (4) present the estimates for the high-difficulty questions subsample. The dependent variable is the number of entrepreneurial knowledge questions answered correctly during the lab experiment out of 20 questions in total. *Training* is a dummy variable that assumes the value of one if the participant has participated in the NHH-UDEC workshop in November 2011, and zero if the participant is in the control group. *Male* is a binary variable that indicates the gender of the participant assuming the value of one if the participant is a male, and zero if female. *Age* is equivalent to each participant's age measured in years. *Math Skills* refer to each participant's mathematical abilities measured during the lab in a adding numbers task. *Arts stream* is a dummy variable that takes the value of one if the student is currently studying under the arts stream and zero if the student is studying under the business track. *Number of siblings* is equivalent to the number of siblings each participant has.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

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### *Categorization of knowledge questions*

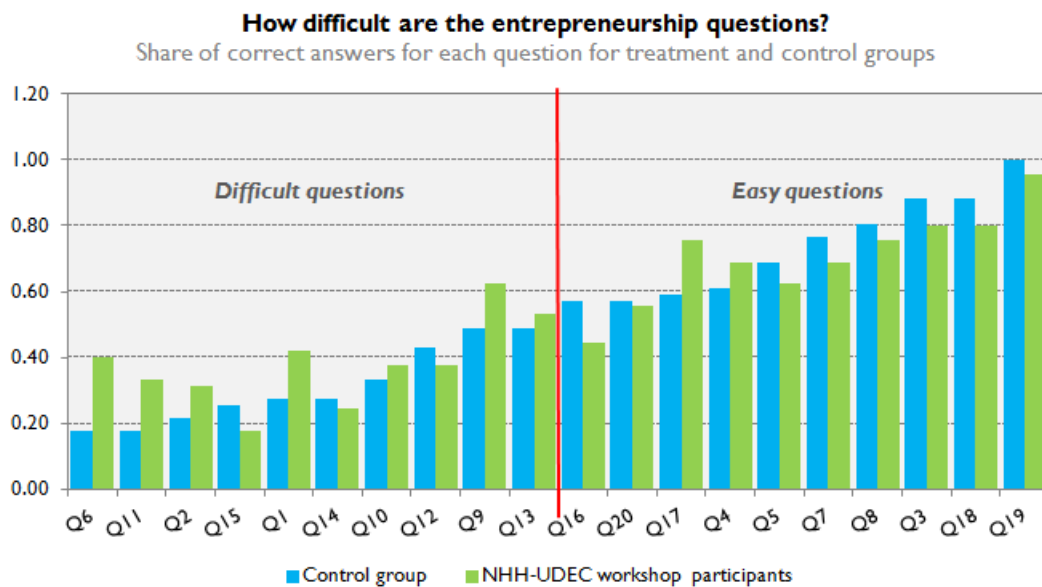
The fact that no participant managed to answer all the entrepreneurial knowledge questions correctly reflects the fairly high level of difficulty of the questions. And this could also influence the overall result.

Thus, we have classified the questions between high difficulty and easy questions; this way we aim on isolating the effect of the training by measuring the ITT for both treatment and control groups. We expect that questions of easier level shall be answered correctly across the majority of participant regardless of being treatment or control; this because one could be able to answer those questions based on previous business knowledge or simply common sense. However, we would expect treatment participants to be able to answer on average more correct questions than those in control group because those questions require more specific knowledge (expected to be acquired during the workshop).

The categorization between (a) high difficulty and (b) easy was made based on how many participants within the control group got that answer correctly. For example, for question number 6 (Why is it important to pay suppliers on time?), 18% of the control group participants managed to get it right. On the other hand, question number 19 (Why is it important to allocate tasks to each of your workers?), 100% of the control group participants got the correct answer. The cut off is made at 50%, if more than half the control group answered a question correctly we classify this question as easy, otherwise high-difficulty question.



Figure 8: Difficulty distribution of entrepreneurship questions



We go further into our analysis and develop a model that examines the effect of the training only among the challenging entrepreneurship knowledge questions, presented by the following specification:

$$(II). \quad \text{Challenging entrepreneurship knowledge}_i = \alpha + \beta_1 \text{Training} + \beta_2 \bar{X}_i + u_i$$

In this case our hypothesis is that for basic level questions, participants could answer most questions correctly without having had any training in entrepreneurship. Thus, we would expect very small, if any, impact of the treatment. On the other hand, for the challenging questions, it is expected from the workshop students to perform comparatively better than the control group since all questions were developed based on subjects explained and discussed during the UDEC workshop.

