Impact Investing: Redefining the Meaning of Return

Collection of short papers researched and written by the participants in the Master's Level course on Impact Investing in the Contextual Studies at the *University of St. Gallen* in the Spring Semester of 2015

Humanistic Management Center

2015 Collection of Course Papers from:
Impact Investing - Redefining the Meaning of Return

Researched and Written by the Course Participants as
Scenario Cases for Possible Impact Investing Opportunities

edited by the course faculty

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and

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This collection of short papers was researched and written by the participants in the Master's Level course on Impact Investing in the Contextual Studies at the *University of St. Gallen* in the Spring Semester of 2015. The cases featured represent investment scenarios and are not actual investments.

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Background Information on the Course

Ernst von Kimakowitz, Luciana Lucena de Lima

This course took place at the University of St. Gallen, Switzerland at Master's Level in the Spring Semester of 2015. The participating students in this elective course study a variety of subjects including Business Administration, Economics, Law and International Affairs.

Content: The content of this course is both, novel and highly relevant. The currently dominant investment paradigm is based on presuming a universal desire of investors to yield a risk adjusted optimal return i.e. the highest possible financial return within the boundaries of their appetite for risk. Impact investing questions this paradigm and argues that the objective of an investment can be to generate a positive social and / or environmental impact alongside financial returns. This course encouraged and supported critical thinking by integrating both, ethical reflection on, as well as concrete examples for impact investments.

Method: This course was focused on facilitating an environment where participants drive an activity based learning experience. Following the introductory session participants researched an impact investing opportunity and developed a fictitious investment structure for a social enterprise. In addition the opportunity to discuss with impact investing practitioners was provided in this course.

Goals:. The goal of this course was to give an introduction to impact investing. This course provided a broader perspective on finance, as a means to achieve the dual objective of generating positive social and / or environmental impact as well as some financial return. It aimed at enhancing the reflective capacity of participants on one side and on the other side provided a learning opportunity on a niche in finance that has received a lot of attention and has grown substantially over recent years.

The short papers in this document are designed as a briefing for an investment opportunity. Participating course teams acted as if they were investment managers of an impact investing fund, writing the briefing as preparation for a pitch presentation to the investment board of their fund. While the role of the participants as well as the investment proposals were fictitious, the organizations researched as an investment opportunity are real, operating businesses. All case examples in this document therefore represent scenarios for possible investments but are not describing real investments.

On behalf of all participants we also want to thank Jaume Iglesies of UBS Sustainable Investing, Natija Dolic of LGT Venture Philanthropy and Angélica Rotondaro and Johannes Boch of the Impact Investing in Latin America Research Platform (IILA) for their invaluable contribution to this course.

1. *HSG Fund* Investing in Dr. Consulta

Nathalie Dällenbach, Eva Schmithausen, Lisa Züger

April
2015

The HealthSt.Gallen Fund

Investee	Dr. Consulta
Geography	Brazil
Sector	Health Care
Instrument	Convertible Debt
Deal Size	$ 2.25 million

PREPARED BY
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THIS PROPOSAL HAS BEEN SUBMITTED IN THE CONTEXT OF THE SEMINAR “IMPACT INVESTING – REDEFINING THE MEANING OF RETURN”

Our Eligibility Criteria

In our due diligence process we primarily focus on following criteria:

- Proven sustainable business model
- Fair client treatment
- Significant social impact
- Owner and management capacity and integrity
- Real financing need

Investor: The Health St. Gallen Fund (The HSG Fund)	
INVESTOR DESCRIP-TION	The HSG Fund, an impact-investing firm, was founded on the belief that access to basic healthcare has to be available to everyone, independently of one's social position. Accessibility is especially important in the impact area of health, as it constitutes a basic condition for human development. The fund strives to provide patient capital in the form of equity or debt to social enterprises, which are in their growth and expansion phase. Thus it contributes to improving access to primary healthcare for the base of the socio-economic pyramid (BoP) in emerging markets. A focus on women and children is of major concern for The HSG Fund. Apart from capital, the Fund provides its investee also with knowledge and expertise. Whenever possible, it prefers to reach a co-investment. All investments are carefully selected on the basis of a fixed catalogue of criteria to guarantee that its long-term investments follow a double-bottom line approach, which seeks to achieve financial returns without compromising on its social mission. Part of this due diligence process is a field visit of 1-2 days.

Investee: Dr. Consulta (Participações SA)	
SECTOR	Healthcare
GEO-GRAPHY	Brazil
MANAGE-MENT TEAM	Thomas Srougi, founder of Dr. Consulta holds a degree from the Harvard Business School. One of his partners Guilherme Azevedo holds a degree from the Fundação Getúlio Vargas in Business Administration and his second partner Dr. Cesar Camera is a leading surgeon in São Paulo. Hence, they possess the necessary know-how and capabilities to manage Dr. Consulta and its expansion plans.

Founded in 2011, Dr. Consulta could have the capacity to revolutionize the Brazilian healthcare industry. Its management team T. Srougi, G. Azevedo and Dr. C. Camara created a system of outpatient hospitals, which made healthcare services affordable and accessible for the vast majority of the Brazilian population while generating a financial return. In particular, their business model targets low- and middle-income customers who were disadvantaged by the two-pillar system of the Brazilian healthcare services. Dr. Consulta embraces all relevant medical services in its portfolio. It ranges from general medicine to specializations in cardiology for example, totaling in 27 medical services being offered. The patients can claim these services in form of ambulatory care and consultation, and occasionally minor surgeries. With this wide-ranging portfolio, the investee is on the best way to meet its goal of improving the quality of life of its patients.

With Dr. Consulta's proposed "third way" it pursues a strong differentiating strategy. By scaling-up the project regionally, it can extend its customer base and fill a niche in the Brazilian healthcare market.

To realize its aim, Dr. Consulta makes use of a reliable automation process to make appointments via internet or by phone. Its competitive edge – convenience and practicability for customers – is achieved by optimizing the use of technology. This differentiator vis-à-vis its competitors enables Dr. Consulta to transact all administrative information online thereby reducing transaction costs and increasing efficiency. Moreover, text messages are sent to the patients as a reminder for consultation appointments. Consequently, a patient spends 45 minutes on average at the clinic.

BUSINESS MODEL

These services make Dr. Consulta's business model one with a **unique selling proposition**:

(1) fast and reliable appointment services
(2) reasonable pricing strategy
(3) excellent business and medical expertise and capabilities

Market Analysis

The healthcare sector has been identified as one of the key investment areas in Brazil. According to a study by the Aspen Network of Development Entrepreneurs and LGT VP 63% of the prospective investors wish to invest in the healthcare industry. This industry is profitable and can have a high social impact by preventing Brazilians from dangerous self-medication. Brazilian households spend high amounts of their health budgets (74%) on pharmaceutical products instead of seeking medical advice. Moreover, there is a growing gap between the supply of healthcare in urban and in rural areas. Aware of this discrepancy, Dr. Consulta's growth strategy should focus on rural areas in dire need of medical services.

Target Customers

In theory, Dr. Consulta's target customers cover all societal strata because of Brazil's unviable healthcare market. Yet, the current demand derives from customers with an income profile from R$1085 to R$7475 which includes the middle-income class (65%) and the bottom-of-the-pyramid (35%). Consultation costs range between $20-30 USD and can be paid in two tranches, in case of financial constraints of the clients (especially important for clients belonging to the BoP).

BUSINESS MODEL	**Competitors** The investee is competing with public institutions that offer similar services for free. In this respect especially the BoP faces a trade-off between paying for fast, reliable and high quality medical services and not paying for consultations at a publically funded clinic. Moreover, high entry barriers, which are due to high initial investment costs as well as extensive medical expertise and capabilities, keep additional competitors from entering the market.
SWOT – ANALYSIS: ATTRAC-TIVENESS FOR INVESTOR	Dr. Consulta **Strengths** • Proof of concept and scalability • Intangibles: Brand awareness & mentoring network • Strong marketing • Technology use: payments by credit installments • Emphasis on good business management **Weaknesses** • No proven replication in rural areas • Lack of experience with extreme expansion • Limited information on the market • Dependence on large amount of external financial capital – threat of mission drift **Threats** • Prospective improvement of public healthcare system could imply more competition • Political risks: corruption scandal may spread to other political spheres • Volatile macroeconomic development and regulatory risks, possible capital controls **Opportunities** • Huge potential customer base, expansion • Payment reliability increase due to growing middleclass • High entry barriers

Investment

STAGE OF LIFE CYCLE	Dr. Consulta started with two pilot projects in 2012, followed by a year of running basic business. Since 2014 the social enterprise is in an expansion and growth stage. By the end of 2014, Dr. Consulta counted five clinics in the metropolitan area of São Paulo. The investee's current aim is to open 20 more clinics until 2016. Through a network of 35 clinics, Dr. Consulta even seeks to achieve a patient base of 1 million/year by 2020.
INVEST-MENT NEED	The investment purpose is to enable Dr. Consulta to pursue its expansion plans. In order to get one clinic fully operating Dr. Consulta needs 750'000 USD. The HSG Fund's investment will contribute to Dr. Consulta's expansion plans by financing 3 clinics.
CO-INVESTOR	The HSG Fund will invest alongside LGT VP and Kaszek Ventures. Given that the values and motivation of the co-investors align with those of The HSG Fund the co-investors are ideal candidates to support Dr. Consulta's mission and its financial stability. Co-investing in this case comes with the benefit of reducing costs with regards to the due diligence process.
INSTRU-MENT & LEGAL STATUS	Given the investee's mature stage of development and its strong bargaining power, this fund chooses convertible debt as an investment instrument. It reflects Dr. Consulta's promising prospects and that the investor expects predictable cash flows if the expansion plans materialize successfully. Dr. Consulta's legal status is a Participacoes SA with various equity holders.

DEAL SIZE	The total deal size amounts to **2.25 Million USD** for several reasons: (1) According to a study by Bain & Company an investee in its “scale-phase” can be expected to ask for financing in the range of $1-$10Mio USD. Having in mind, Dr. Consulta’s mature phase of life cycle, an investment sum of 2.25 Million USD seems adequate given that the HSG Fund has defined clear milestones. Dr. Consulta’s maturity also implies that any investment below 1 million would be unattractive for the investee. As multiple clinics are already successfully operating, the investee has proof of concept. (2) The chosen deal size allows for the funding of 3 clinics as the minimum investment sum for 1 clinic starts at **750’000 USD.**
TIME FRAME & EXIT STRATEGY	The investment time frame of **5 years** is split into **3 financing phases**. In *phase 1* (2015-2016) & *phase 2* (2016-2017) Dr. Consulta will be given a loan of 750’000 USD per year with a flexible interest rate, thus enabling the construction of two new clinics. With an interest holiday during the first year, Dr. Consulta will be able to raise the necessary sum for the high upfront investments needed for the construction of new clinics. In the second year, a fixed interest rate will be set for which the electronic and medical equipment of the first clinic can serve as a collateral. In case of non-compliance with the due diligence criteria, the Fund retains the right to exit by 2017. If Dr. Consulta fulfills the social metrics defined below as well as the defined eligibility criteria, The HSG Fund will be able to convert its debt into equity by 2017. In this case the Fund will enter into investment *phase 3* with the amount of 750’000 USD in equity for the financing of a third clinic. When the five-year period elapses, The HSG Fund can end its investor’s relation to Dr. Consulta. In case of an exit the Fund will reserve the first buyer right to the current owners. Additionally, current owners would be given a veto right with respect to new potential stakeholders.
IMPACT FOCUS OF INVEST-MENT **&** **THE SOCIAL IMPACT VALUE CHAIN**	In Brazil, 135 million people belong to bottom of the socio-economic pyramid. Since the public healthcare system cannot meet the demand, especially these people have restricted access to primary healthcare. The HSG Fund could contribute to alleviating these problems by supporting low cost clinics with a **focus on women and on lower income neighborhoods of São Paulo.** The focus on women and children is especially attractive for two reasons. Firstly, women show a higher reliability for repaying loans or medical bills than men. Secondly, because women and children represent the most vulnerable individuals of the society. **INPUT:** Concretely, the Fund would support Dr. Consulta with financial means in the amount of $2.25 Mio USD and with medical and business expertise allowing the social enterprise to have three clinics with specialized gynecology and pediatric centers fully operating by the end of 2020.

IMPACT FOCUS OF INVEST-MENT **&** **THE SOCIAL IMPACT VALUE CHAIN**	**OUTPUT:** The running clinics could provide people living below the poverty line with dignity in healthcare. Moreover, a larger proportion of Brazilians will have fast access to healthcare and get value for money as they benefit from high quality medical services for reasonable prices. **OUTCOME:** Improved dignity, access and quality care for women and children will directly improve their health. Hence, adequate medical services will enable children to thrive in school while enabling women to go to work and to support their families. **SOCIAL IMPACT:** What will logically follow from an increase of the physical health of a broader proportion of Brazilians is an improvement in the quality of life as a whole and an increase in productivity given that absence at work and school will decrease. Consequently, the investment would contribute to reducing poverty overall.
SOCIAL METRICS TRACKED ON INVEST-MENT	The HSG Fund focuses on the following two metrics to trace the social impact of its investment: - **Number of additional people served**: 5’100 in 2016; 10’200 in 2017; 15’300 in 2018 - **Number of women and children served**: 4’080 in 2016; 8’160 in 2017; 12’240 in 2018.

Recommendation

TIME FRAME & EXIT STRATEGY	The careful application of The HSG Fund’s due diligence process has shown that the social enterprise fulfills the fund’s eligibility criteria. In a two-day field visit to the headquarters of Dr. Consulta our project group confirms the management capacity as well as the management and owner integrity in personal interviews with the three co-founders and business associates. Interviews conducted with doctors and patients confirm that clients are treated fairly at Dr. Consulta’s clinics. The business model has been proven as clinics are successfully operating since 2013. The financial sustainability of the business is reaffirmed by inspections of relevant financial and administrative documents. High up-front costs incur in the investee’s rapid growth phase, thus also a real financing need is given. The innovative business model and its scalability have a high potential to bring a high social impact to the Brazilian healthcare sector and the Brazilian society as a whole. On the basis of the executed assessment, our project group concludes that Dr. Consulta has a high social impact potential combined with low financial risks and promising long-term financial returns. **An investment in Dr. Consulta is highly recommendable.**

Sources

Aspen Network of Development Entrepreneurs, LGT VP, Quintessa Partners (2014). Mapping the Impact Investing Sector in Brazil - Summary of findings. Retrieved on March 13, 2015 from http://www.aspen institute.org/sites/default/files/content/docs/pubs/ImpactInvesting Study_FINAL_VERSION_ENGLISH.pdf

Bain & Company, Inc. (2014). The state of impact investing in Latin America. Retrieved on April 21st, 2015 from http://www.bain.com/publications/articles/the-state-of-impact-investing-in-latin-america.aspx.

Boch, J., Rotondaro A., Meynhardt T. (2014). Dr.Consulta - The Entrepreneurial Challengesof Impact Investing in Healthcarefor the Base of the Pyramid in Brazil. Retrieved on March 5, 2015 from http://www.impactinvesting.com.br/#!case-studies/c1lqr

Credit Suisse AG Research Institute, (2012). Investing for Impact - How social entrepreneurship is redefining the meaning of return. Retrieved on March 19, 2015 from: http://www.weforum.org /pdf/schwabfound/Investing_for_Impact.pdf

Global Impact Investing Network, (2014). Impact Investment Profile. Retrieved on March 19, 2015 from: http://www.thegiin.org/cgi-bin/iowa/resources/profile/15.html

LGT Venture Philanthropy, (2014). Dr. Consulta neue Portfolio Organisation in Brasilien. Retrieved on March 19, 2015 from: http://www.lgtvp.com/NewsCollection/News/2014/Dr--Consulta-new-portfolio-organization-inBrazil.aspx

LGT Venture Philanthropy (2014). Call for Impact. Retrieved on March 20th, 2015 from: http://www.lgtvp. com /lgt/files/87/ 87f7e9b4-4469-42eb-be7b-cd07339f8246.pdf.

LGT Venture Philanthropy, (2014). LGT Venture Philantrophy - Portfolio Overview. Retrieved on March 19, 2015 from: http://www.lgtvp.com/lgt/files/ba/ba7f5d4f-43fc-45b6-af5d-ad76766651c9.pdf.

Schwab Foundation for Social Entrepreneurship – the Voice of Social Innovation. Social Investment Manual: an introduction for social entrepreneurs (2011). Retrieved on April 17, 2015 from: http://www.weforum.org/pdf/schwabfound/SocialInvestmentManual.pdf.

2. *Sunshine Social Impact Fund* Investing in a Fund of Funds Stucture

Alexander Bode, Alexander Gulski, Christoph Oberle

1. Who we are

The Sunshine Social Impact Fund [SSIF] with its headquarters in St. Gallen aims to achieve a positive social impact on a global scale and realize a financial return. The fund´s scope is set on providing financial services to low-income individuals in emerging markets and developing countries. The SSIF currently has USD 1.3 billion of assets under management.

2. The Sunshine Social Impact Fund as a fund of funds

The proposal at hand offers the investment strategy to invest in three investment funds, which are all active in the microfinance sector. After a thorough due diligence, we selected the "responsAbility Global Microfinance Fund", the "BlueOrchard Microfinance Fund" and the "Dual Return Fund – Vision Microfinance". These funds have a similar scope – financial services – and a proven track record since their inception. As such, this strategy is based on providing impact-oriented funds with financial means. From an individual investor's perspective, investing in the SSIF would lead to an investment in a fund of funds structure. Hence, the SSIF would act as a fund of funds (responsAbility (2014a), BlueOrchard (2015a), Dual Return Fund (2015a)).

The fund of funds strategy – a structure that is rather uncommon for social impact funds – offers several advantages:

- Diversification of microfinance institutions [MFIs] mitigates risk and enhances impact generation
- Attractive financial return (3-4% p.a.)
- Due to specific credit lending processes default rates are kept very low
- Microfinance funds have a low correlation with other asset classes
- Fund managers have extensive expertise in the socially responsible investing sector

Despite these facts, an investor has to bear in mind that a specific impact area cannot be determined and it is difficult to quantify and concretize the social impact of an investment into the SSIF. Furthermore, the fees of a fund of funds structure are higher than those of conventional fund structures and the liquidity is rather low (Lützenkirchen and Weistroffer (2012)).