The results for the regression (II) are presented in column (3) and (4), as shown that the treatment estimator is positive and statistically significant in this subsample. Everything else equal, a student who has participated in the training workshop is likely to answer 0.679 more questions correctly (out of 10 high level questions) than the control group participants.

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To improve this model we expand the regression with a set of control variables which we believe to be important to control for, results are shown in column (4). However, of the five control variables included in this specification model only one proved to be statistically significant for this model at a 5% level (see column (4) in **Error! Reference source not found.**).

## 6.2. Informational impact: financial knowledge questions

*Financial knowledge<sub>i</sub>* is a factor represents the number of correct answers in the financial knowledge questionnaire. We expect the treatment to have a positive impact on financial knowledge especially because it demands a more specific set of skills to perform well. Thus, we use a CLM regression for estimating the following specification:

$$(III). \quad \text{Financial knowledge}_i = \alpha + \beta_1 \text{Training} + \beta_2 \bar{X}_i + u_i$$

*Training* is an indicator variable that takes a value of one if the individual has participated on the weekend workshop and zero otherwise, and  $\beta_1$  is our parameter of interest.  $\bar{X}_i$  is a vector for individual specific observable characteristics such as gender, age, and math skills.

Out of 14 financial knowledge questions, the maximum number of correct answers in the whole sample was 14 questions and a minimum of 5. On average, the participants managed to answer 11.45 correctly – which shows a directly higher average performance in the financial knowledge questions compared to the business questions. Interesting enough we observe a small upside towards the control group participants performance; the average for the treatment group was of 11.13, while the control group participants have an average of 11.72 answered correctly.

The results from the estimated equation (III) are presented in Table 7**Error! Reference source not found.**; column (1) estimations with no control variables and column (2) shows the estimations for the full sample of questions including control variables in the specification. The sign of the treatment estimators for regressions

presented in columns (1) and (2) does not go along with our primary hypothesis that treated subjects are expected to answer more questions correctly if compared to the control group. However, this effect is not statistically significant. Thus, no trustworthy inference can be drawn from those estimations. However, financial abilities can be strongly affected by participants' *Math Skills*<sup>20</sup> which based in column (2) results appear to be strongly significant at a 1% level. Being so we can interpret that for every unit increase in *Math Skills* is likely to answer 0.0751 more questions correctly (out of 14 questions).

**Table 7: Informational impact of NHH-UDEC workshop, financial questions**

	(1) All questions with no cov.	(2) All questions with cov.
Training	-0.592 (-1.54)	-0.495 (-1.30)
Male		-0.307 (-0.76)
Age		0.0223 (0.18)
Math Skills		0.0751** (2.66)
Arts stream		-0.0161 (-0.04)
Number of siblings		-0.00416 (-0.05)
Constant	11.73*** (44.60)	10.13*** (3.90)
Observations	96	96

*Note: This table shows a estimate of OLS regressions. Column (1) shows the results for the full sample of financial knowledge questions with no control variables. Column (2) presents the results for OLS regression on financial knowledge questions with control variables. The dependent variable is the number of correct financial questions answered correctly during the lab experiment out of 20 questions in total. Training is a dummy variable that assumes the value of one if participant has participated in the NHH-UDEC workshop and zero if otherwise. Male is a binary variable that indicates the gender of the participant assuming the value of one if the participant is male, zero if female. Age is equivalent to each participant's age measured in years. Arts stream is a dummy variable that takes the value of one if the student is currently studying under the arts stream, zero if business track. Number of siblings is equivalent to the total number of siblings each participant has.*  
<sup>\*</sup>  $p < 0.05$ , <sup>\*\*</sup>  $p < 0.01$ , <sup>\*\*\*</sup>  $p < 0.001$

<sup>20</sup> For this we use a proxy variable related to Handout 5, Adding Numbers 1 which measures how many correct sums the participant can complete within a certain amount of time.