3. SSIF's scope

The SSIF's scope is the provision of financial services to micro-entrepreneurs in emerging markets and developing countries, thus enabling them to develop and grow income-generating activities. This is met by the three selected funds, which invest in the financial service sector. The investments of the responsAbility Global Microfinance Fund comprise fixed-interest debt securities with short to medium term to maturity. To a limited extent the fund also invests in fair trade and private equity. The BlueOrchard Microfinance Fund invests in debt instruments with a maximum maturity of three years issued by MFIs in Africa, Asia, Eastern Europe and Latin America. Finally, the Dual Return Fund – Vision Microfinance issues direct loans to MFIs in emerging markets and developing countries (responsAbility (2014a), BlueOrchard (2015b) and Dual Return Fund (2015b)).

4. Due diligence of the funds

Key facts

	responsAbility Global Microfinance Fund	BlueOrchard Microfinance Fund	Dual Return Fund – Vision Microfinance
Inception	2003	1998	2006
Headquarters	Zurich, CH	Geneva, CH	Vienna, AT
Total fund volume in USD	1'070 million	231 million	260 million
Average annual return since inception	3.50%	3.65%	3.03%
Target net return	3-5% p.a. over a horizon of five years	6M LIBOR + 1-2% p.a.	EURIBOR + 2%
No. of inv. countries	76	36	28
No. of MFIs financed	263	81	83
Fund type	Commercial debt fund (open-end)	Commercial debt fund (open-end)	Commercial debt fund (open-end)
Fund currency	USD, CHF, EUR	USD, CHF, EUR	USD, CHF, EUR
Subscription of units	Monthly	Monthly	Monthly
Redemption of units	Quarterly	Monthly	Monthly
Sales authorization	CH, LUX, LI, NL, SG	CH, DE, AT	LUX, AT
Total expense ratio	2.60% p.a.	1.85% p.a.	2.50% p.a.
Investor type	Private & institutional	Private & institutional	Private & institutional
Min. subscription	USD 1'000	USD 10'000	EUR 1'000

Source: responsAbility (2015), BlueOrchard (2015a) and Dual Return Fund (2015a)

Management

The management board of all the three funds is comprised of respected experts in the field of microfinance, financial sector development, regulation and private sector investments in emerging markets and developing countries. The members of the board are responsible for defining strategic goals. The management teams of all the three funds have been able to realize considerable returns since their inception dates.

Investment process

The investment processes of all the three funds are fairly similar and generally include the following three steps (BlueOrchard (2012), Dual Return Fund (2014) and responsAbility (2014b)):

- Selection of investment targets based on qualitative and quantitative rating systems (e.g. strategy pursued by the MFI, management of the MFI, financial and social performance of the MFI etc.), which lead to the investment.
- Ongoing monitoring of selected investments, regular supervision and analysis of the creditworthiness of the investments effected by the fund, provision of regular reports about the fund's investments, credit risk and financial as well as social performance.

Criticism on microfinance

Over the last couple of years the microfinance sector had to stem more and more critique. Excessive interest rates are said to be extortionate, micro-clients received loans which exceeded their borrowing capacity, microfinance funds and MFIs maximized their profits and thereby neglected their clients. On top of that MFIs didn't sufficiently support their micro-clients before and during the lending term (Mikrofinanzwiki (2015)).

Our fund and investees are aware of these issues and the following points shall solve or mitigate the difficulties in the long run:

- Compared to other debt securities interest rates are rather high but local credit sharks would demand even higher rates and do not offer the same level of support to their clients as the MFIs from our portfolio.
- In order to prevent over-indebtedness of our clients, the MFIs conduct an intensive screening and monitoring of clients before and during the lending term.
- Despite the fact that realizing a financial return certainly is a motive for our fund, achieving a social impact is equally important for us. The scarce redemption dates ensure that investors with short-term profit maximization goals are not attracted.
- Mentoring programs – before and during the lending term – are provided by the MFIs in our portfolio. Through this clients learn how to handle their own finances, which reduces the default probability of the credit portfolio of MFIs.

5. Social impact measurement

While trying to measure social impact, it is very important to be aware that social performance must be somehow related to improvements in the lives of the micro-entrepreneurs. Merely demographics of the loans and recipients don´t show actual social performance. According to Tschan (2015) and Müller (2015) it is very difficult to find information on how the income of the micro-entrepreneurs develops after they receive a loan. By assessing the amount of lives touched by an investment, the social impact can be estimated. According to the management of our investees an investment of approximately CHF 500 into their fund will target one micro-entrepreneur. The micro-entrepreneur's increased wealth will reach another five family members.

Over the last couple of years the microfinance sector has pulled millions of poor people into the formal banking system and those people profited from increased income generation, improved nutrition, empowerment of women and access to non-financial services such as healthcare and financial literacy (Developing World Markets (2011)).

6. Investment structure – path of the money

An investment would be transferred to the MFIs through direct loans via the SSIF and subsequently investees. The MFIs, which are selected by the investees, would then hand out micro credits to micro-entrepreneurs. As a consequence micro-entrepreneurs could take up their economic activity. The micro-entrepreneurs would be bound to pay back the micro credit to the MFIs at maturity and pay interest on the credit amount. In their turn, the MFIs would pay back the loan with interest to our investees, which would then be transferred to the SSIF and afterwards to our investors (Carl (2013)).

7. Timeframe and exit strategy

In contrast to a closed-end fund with a fixed maturity the SSIF and its investees have an open-end fund structure, which would enable the SSIF to redeem invested units on a quarterly basis. Compared to a direct equity investment in a social enterprise, fund investors are neither targeted by the difficulties of repatriation of their capital nor are they committed to a certain investment horizon. In order to achieve a substantial financial and above all social return we consider a five to ten year investment period as appropriate. Only by investing through a longer time period the MFIs are enabled to generate a sustainable social impact in the sector and strengthen their own structures (responsAbility (2014a)).

8. Summarized fact sheet

Fund name	The Sunshine Social Impact Fund
Investees	- responsAbility Global Microfinance Fund - BlueOrchard Microfinance Fund - Dual Return Fund – Vision Microfinance
Amount	USD 10'000'000 (targets 20'000 micro-entrepreneurs)
Relevance	Approximately 1% of total fund volume
Social impact	- Access to financial services - Stimulate growth opportunities

	- Improve living standards
Target net return	3-5% p.a.
Total expense ratio	Approximately 2.3% p.a. (Average of investees' TER)
Time frame	5-10 years
Exit strategy	The open end fund structure of the investees would enable the SSIF to redeem invested units on a quarterly basis

9. Conclusion – SSIF as a fund of funds

Strengths

- Effective risk mitigation
- Long-term social impact and diversification enhance impact generation
- Attractive financial return and low default rates
- Low correlation to other asset classes
- Experienced management teams

Weaknesses

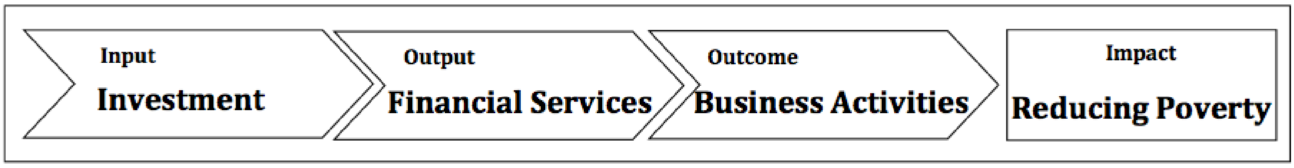
- Specific impact area cannot be determined by single investor
- Social impact is difficult to quantify
- No strategic influence for individual investor
- Increased fees due to fund of funds structure

Opportunities

- Global microfinance market is expected to grow 15-20% in 2015
- Merely 2-5% of total demand for microcredit is currenlty covered

Threats

- Unreliable legal systems
- Political risk
- Liquidity risk



Bibliography

BlueOrchard, 2012, BlueOrchard Microfinance Fund – Sales prospectus from the website, http://www.blueorchard.com/wp-content/uploads/2013/05/Prospectus-BOMF-August-2012.pdf, 07.04.2015.

BlueOrchard, 2015a, BlueOrchard Microfinance Fund – Investor Update as of 27 January 2015 from the website, http://www.blueorchard.com/wp-content/uploads/InvestorUpdate/BOMF/BOMF_EN_P.pdf, 08.04.2015.

BlueOrchard, 2015b, Investment Solutions - BOMF: BlueOrchard Microfinance Fund from the website, http://www.blueorchard.com/investment-solutions/investment-funds/bomf, 08.04.2015.

Carl, Claudia, 2013, Was Microfinance im Portfolio bewirkt, Finanz und Wirtschaft, July 24th.

Developing World Markets, 2011, Global Pensions & Investment Fund Review from the website, http://www.dwmarkets.com/media/pdf-inclusive-finance-broadening-the-paradigm-of-microfinance-as-an-asset-class.pdf, 05.04.2015.