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### 6.3. Personality impact: risk-taking and risk management

In regards to personality impact we will focus on capturing changes in behaviour in regards to risk-taking and risk management between treatment and control group.

First specification is as it follows and results are presented on Based in Handout 9 (Appendix 3), we estimate of willing to take a risk. If the participant has decided to invest in all three cases, even the one with low probability envisioning a higher financial gain, we classify them as a risk-taker. If the participant decided to take the guaranteed 2.000 Tsh. Allowance, we classify them as non-risk taker.

Table 8:

$$(IV). \quad Risk\ Taking_i = \alpha + \beta_1 Training + \beta_2 \bar{X}_i + u_i$$

Based in Handout 9 (Appendix 3), we estimate of willing to take a risk. If the participant has decided to invest in all three cases, even the one with low probability envisioning a higher financial gain, we classify them as a risk-taker. If the participant decided to take the guaranteed 2.000 Tsh. Allowance, we classify them as non-risk taker.

Table 8: Personality impact of NHH-UDEC workshop, risk-taker

	(1) Risk-taker with no cov.	(2) Risk-taker with covar.
Training	0.097 (0.062)	0.079 (0.062)
Male		0.053 (0.065)
Age		-0.024 (0.020)
Math Skills		-0.0078 (0.0046)
Arts Stream		0.091 (0.066)
Number of siblings		-0.015 (0.014)
Constant	0.059 (0.043)	0.69 (0.42)
N	96	96

Note: This table shows estimates of OLS regressions. Column (1) shows the results for the full sample of risk taking questions with no control variables. Column (2) presents the results for OLS regression on risk taking questions with control variables. The dependent variable is the number of number of times the participant has decided to invest in Handout 9 (Risk Options questions) with a total of one when participant has decided to invest in all three scenarios and zero if decided to not invest in none of the scenarios. Training is a dummy variable that assumes the value of one if participant has participated in the NHH-UDEC workshop and zero if otherwise. Male is a binary variable that indicates the gender of the participant assuming the value of one if the participant is male, zero if female. Age is equivalent to each participant's age measured in years. Arts stream is a dummy variable that takes the value of one if the student is currently studying under the arts stream, zero if business track. Number of siblings is equivalent to the total number of siblings each participant has.  
\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$  Standard errors in parentheses

Although in neither specifications, estimation factors are not statistically significant we observe that the factor moves as expected. NHH-UDEC workshop participants are more willing to take a risk at the sight of a higher financial gain than control group participants. Nevertheless, please note that no trustworthy inference can be drawn from those estimations.

For risk management we have created an interaction variable between based on answers from Handouts 5 and 6. Handout 5 refer to the Adding Numbers Task under which the participants must complete the most number of correct additions within a limited time; and Handout 6 where the participants could decide whether they would like to compete with the rest of the class in the next task of adding

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numbers at a higher rate per correct question in case they have performed better than the average in the task for Handout 5.

This construct allows us to analyse whether students are making conscious choices in behalf of competing based on prior knowledge or confidence in their math skills. Therefore, allows us to observe their risk management skills, as the following specification states:

$$(V). \quad Risk\ Management_i = \alpha + \beta_1 Training + \beta_2 \bar{X}_i + u_i$$

Results presented in Table 9 show the same trend observed in the risk-taking variable. The results point the correct way and alongside with our expectations that participants of training should respond more positively to risk decisions. However, results are also not statistically significantly; thus cannot be trusted as estimation but more as a guidance.

Table 9: Personality impact of NHH-UDEC workshop, risk management

	(1) Risk-dealing with no covar.	(2) Risk-dealing with with covar.
Training	-0.048 (0.066)	-0.016 (0.055)
Male		-0.0025 (0.058)
Age		0.036 (0.018)
Math Skills		0.025*** (0.0041)
Arts Stream		0.035 (0.059)
Number of siblings		0.0054 (0.013)
_cons	0.14** (0.045)	-1.09** (0.38)
N	96	96

Note: This table shows a estimate of OLS regressions. Column (1) shows the results for the full sample of risk taking questions with no control variables. Column (2) presents the results for OLS regression on risk taking questions with control variables. The dependent variable is a binary variable that assumes the value one if participant has performed better than average in Adding Numbers Task and also has decided to compete, and zero if otherwise for both cases. Training is a dummy variable that assumes the value of one if participant has participated in the NHH-UDEC workshop and zero if otherwise. Male is a binary variable that indicates the gender of the participant assuming the value of one if the participant is male, zero if female. Age is equivalent to each participant's age measured in years. Arts stream is a dummy variable that takes the value of one if the student is currently studying under the arts stream, zero if business track. Number of siblings is equivalent to the total number of siblings each participant has.

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

## 7. Concluding remarks

There is no doubt that entrepreneurship can and that the development of entrepreneurial skills and ability can empower youth in Tanzania to deal with life's current challenges and an uncertain future.

Individuals will be able to benefit from learning an innovative approach to problem solving, adapting more readily to change; becoming more self-reliant and developing their creativity through the study of entrepreneurship (Henry, et al., 2005). Thus, regardless of their future employment entrepreneurial skills taught in this program are valuable.

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Our overall findings show that weekend-long business training can be more efficient at delivering an educational message than the Ruka Juu project.

In summary, if we analyse the performance of students in the most difficult questions about entrepreneurship knowledge, the ones who have participated in the NHH-UDEC workshop performed comparatively better than the ones who did not. This finding goes along with our expectations. When in a controlled environment, where the students are focused on learning without being distracted by the entertainment they are able to understand and assimilate varying business concepts.

The same can be observed within the financial knowledge questions once we control for math skills. These results are not statistically significant which could be a result of our rather small number of observations and also the “small-dose” of treatment. Nevertheless they point towards the correct direction: once given the proper training Tanzanian students are able to perform and absorb knowledge. This conclusion goes against the assumption that poor training results in the Ruka Juu and overall poor school performance is related to an intrinsic ability to absorb new knowledge.

Our findings regarding risk-taking and risk-management are also pointing in the correct direction. Participants who have received training do show more willingness to take risk even in more risky environments; and they also show a more rational decision upon taking a risk when asked to compete against their group mates.

Altogether, the project has been successful in identifying points of future research in regards to edutainment and business training for young people. We support the idea that edutainment in itself serves as a good “invitation” to the world of entrepreneurship by inspiring youth to pursue further information, but also giving a small background on the subject. However, that alone cannot serve as a mechanism for teaching given environmental conditions (e.g. electricity cuts, fight for TV time, lack of concentration, etc.).



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**Appendix 1: Questions about entrepreneurship knowledge**

**ENTREPRENEURSHIP**

**YOUR NUMBER** \_\_\_\_\_

**Q1. What is most important when advertising?**

- A To have a funny message
- B To create nice posters
- C To reach your customers
- D To sponsor a popular radio programme

**Q2. Which of the following is an important part of customer service?**

- A To never recommend the most expensive products to customers
- B To always praise the goods you sell.
- C To be reliable in relations with the customer
- D To always recommend cheap products to customers

**Q3. Which of the following statements is *not* true?**

- A It is important for entrepreneurs to stay healthy
- B Entrepreneurs should give advice to their friends about health
- C It is acceptable that entrepreneurs use their status for sexual favours
- D It is advisable to get tested for HIV on a regular basis

**Q4. Is appearance and to look smart important for an entrepreneur?**

- A No, good behaviour is all that matters
- B No, it is the prices of your goods which matters
- C Yes, it is important for the overall impression
- D Yes, if you are in the beauty business

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**Q5. What is business insurance?**

- A A scheme for saving money
- B A system of record keeping in the business
- C A payment scheme for business debt
- D A protection against risk of fire

**Q6. Why is it important to pay suppliers on time?**

- A To follow the rules of TRA
- B To gain reputation as trustworthy
- C To have more time for friends and family
- D To improve record keeping

**Q7. What is profit?**

- A Profit is sales of the most important products
- B Profit is sales minus cost of goods and operating expenses
- C Profit is sales minus cost of goods and what you take home from the business
- D Profit is sales plus cost of goods and operating expenses

**Q8. Why is it important for the business to keep stock?**

- A To have goods available for family consumption
- B To have goods available for the customers
- C To have goods available for the suppliers
- D To have goods available for a family emergency

**Q9. Which businesses need to be registered in Tanzania?**

- A Small businesses
- B Medium sized businesses
- C Large businesses
- D Any business