Dual Return Fund, 2014, Dual Return Fund – Sales prospectus from the website, http://www.visionmicrofinance.com/fileadmin/docs/vmf/vkp/VKP_Dual%20Return%20Fund_en_01-07-2014.pdf, 07.04.2015.

Dual Return Fund, 2015a, Dual Return Fund Vision Microfinance – Fact Sheet from the website, http://www.visionmicrofinance.com/fileadmin/docs/vmf/facts/VMF_factsheet_de_03-15%20-%20P.pdf, 08.04.2015.

Dual Return Fund, 2015b, Dual Return Fund- Vision Microfinance from the website, http://www.visionmicrofinance.com/dual-return-fund/vision-microfinance/, 08.04.2015.

Lützenkirchen, Cédric and Christian Weistroffer, Microfinance in evolution - An industry between crisis and advancement, 2012 (Deutsche Bank, Frankfurt).

Mikrofinanzwiki, 2015, Aktuelle Kritik an Mikrofinanz from the website, http://www.mikrofinanzwiki.de/ueber-mikrofinanz/kritik/, 10.04.2015.

Müller, Roger, 2015, telephone interview, conducted by Alexander Gulski, 16.04.2015.

responsAbility, 2014a, responsAbility Global Microfinance Fund – Fund Portrait from the website, http://www.responsability.com/investing/data/docs/en/6953/2-Pager-Global-Microfin-2014-EN-Rel-3.pdf, 08.04.2015.

responsAbility, 2014b, responsAbility Global Microfinance Fund – Sales prospectus from the website, http://www.responsability.com/investing/data/docs/en/8299/rAGMF-Sales-Prospectus-DE-0914.pdf, 07.04.2015.

responsAbility, 2015, responsAbility Global Microfinance Fund Monthly report 2015 from the website, http://www.responsability.com/investing/data/docs/en/13849/rAGMF-EN-03-15.pdf, 08.04.2015.

Tschan, Lucas, 2015, telephone interview, conducted by Alexander Gulski, 16.04.2015.

3. Investing in Imagine Cargo

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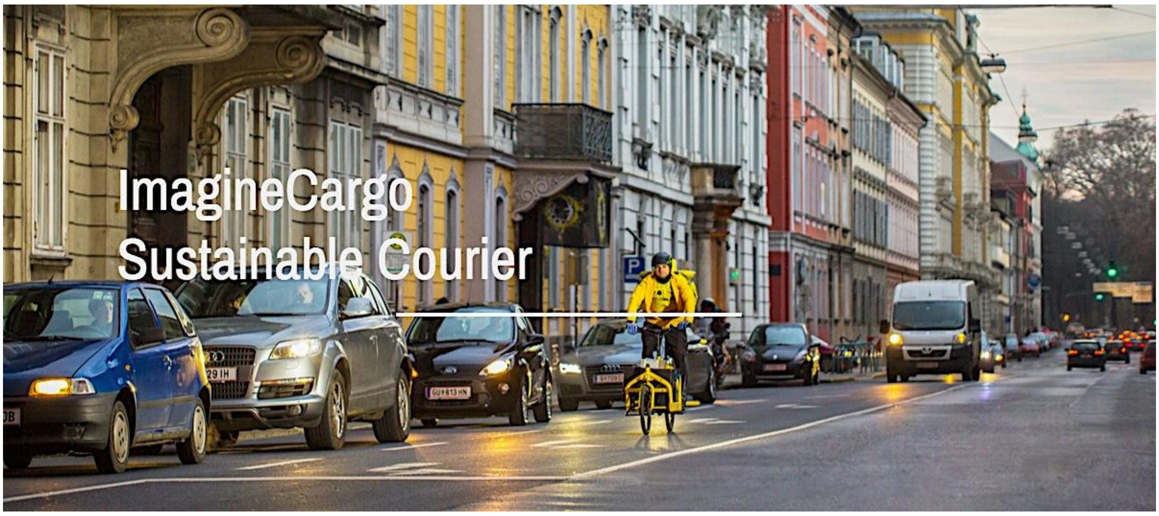
Catherine Waldis

Investment Proposal

ImagineCargo



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April 2015

1. Business Model

ImagineCargo is a for-profit social enterprise that aims to revolutionize the package delivery industry. Nick Blake and Benjamin Duh founded the company in Switzerland in 2014. The initial idea was based on long experience in the logistics and messenger industry and a simple calculation of the amount of CO_2 created by the transport of a single package. Astonishingly, a package of only 5kg creates at least 12kg of CO_2 when transported with conventional express delivery service. The solution to this problem is to transform the delivery network and create an environmentally friendly transport model between cities. Traditional transportation companies such as DHL, UPS or TNT use a hub-and-spoke model and transport packages via truck-plane-truck, thereby causing a lot of unnecessary pollution. ImagineCargo's transport model is via bike-train-bike, which causes 99% less CO_2 and no congestion. The model is extremely customer-friendly and even an express delivery is offered several times daily. ImagineCargo works together with trusted local bike messenger companies that already have an established community. Customers only have to contact the local bike messenger in their city who then will come to pick up the package at their house and bring it to the local train station. Once the package has arrived at the station of destination, another local bike messenger will pick it up and deliver it right to the desired address. The price for this new delivery method is the same (or sometimes even lower) than conventional delivery services. This is possible because the train system is already running, which leads to a high utilization and accordingly low costs. Furthermore, there is no need to buy an own fleet and there are no petrol costs.

2. ImagineCargo's Future Plans

ImagineCargo recently launched its first delivery service between Graz and Vienna. The service is offered on package delivery websites as an alternative to conventional providers. Within the next year, ImagineCargo plans to extend the network within cities in Austria as well as to other neighbouring countries. However, to create an international network, local networks must first be established. The third Austrian city will be launched within the next months and the first cities in two neighbouring countries are also planned to be launched within this year. The long-term goal is to create an international sustainable transportation network between all large cities in Europe.

3. Our Decision

We would like to invest in ImagineCargo because we believe that our investment will make a tremendous impact. It is not always necessary to invest in the developing countries to make a difference. ImagineCargo will make our European cities cleaner, quieter and less congested without increasing the costs for package delivery. In our opinion this is a step in the right direction to decrease global warming, educate customers and raise awareness for sustainable and environmentally friendly solutions. If successful in the long-term, the environmentally friendly package delivery service could be rolled out far beyond Europe.

4. Ecological Impact

"Turning the clock back" constitutes ImagineCargo's vision for the package delivery market. A while back, trains were frequently used to transport packages but then the truck entered, affecting the whole industry and especially its environmental impact. By opting for the bike-train-bike solution, ImagineCargo seeks to massively reduce the CO_2 consumption of package transportation, henceforth focusing mainly on the ecological impact of their services. Transparency is key; therefore, ImagineCargo’s team seeks to perfect their CO_2 consumption calculations by integrating the most detailed factors possible ranging from the different train models to the bike's materials and even the messengers’ diet. To calculate the most realistic and honest results ImagineCargo collaborates closely with MyClimate, a Swiss non-profit climate protection organization. In showing the difference in ecological impact between the use of bikes and trucks, ImagineCargo aims to inform its consumers and make them aware of the differences between the two delivery systems. Reducing around 99% of CO_2 contamination associated with delivery industry through bike-train-bike solution is a compelling argument. Furthermore, as the statistics in the Nielsen Global Survey on Corporate Social Responsibility of 2014 show, this complies with the new trend of digital consumers who tend to increasingly buy eco-friendly services

5. Social Impact

Besides the environmental purpose, ImagineCargo’s mission has also a social impact. Messengers form communities that are tightly connected by certain values. According to Nick Blake, bike messengers choose their job for many reasons beyond money, such as political convictions or sports. Acting independently, these special "deliverers" mainly work part-time and studies have shown that they have a higher job satisfaction than truck drivers. ImagineCargo’s main interest is to guarantee this status quo by partnering up with messenger companies that follow this philosophy and by excluding patterns of social exploitation. Since this social impact is very qualitative in nature, it is difficult to measure its exact results.

6. Legal and Tax Implications

ImagineCargo has been incorporated in Zurich and is therefore submitted to Swiss law and taxes. Along with the geographical expansion, the different national and European regulations concerning border taxes will have to be taken into account. The founders chose the GmbH (Gesellschaft mit beschränkter Haftung) form for the company, meaning "a company with limited liability". The owners are thus not personally liable for their company's debts. Usually, messengers assemble themselves into associations, to keep their independence and work philosophy. Stock corporations are, on the contrary, a rarely used form due to the owners' risk, as through the acquisition of shares the owners could lose their control over the company and its social goals and functioning.