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**Q10. What are some of the important things to remember when you present your business plan to potential funders**

- A Never mention that there are competitors to your business
- B Tell the potential funder your problems and how you have been struggling to make ends meet
- C Always tell the funders that there are very low risks involved in your business
- D Dress smart, have a realistic plan, articulate the goals and present a budget

**Q11. How do you calculate your sales for a particular good?**

- A Sales is the price times the number of items you sell of the good
- B Sales is the price of the good
- C Sales is the price of the good plus the number of items you sell
- D Sales is the price of the good minus what you pay the supplier for this good

**Q12. What is an important element in a business plan?**

- A A detailed plan for how to handle difficult customers
- B The inspection certificate
- C A strategy for market growth
- D A detailed record of last year's sales

**Q13. Why is it important for your business to have enough working capital?**

- A To pay the workers a higher wage
- B In case you get a larger order than usual
- C You have enough money to pay for insurance
- D To satisfy minimum requirements of TRA

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**Q14. When do you have to prepare a financial statement for tax estimation?**

- A If you run a business
- B If you run a business with sales exceeding 20 million Tsh per year
- C If your business is registered
- D If you run a business with profits exceeding 5 million Tsh per year

**Q15. Which of the following statements is *not* correct?**

- A Banks require immovable property as collateral for all types of loans
- B Banks typically require a collateral for a loan
- C Banks pay interest on savings
- D Banks charge an interest rate on a loan

**Q16. What is entrepreneurship?**

- A To take part in business training
- B To always prefer self employment to salaried work
- C To be creative in all activities
- D To establish a big business

**Q17. If you want to register a business and your capital is between 20 000 and 500 000 Tsh, how much does it cost to register the business?**

- A 50 000 Tsh
- B 200 000 Tsh
- C 500 000 Tsh
- D 1 million Tsh

**Q18. What is an important reason for keeping business records?**

- A Because you know how to keep business records
- B To know whether your business is making a profit
- C To make sure your stock is increasing
- D Because you are better at keeping business records than your competitors



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**Q19. Why is it important to allocate tasks to each of your workers?**

A So that you can show who is the boss

B So that you don't have to pay them so much

C So that they will not sue you

D So that they will perform better

**Q20: Suppose that you sell 10 pairs of shoes on a day, the price of each pair being 1500 Tsh.**

**If you bought the shoes from your supplier from 1000 Tsh per pair, how much profit have you made per day?**

A 1500 Tsh.

B 15000 Tsh.

C 7500 Tsh.

D 5000 Tsh.

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**Appendix 2: Questions on financial management**

**FINANCIAL MANAGEMENT**

**YOUR NUMBER** \_\_\_\_\_

Juma makes fruit juice at Kimara, Dar es Salaam and sells it in plastic containers to grocery stores and restaurants in different parts of the city. To calculate his profit from this business, he should subtract expenses from the sales. Which of the following should he treat as expenses for this purpose? (Y/N)

6.1 Cost of fruits used in making the juice	
6.2 Money taken to pay school fees for Juma's daughter	
6.3 Payments for hiring a pick-up to distribute the juice	
6.4 Payment for printing of posters to advertise the juice	
6.5 A loan given to Juma's casual worker	
6.6 Telephone calls to relatives to check on their health	
6.7 Salary to assistant cleaning the pick-up at the end of the day	

Aisha is considering starting up a chicken business in Magomeni, Dar es Salaam. In order to calculate the operating profits from her business, she wants to identify the variable costs of her business. Which of the following are variable costs? Answer YES if it is a variable cost, and NO if it is not a variable cost

6.1 The cage for the chicken	
6.2 The plot of land	
6.3 Chicken food	
6.4 Medicine	
6.5 Transportation of eggs	
6.6 Pushing troy	
6.7 Payment to employee	

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*Appendix 3: Question on Risk Taking*

**The safe alternative**

**The risky alternative**

**Case 1** 2000 Tsh guaranteed

or

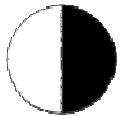
4000 Tsh with 25% probability



**Case 2** 2000 Tsh guaranteed

or

4000 Tsh with 50% probability



**Case 3** 2000 Tsh guaranteed

or

4000 Tsh with 75% probability



 4000 Tsh