7. Investment Readiness

As ImagineCargo is at the end of its seed phase, with the estimated break-even point in one year, the subsequent growth phase depends heavily on the available funds. The environmental and social impact aspects prove to be strong arguments to invest in the company as ImagineCargo's business idea was recognized by independent organizations under the umbrella of Impact Hub Zurich, WWF and Knowledge and Innovation Community, as one of Europe's most innovative companies that can achieve global impact through the creation of a more sustainable environment, and subsequently has been provided with funding, network and coaching sponsored by these organizations. As of now, the company has no external investors and was funded through the owners' equity capital along with grants from the received awards. Therefore, ImagineCargo represents an attractive impact target, since our investment would be the first external one and could therefore vastly influence the potential the company can achieve in the near future. ImagineCargo's team is equipped with the extensive necessary expertise in the transportation industry, long-term experience in the cycle messenger business, and a large network. As ImagineCargo's growth requires the expansion of the local and international network, additional funds will be required in order to facilitate setting up new operations. Lastly, a company with a similar collaborative business model - Swissconnect - and its success, though exclusively focused on the Swiss market, constitute a valid proof of concept, as the company has been successfully delivering packages since 2001, and in 2012 it surpassed 40'000 express-deliveries mark within a year.

8. Investment Structure and Exit Strategy

ImagineCargo requires more funding in order to achieve its growth goals – expansion within Austria and internationalisation to other countries. As the first external investor, we will provide the company with funding of CHF 500'000 in a form of a discounted convertible loan with cap. The exercise of the conversion will be set at the next funding round or after a maximum of 3 years. The discount of 20% will be included and the maximum cap will be set at CHF 3 million. As supplementary features, an interest rate of 4% will be charged on the loan. However, it will not be paid directly, but instead increase the value of the principal. As we are not only interested in providing financial means but also in entering a partnership, we will also provide ImagineCargo with management expertise and play a supportive role in the development of the start-up. This will allow us to ensure the safety of our investment. Moreover, in order to avoid the dilution of ownership, we will grant the owners priority buy-back rights. Our investment shall allow ImagineCargo to pursue its expansion and will therefore be utilized for 3 main areas. Firstly, an important part of the fund will be dedicated to the development of operations in order to expand the firm's network and to set up the missing operational structure in new cities. Secondly, a part of the fund will be attributed to marketing activities in order to acquire new customers and build up a brand image. This includes improving ImagineCargo's website and integrating the option to directly order the service there. Finally, the last part of the fund will be used for legal fees. For the exit strategy, the options are the traditional ones: an IPO or selling the stake back to management or a third-party investor. As one of our major concerns is to avoid mission drift, an IPO is not the ideal option. We would therefore rather choose the sell back to the owners or to a suitable new investor, whose values comply with the impact goals of ImagineCargo.

Sources

i. Blake, N. (March 16th, 2015). Interview on ImagineCargo with the Founder. (Lina Reinhardt, Jonas Tarabori, & Catherine Waldis, Interviewers)

ii. ImagineCargo. (w.d.). *ImagineCargo Sustainable Courier.* Retrieved March 2015 from http://www.sustainablecourier.com

iii. KPMG. *Comparison of Stock Corporation (AG/SA) with Limited Liability Company (GmbH/Sàrl).* Retrieved March 2015 from http://www.kpmg.com/CH/en/Library/Articles-Publications/Documents/Legal

iv. Nielsen. *Nielsen Global Survey on Corporate Social Responsibility (2014).* Retrieved March 2015 from http://www.nielsen.com/us/en/press-room/2014/global-consumers-are-willing-to-put-their-money-where-their-heart-is.html

4. Investing in Mountain Hazelnuts Venture

Luana Stämpfli, Matthias Klauser, Marrtin Vavrouch,
Dominik Graf

Founded in 2010, Mountain Hazelnuts Venture Ltd. ("MHV") is a Bhutan based social venture. Its goal is to build a major hazelnut production capability, using best practices in sustainable agriculture and food processing and thereby become a major player in the global hazelnut market. Poor farmers will be provided with young hazelnut trees. The trees will be planted on fallow or degraded areas, and MHV would purchase all the hazelnuts at a guaranteed minimum price and resell the nuts to the world markets.

Why invest?

1. Scale of impact

MHV has two main missions besides generating commercially sustainable financial profit: a social mission and environmental mission. The social mission has four key areas focusing on alleviating poverty, reducing unemployment, enabling access to capital and mitigating rural-urban migration. The environmental mission focuses on reducing erosion, protecting watersheds, increasing soil fertility and reducing the amount of cut forest for firewood. MHV developed a specifically defined set of indicators, which are being measured to assure that these missions are accomplished.[1]

MHV will share its profits to alleviate poverty in Bhutan…

MHV agreed to commit 20% of its profits, after all financial obligations, to be put into "Hazelnut Trust" to help alleviate poverty in Bhutan. The projected amount to be contributed in 2024 will be around USD 5m. This represents 2% of Bhutan's annual budget. Bhutan's current NPV of this project at 10% discount rate, assuming 5% growth rate, is USD 67m.

Overall it is expected that 15,000 households will grow hazelnuts, this translates into about 15% of the population. With this participation, the farmers would be able to double their household´s cash income and at the same time 1,000 people would get direct employment.

MHV wants to help farmers to get access to capital for farm inputs at affordable rates using the future crops as collateral. MHV will also help farmers to open their first bank account, while cooperating with local banks to develop savings programmes for the farmers.

…And thus also mitigate rural-urban migration

By increasing the farmers' household income, there will be less incentives for rural-urban migration which will help to preserve the local communities and culture.

[1] These indicators include among others farmers' income, farmers' demographics and location, percent of forest cover, tons of pruning gathered and used for firewood or water quality.

Planting hazelnut trees will reduce erosion…

Due to overgrazing cattle and "slash and burn" practices, Bhutanese farmers have made the soil and farmland highly vulnerable to erosion, which results in reduced soil fertility, unstable slopes, degraded water quality and increased risk of flooding. Planting trees in these areas will mitigate erosion as the hazelnut trees' roots will stabilize the soil.

…As well as reduce the amount of cut forest for firewood

Most of the country's residential energy comes from firewood which is often taken illegally from the forest. The pruning gathered from the hazelnut trees can be used as a sustainable source for firewood and will thus decrease the amount cut illegally.

2. Innovative but proven business model

MHV relies on a fairly simple business model…

They provide young hazelnut trees to poor farmers for free, who would grow them on degraded or fallow land that isn't suitable for their subsistence crops. The growth and harvest of hazelnuts requires relatively little effort and accordingly farmers can do this in their spare time. By purchasing the nuts at a guaranteed price, MHV will provide the farmers with a fixed cash income. MHV will then process the nuts, ship them through India to customers in China and in a later stage to Europe, the world's biggest hazelnut market.

…Realized by a highly experienced management team

Mr Daniel Spitzer is the Founder and CEO of the company. He holds an MBA from the Stanford Graduate School of Business, has extensive experience in social business and spent most of the past 20 years as CEO/Chairman of companies in Asia. MHV's management team employs an experienced team of specialists in the areas Outreach, Planning and Human Resources, Administration and Finance as well as Engineering.

Spitzer has already founded a similar social-mission driven company in 1993, namely Plantation Timber Products Group (PTP). This very successful venture in rural China involved 700'000 farmers growing trees in deforested areas and became a large, successful business that served as a model for MHV`s business concept. PTP was sold with attractive returns for its investors in 2004 and proved that it is possible to combine commercial and social objectives.

The market currently looks very attractive

The world players in hazelnut production are Turkey and Italy, but it is known that they use very traditional and rather inefficient approaches to produce hazelnuts. Accordingly MHV as a "best practices" company should be able to compete efficiently in this market. Additionally the current trend of healthier food habits drives the demand and accordingly nut snacks are expected to come closer to or even overtake classic snacks in the short to medium term.

MHV can count on a broad network of partners

Local farmers are involved through a model based on a mutual commitment and obligation. MHV provides teaching, skill workshops and videos for the local farmers. The farmers plant the trees, take care of them, harvest the hazelnuts and thereby receive a steady income through the sales of the hazelnuts. The government of Bhutan strongly supports MHV and signed a Memorandum of Understanding with the company. Kumming Advanced Tissue Culture Ltd. In China is responsible for the development of the hazelnut cultures and bound by a long-term contract. The list of partners also includes local truck owners that are responsible for the tree distribution in Bhutan as well as various hazelnut distributors in Asia and Europe and many more.

3. Investment readiness of investee

Founded in 2010, MHV has already achieved several milestones. They registered in 2010 as a Bhutanese company. In 2011 they got the first funding from outside impact investors (IFC and Blue Moon), their nursery reached a capacity of 2.5 million trees p.a. and three test plots were planted. Furthermore about 450,000 trees were delivered to the farmers. In 2013 they harvested their first hazelnuts from the demonstration orchards. Up to today, about 150,000 kg of nuts have already been harvested.

Currently MHV is a 100% subsidiary of Mountain Hazelnut Group, a holding company based in Hong Kong (China) in which all the current investors are invested. Mountain Hazelnut Group has three types of investors: the members of the senior management, the founder’s family as well as other Impact Investors (so far IFC and Blue Moon). They are currently looking for further USD24m (USD30m in total of which USD6m has already been provided by IFC and Blue Moon) equity and/or debt investment to finance the development and care of hazelnut orchards, corporate operations, and construction of a modern processing facility.

4. To be considered

Legal and tax implications

We would invest in Mountain Hazelnuts Group, the holding company of MHV with a Hong Kong domicile. One can generally say that China welcomes foreign investment and is bound under WTO rules to further open its industries to foreign investors. [2] Since November 15, 2014 there is an agreement in place between the Swiss Federal Council and the Government of the People's Republic of China for the avoidance of double taxation with

[2] Deloitte (2014), Taxation and Investment in China 2014, available under: “http://www2.deloitte.com/content/dam/Deloitte/global/Documents/Tax/dttl-tax-chinaguide-2014.pdf” [assess date: 19.03.2015].

respect to taxes on income and on capital[3], accordingly capital gains of this investment are not taxed twice. There is no similar agreement between Bhutan and Switzerland. Therefore it is better not to be directly invested in Bhutan. To mitigate any further legal and tax implications tax specialists and lawyers of the concerned countries should be consulted before investing.

Internal and external risks and their mitigation

While MHV can highly benefit from its Bhutan location as well as promising future conditions on the hazelnut market there are also various internal and external risks that need to be considered, monitored and mitigated accordingly.

The political and economic risk that MHV might face due to corruption or government pressure is highly limited as there is close to no corruption in Bhutan. Moreover, MHV closely collaborates with the government. There is an environmental risk that natural hazards such as monsoons and frosting could eliminate the production. Frequent visits and the traceability of plants allow helping the farmers to take care of the trees and prepare them for environmental hazards.

As internal risks one especially needs to highlight the cultural differences presenting challenges that are new to the MHV's western management. For example, it was initially really hard to find people that would work nightshifts as they were all afraid of ghosts at night. MHV identified the problem, communicated with the workers and hired additional people for the night shifts, so that no employee would work alone.

How to invest? - Financial considerations

We have developed 3 main operational scenarios. These scenarios differ mainly in different burn-out rate of the trees and price levels of hazelnuts.

Table 1 depicts the various assumptions. These assumptions were then used to build up the financial statements (available in the appendix). Under the base case scenario, MHV will become almost break-even in 2018 and will become highly profitable in 2019. Once all the trees are given to the farmers, MHV will operate under very low costs (note the price

Area	Upside case	Base case	Downside case
Trees planted	▪ All 10m trees planted ▪ 7m trees planted before 2017	▪ All 10m trees planted ▪ 7m trees planted before 2017	▪ 8m trees planted ▪ 6m trees planted before 2017
Burn-out rate	▪ 25% burnout rate of trees assumed	▪ 35% burnout rate of trees assumed	▪ 50% burnout rate of trees assumed
Price per Kg sold	▪ 15% price increase till 2021, USD 2.0/kg now	▪ Prices flat, USD 2.0/kg now	▪ 15% price decrease till 2021, USD 2.0/kg now
Common assum-ptions	▪ Trees are grown 6 months at a nursery ▪ Trees start yielding first hazelnuts 3 years after planting and reach full capacity in 6-7 years ▪ Hazelnuts will be purchased from the farmers for USD 0.3 per kg with a slight increase after 2018 to USD 0.4, it will further cost USD 0.2 per kg to process the nuts ▪ Processing of the nuts results in 7.5% weight decrease ▪ It costs USD 2.5 to grow and give the tree to the farmers ▪ MHV will invest USD 1m into orchards and USD 3m into processing plant ▪ SG&A will represent c. USD 2m a year since 2016 (based on employees and other expenses)		

Table 1: Assumptions and operating scenarios

[3] Abkommen zwischen dem Schweizerischen Bundesrat und der Regierung der Volksrepublik China zur Vermeidung der Doppelbesteuerung auf dem Gebiet der Steuern vom Einkommen und vom Vermögen (SR 0.672.924.91).

differential between nuts bought for USD 0.3 and sold nuts for USD 2.0) which result in high profitability in 2019 forwards.

The investment will be in a form of payment in kind (PIK) convertible conditional 2-staged loan…

The instrument will be a convertible loan with the maturity of 6.5 years and with PIK interest for the first 4 years due to low cash generation of the business in these years. We will provide financing in 2 stages. The first USD 3m in the middle of 2015 and the second sum of USD 3m will be paid out in the middle of 2016 conditional upon giving at least 1.5m trees in that timeframe to the farmers and ensuring less than 50% burn-out rate (amount of trees given to farmers that will not yield any hazelnuts – either due to the death of the tree or due to opt-out of the farmer). This conditionality decreases our risk and motivates the entrepreneur to achieve the mutually agreed goal.

For our USD 6m we will receive 11.2% ownership if we convert the loan into equity in 2021 (8.6% without the PIK effect). We assume 2% transaction costs and we will require premium right to invest if MHV decides to scale up its operations to tap the European market. We will also require seniority to equity, restriction to further financing in excess of the initial USD 24m, restriction on dividends and restriction on any M&A activity.

We plan to exit the investment close to the maturity day. If converted, we aim to sell our stake to a strategic investor (e.g. Ferrero S.A.). The other options include selling it to other financial investor, management of MHV or potentially to the Bhutanese government.

… With the expected yield of c. 15.9% IRR

Under these transaction assumptions, we could achieve 15.9% IRR under the base case. If the downside case occurs then we will not convert the loan to equity. This option gives us a healthy 5.8% IRR. Under very optimistic scenario, we could achieve up to 27.8%. IRRs are already calculated with a significant dividend in 2021.

		Scenarios			
		Upside converted	Base converted	Downside converted	Downside not converted
Exit P/E	6.0x	*19.2%*	*11.5%*	*(4.0%)*	*5.8%*
	7.0x	*21.6%*	*13.8%*	*(1.6%)*	*5.8%*
	8.0x	*23.8%*	*15.9%*	*0.5%*	*5.8%*
	9.0x	*25.9%*	*17.8%*	*2.5%*	*5.8%*
	10.0x	*27.8%*	*19.6%*	*4.2%*	*5.8%*

Table 2: Yields at different scenarios

Appendix

Further information/Sources:

Disclaimer:

The majority of the financial data carved out within the scope of the present paper is based on assumptions the authors made. The resulting figures therefore do not represent any knowledge on or of the financial situation or investment opportunities related to the company.

On the company and the project:

Lee, H. L., & Hoyt, D. (2011). Mountain Hazelnuts: Social Entrepreneurship in Bhutan. Standford: Standford Graduate School of Business.

Lee, L. (2012, June 06). Big Business in Bhutan: How the Humble Hazelnut Could Help Bhutan. Retrieved from Graduate School of Stanford Business: http://csi.gsb.stanford.edu/big-business-bhutan-how-humble-hazelnut-could-help-bhutan

Bhutan:

Canan, L. (n.d.). Bhutan: The World's Happiest Country. Retrieved from One World Writing: http://www.oneworldeducation.org/bhutan-worlds-happiest-country

CNN (Director). (2012). Bhutan blends tradition with business [Motion Picture]. Retrieved from http://edition.cnn.com/videos/business/2012/01/04/along-the-silk-road-ep8.cnn

The World Factbook. (2004, November 30). Bhutan. Retrieved from The World Factbook: http://theworldfactbook.info/print/bt.html

Kamenev, M. (2006, October 11). World's Happiest Countries. Retrieved from Bloomberg: http://www.bloomberg.com/bw/stories/2006-10-11/rating-countries-for-the-happiness-factorbusinessweek-business-news-stock-market-and-financial-advice

Kawa, L. (2012, October 24). The 20 Fastest Growing Economies In The World. Retrieved from Business Insider: http://www.businessinsider.com/worlds-fastest-economies-2012-10?op=1&IR=T

Hazelnut Market:

International Nut & Dried Food. (2013). *Global Statistical Review 2008-2013.* Retrieved from NuitFruit: http://www.nutfruit.org/global-statistical-review-2008-2013_85959.pdf

USDA Financial Agricultural Services. (2014, September 15). Global Agricultural Information Network. Retrieved from USDA: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Tree%20Nuts%20Annual_Madrid_EU-28_9-18-2014.pdf

Further financial data

Table 1: Base case revenue build-up

	2015	2016	2017	2018	2019	2020	2021
BoP trees	650,000	1,950,000	3,575,000	4,550,000	5,200,000	5,525,000	5,850,000
Trees planted	2,000,000	2,500,000	1,500,000	1,000,000	500,000	500,000	350,000
Burn-out	700,000	875,000	525,000	350,000	175,000	175,000	122,500
EoP trees	1,950,000	3,575,000	4,550,000	5,200,000	5,525,000	5,850,000	6,077,500
Kg of nuts from trees planted in 2012	195,000	373,750	568,750	650,000	650,000	650,000	650,000
Kg of nuts from trees planted in 2013	48,750	195,000	373,750	568,750	650,000	650,000	650,000
Kg of nuts from trees planted in 2014	–	97,500	390,000	747,500	1,137,500	1,300,000	1,300,000
Kg of nuts from trees planted in 2015	–	–	390,000	1,560,000	2,990,000	4,550,000	5,200,000
Kg of nuts from trees planted in 2016	–	–	–	487,500	1,950,000	3,737,500	5,687,500
Kg of nuts from trees planted in 2017	–	–	–	–	292,500	1,170,000	2,242,500
Kg of nuts from trees planted in 2018	–	–	–	–	–	195,000	780,000
Kg of nuts from trees planted in 2019	–	–	–	–	–	–	97,500
Kg of nuts from trees planted in 2020	–	–	–	–	–	–	–
Kg of nuts from trees planted in 2021	–	–	–	–	–	–	–
Total Kg nuts produced	243,750	666,250	1,722,500	4,013,750	7,670,000	12,252,500	16,607,500
Total Kg after processing	225,469	616,281	1,593,313	3,712,719	7,094,750	11,333,563	15,361,938
Revenues (USD)	450,938	1,232,563	3,186,625	7,425,438	14,189,500	22,667,125	30,723,875

Table 2: Base case profit and loss statement

USD - FYE 31/12	2015	2016	2017	2018	2019	2020	2021
Revenue	450,938	1,232,563	3,186,625	7,425,438	14,189,500	22,667,125	30,723,875
COGS	5,112,734	6,558,141	4,546,656	4,827,631	5,556,850	8,100,138	10,162,163
Gross profit	(4,661,797)	(5,325,578)	(1,360,031)	2,597,806	8,632,650	14,566,988	20,561,713
SG&A	1,600,000	2,450,000	2,100,000	2,000,000	1,900,000	1,900,000	1,975,000
EBITDA	(6,261,797)	(7,775,578)	(3,460,031)	597,806	6,732,650	12,666,988	18,586,713
D&A	100,000	250,000	250,000	250,000	250,000	250,000	250,000
EBIT	(6,361,797)	(8,025,578)	(3,710,031)	347,806	6,482,650	12,416,988	18,336,713
Interest on cash received	45,033	24,562	18,483	9,121	12,594	71,178	182,604
Interest on debt paid	290,740	483,963	594,312	618,702	631,263	631,263	315,631
Other	–	–	–	–	–	–	–
EBT before Bhutan fund	(6,607,504)	(8,484,980)	(4,285,860)	(261,775)	5,863,981	11,856,902	18,203,685
Cash devoted to Bhutan fund	–	–	–	–	1,172,796	2,371,380	3,640,737
EBT after Bhutan fund	(6,607,504)	(8,484,980)	(4,285,860)	(261,775)	4,691,185	9,485,522	14,562,948
Taxes	–	–	–	–	–	–	1,204,474
Net Income	(6,607,504)	(8,484,980)	(4,285,860)	(261,775)	5,863,981	11,856,902	16,999,211

Table 3: Base case balance sheet

USD - FYE 31/12	2015	2016	2017	2018	2019	2020	2021
Goodwill	–	–	–	–	–	–	–
PPE	1,810,052	4,614,354	4,502,784	4,387,868	4,269,504	4,147,589	4,022,017
Intangibles	–	–	–	–	–	–	–
Other	–	–	–	–	–	–	–
Total fix assets	1,810,052	4,614,354	4,502,784	4,387,868	4,269,504	4,147,589	4,022,017
Receivables	55,595	151,960	392,872	915,465	1,749,390	2,794,577	3,787,875
Inventory	2,500,000	3,125,000	1,875,000	1,300,000	650,000	650,000	472,500
Cash	2,456,173	1,848,291	912,072	1,259,416	7,117,772	18,260,440	2,738,907
Other	–	–	–	–	–	–	–
Total current assets	5,011,768	5,125,250	3,179,944	3,474,881	9,517,162	21,705,017	6,999,282
Total assets	6,821,820	9,739,604	7,682,728	7,862,749	13,786,666	25,852,605	11,021,298
Common equity	(689,145)	(1,174,124)	(3,459,984)	(3,721,759)	2,142,222	13,999,124	10,186,052
Total Equity	(689,145)	(1,174,124)	(3,459,984)	(3,721,759)	2,142,222	13,999,124	10,186,052
Payables	420,225	539,025	373,698	396,792	456,727	665,765	835,246
Other	–	–	–	–	–	–	–
Current liabilities	420,225	539,025	373,698	396,792	456,727	665,765	835,246
Long term debt	7,090,740	10,374,703	10,769,015	11,187,716	11,187,716	11,187,716	–
Revolver	–	–	–	–	–	–	–
Total debt	7,090,740	10,374,703	10,769,015	11,187,716	11,187,716	11,187,716	–
Other LT liabilities	–	–	–	–	–	–	–
Total liabilities	7,510,964	10,913,728	11,142,712	11,584,508	11,644,444	11,853,481	835,246
Total liabilities & SHE	6,821,820	9,739,604	7,682,728	7,862,749	13,786,666	25,852,605	11,021,298

Table 4: Base case cash flow statement

USD - FYE 31/12	2015	2016	2017	2018	2019	2020	2021
Net income	(6,607,504)	(8,484,980)	(4,285,860)	(261,775)	5,863,981	11,856,902	16,999,211
PIK adjustment	90,740	283,963	394,312	418,702	–	–	–
D&A	100,000	250,000	250,000	250,000	250,000	250,000	250,000
Net income adjustments	190,740	533,963	644,312	668,702	250,000	250,000	250,000
(increase) / decrease in recei	(44,476)	(96,365)	(240,912)	(522,593)	(833,926)	(1,045,187)	(993,298)
(increase) / decrease in inve	(1,875,000)	(625,000)	1,250,000	575,000	650,000	–	177,500
(increase) / decrease in othe	–	–	–	–	–	–	–
increase / (decrease) in paya	315,632	118,801	(165,327)	23,094	59,936	209,037	169,482
increase / (decrease) in othe	–	–	–	–	–	–	–
Balance sheet adjustments	(1,603,844)	(602,564)	843,761	75,501	(123,990)	(836,149)	(646,316)
CF from operating activities	(8,020,608)	(8,553,581)	(2,797,788)	482,427	5,989,991	11,270,753	16,602,895
Capex of PP&E	(1,026,506)	(3,054,302)	(138,431)	(135,084)	(131,636)	(128,085)	(124,428)
CF from investing activities	(1,026,506)	(3,054,302)	(138,431)	(135,084)	(131,636)	(128,085)	(124,428)
New debt acquired	3,000,000	3,000,000	–	–	–	–	–
Debt repaid	–	–	–	–	–	–	(11,187,716)
Dividends paid	–	–	–	–	–	–	(28,000,000)
Special dividend	–	–	–	–	–	–	–
Capital issued	4,000,000	8,000,000	2,000,000	–	–	–	7,187,716
CF from financing activities	7,000,000	11,000,000	2,000,000	–	–	–	(32,000,000)
Change in cash	(2,047,115)	(607,882)	(936,218)	347,344	5,858,355	11,142,668	(15,521,533)

5. *Green Horse Capital* Investing in Accsys Technologies PLC

Simon Arbter, Raffaella Strähl D'Ambrosio, Philipp Kurzweil, Tobias Ochsenbein

ACCSYS TECHNOLOGIES

Investment Proposal

ABSTRACT

The following is an investment proposal for Green Horse Capital, an impact investor specialized in mature companies (investment sum 5-20 mEUR) with a proven concept focusing on reducing the emission of greenhouse gases (GHG). All depicted information is confidential.

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Accsys Technologies

Accsys Technologies (hereafter "Accsys") is a British chemical technology group focused on the development and commercialisation of transformational technologies based on the acetylation of solid wood for use as high-quality, **environmentally sustainable construction materials**. Their products employ abundantly available, fast-growing and sustainably-sourced wood and offer superior or comparable qualities to the highest performing tropical hardwoods or manmade materials.

1. Investment Motivation

As a result of increasing global population and a make-take-waste mentality, we are faced with major global issues: Overexploitation of our planet results in depletion of resources, mass deforestation of tropical forests, a huge waste problem, toxic emissions and climate change. All these problems affect **society and environment severely**. Following our conviction, **technologies** providing an alternative to current ways of production whilst significantly reducing the emission of greenhouse gases are crucial to finding a global solution for these matters.

When it comes to construction materials, a natural solution for the problem of ecosystem deterioration and global warming is often overlooked: Wood from well managed sources. Using sustainably sourced wood as a building material can **significantly reduce GHG emissions** and the **global waste problem.** Forests act as effective carbon sinks by filtering and absorbing CO_2 into the biomass of their plants. Accordingly, an approach focusing on harvesting as much wood as is sustainable while ensuring new biomass production is in the interest of climate and GHG-reduction. Yet, mediocre performance of wood in the use-phase (decay, lacking dimensional stability, maintenance costs etc.) caused this approach to be largely overlooked. Accsys now provides technologies and products which counter these performance weaknesses and allow for a wider range of application in the construction industry.

Green Horse Capital possesses the opportunity to enable this historical transition. Currently in need of a financial impulse, Accsys could augment its environmental impact on greenhouse gas reduction and increase sales and profits with an investment.

2. Solution / Business Model

Product

Accsys has commercialized the **revolutionary technology of wood acetylation**. In the production process wood undergoes a proprietary modification process called acetylation that alters its reaction with water by permanently replacing the molecules that bond with water with more stable acetyl groups. This process **alters the cell structure** of the wood.

Acetyl groups are naturally present in all wood species, which means that **nothing toxic is added**. From the acetylation process results Accoya™, a superior wood product that is suitable for demanding outdoor applications. Independent performance tests reveal that Accoya™ achieves **high durability**, **good dimensional stability**, is indigestible to insects, and requires minimal maintenance. An independent carpenter in Gossau verified Accoya™'s strong performance and noted that Accsys has started to push sales over the last two years.

Our findings indicate that the product is starting to become accepted in the market, achieves a strong performance, is sustainably sourced, and has a good market potential. The recent spike in revenues of Accsys supports these conclusions.

Business Plan

Accsys aims to reduce the use of environmentally unfriendly and unsustainable building materials and hence reduce greenhouse gas emissions and solve waste issues. Their business plan is structured in three stages: In the first stage (2003 – 2009), the company obtained the proof of concept. In the consecutive stage from 2008 to 2013 Accsys began constructing the commercial manufacturing facility in Arnhem. In the third and final stage the **commercial sales of the timber-product** began. The market potential for Accoya™ is 2.5 million m^3, the total global solid wood market is understood to exceed 400 million m^3 annually. At the moment Accsys produces roughly 25.000 m^3 of Accoya™.

The patents for the production process are held by Accsys. Further, they continue to conduct R&D to find new applications and specifications for the end product. The distribution of the product runs through a **network of 61 agency agreements** and **direct sales** into 38 countries (including the most important markets in the Americas, Europe and Asia). Thereby Accsys also invests heavily in marketing activities to promote Accoya™.

In the manufacturing process only sustainably sourced wood is used. Today this is mostly imported from New Zealand, but efforts are made to find suppliers that are closer to the particular production plant. In addition to manufacturing on their own, Accsys has formed **licence agreements** with other firms to make their technology more rapidly available around the world in order to achieve maximum environmental impact and meet global demand. The major licensee is Solvay, one of the largest chemical corporations in the world. Solvay has finalised plans to build a manufacturing plant in Freiburg, Germany that should start production in 2016.

We think that the business plan is sound and good growth rates can be expected. The license agreement with Solvay suggests that there is a large potential for Accoya™. Relevant intellectual property is owned by Accsys and there is a clear determination to rely on sustainably sourced production materials.

Impact Potential

For assessing the impact potential of Accoya™, Green Horse Capital relies on its Input, Output, Outcome, and Impact model.

Input: As will be explained in part three, Green Horse Capital will enable a larger manufacturing plant, further R&D and necessary marketing activities with its investment. The investment size is 10 mEUR.

Output: On the one hand, our investment will help to increase the production capacity of Accsys. On the other hand, an increase in production will allow larger sales volumes of Accoya™ wood which has a direct positive impact on the environment. As independent research suggests Accoya™ has a clear environmental advantage over other building materials in the *production phase* (sustainably sourced woods, forests are natural carbon sinks), *use phase* (very good performance), and *end of life phase* (non-toxic, fully biodegradable, can be re-used).

Outcome: Accoya™ is an alternative to traditional, less environmentally friendly building materials. Hence larger sales volumes of Accoya™ will help to reduce the use of traditional building materials. It will also help to change the perception of wood as an inferior building material and raise awareness on the environmental damage related to commonly used building materials.

Environmental impact: By calculations of Accsys an increase in sales of Accoya™ wood by 1 mEUR will approximately reduce greenhouse gas emissions of 9.7 million kg CO_2. However this accounts only for the direct impact of Accoya™. Taking into considerations multiplier effects, such as raised awareness, higher acceptance of wood and development of new applications, we believe that the environmental and social impact of Accoya™ can be much larger. An investment in Accoya™ is hence not only an investment in an environmentally friendly product but also an investment into an environmentally more aware society.

3. Investment readiness

Accsys only started selling their product commercially in 2013, transforming its main objective from being a research company to a commercial business seeking profit. The capacity of the Arnhem plant is still small but growing quickly towards its limit. The management team has extensive experience in finance, distribution and licencing – key competences for developing the business model toward further growth. The company's founder Edward Pratt serves as head of business development and a team of environmental consultants advices the management team on future strategies.

In terms of legal structure, Accsys is a publically listed company (plc) at the London Stock Exchange, requiring it by law to publish any crucial information regularly. Also a publically listed company is constantly surveilled by the market and its stock price can give a good indication whether the business is heading in the right direction and may also help with the valuation process. Accsys current market capitalisation is 97 mEUR at a stock price of

1.09 EUR. In the past 3 months the stock climbed by more than 50% reflecting the recovery of the firm – in the past the firm has experienced several shocks along with other firms in the construction industry, which show similar patterns of stock movements (e.g. AFG Holding).

In addition to being listed at the LSE, Accsys is also a founding member of the Social Stock Exchange (SSX), a UK-government backed initiative for socially responsible firms. The SSX requires its members to publish an impact report on an annual basis, outlining the positive impact of the company's operations on society and environment, which is then reviewed by an independent auditor.

Considering the state of the business, its legal structure and its organisational development it is fair to assume that Accsys is currently in the mid/expansion phase of the investment cycle. However, they have not yet reached the breakeven point (BEP), where they generate enough sales to cover their costs. This suggests the best-suited financing instruments available for our investment are **Private Equity and Debt.**

4. Investment structure

In the previous section we suggested that due to its investment readiness equity and debt are the most suitable financing solutions in the case of Accsys. To determine the proposed structure we considered various points.

As Accsys is a public firm, an **equity investment** seems very feasible as it can be simply done by a **seasoned equity offering** (SEO) – a process involving the firm issuing new shares. However, this will dilute the current shareholders share in the company and might lead to a negative attitude towards the investment with the current shareholders. Yet, there have been several seasoned offerings in the aftermath of the financial crisis, suggesting that shareholders are open to raising new capital via SEO.

Another advantage of equity would be that there is **no forcible payment-structure** towards the investor, only a voluntary dividend may be paid in case of profitability. Since our firm, as mentioned above, has not yet reached the BEP an equity investment is more feasible since debt will require regular interest payments, which might cause default.

Furthermore equity will endow us with a **voice in the general assembly** and give our fund more influence on the company's management. As there are no major shareholders at the moment an investment of 10 mEUR would make our fund the biggest shareholder, controlling more than 10% of the firms voting rights.

On the other hand equity, being the residual claim, is more risky than debt. As Accsys has shown to be shaky in the past we want to secure at least a portion of our investment, while simultaneously making available sufficient capital for the expansion of the Arnhem plant. Therefore, instead of a full equity investment **we propose an investment structure of 50% equity and 50% convertible debt**. Convertible debt is safer than equity as debt will have to be paid back before other equity holders are paid out their shares in the company. As there are so far no other debt holders the plant will serve as a sufficient collateral in case of default.

As **convertible debt** gives us the right to convert our claim to equity, the **interest shall be low** (1%) as our fund will be able to participate in the company's profits in case of conversion. Furthermore an interest holiday for the first year shall be granted, after that the firm should be profitable enough to carry the interest burden.

The **timeframe** of our investment shall be at the very least 5 years, the debt will be patient capital with a maturity of 10 years. The debt shall be converted as soon as progress is visible i.e. as the plant is expanded and the capital has been put to use as intended.

After five years we will begin considering an exit. We shall only proceed to do so when the company has not deviated from its goal to fight GHG emissions and is able to earn continuous profits. By that time we hope that Accsys is an established player in the construction industry, both raising awareness and fighting GHG emissions. The exit process itself will go smoothly as we can simply sell our share on the stock market. Yet it would be preferable to sell to another fund that pursues our cause to ensure future stability of the firm. In case not all of the debt has been converted, the claim is repayable after maturity.

5. Recommendation

Green Horse Capital has the possibility to support a technology that reduces greenhouse gas emissions and offers a sustainable, environmentally friendly alternative to existing construction materials. This is a significant opportunity, as our fund will be at the forefront of fighting GHG-emission in the construction industry, enabling forward-looking construction methods to become mainstream. With an according investment of 10 mEUR, Accsys receives a needed financial impulse, enabling it to expand the capacity of the Arnhem plant whilst augmenting its profits and environmental impact. The structuring into 50% equity and 50% convertible debt additionally allows satisfying both impact and financial interests of Green Horse Capital. However, as suggested previously, not all information was available for addressing some concerns (e.g. the intentionality of doing good) – those will have to be addressed during the further investment process in personal interviews with the management.

Recalling Accsys' strong impact proposition, managerial characteristics and business potential, at the current point only licensing issues and the lack of operating profitability are a strong concern. Whilst licensing is already being addressed by Accsys, our investment could tip the scales towards a profitable future. Thus we recommend continuing the investment process and, should all uncertainties be answered in a satisfying manner, investing in the company presented.

Bibliography

Accsys Technologies plc. (2013). *Annual Report & Financial Statement 2013.* Retrieved March 10th at http:// www.accsysplc.com/wp-content/uploads/2013/09/March-2013-Annual-Report-and-Accounts.pdf

Accsys Technologies plc. (2013). *Impact Report.* Retrieved March 10th at http://socialstockexchange.com/wp-content/uploads/2014/09/Accsys-Impact-Report.pdf

Accsys Technologies plc. (2014). *Impact Report.* Retrieved March 10th at http://socialstockexchange.com/wp-content/uploads/2014/09/Accsys-2nd-Year-Impact-Report3110142.pdf

Accsys Technologies plc. (2014). *Annual Report & Financial Statement 2014.* Retrieved March 10th at http:// www.accsysplc.com/wp-content/uploads/2013/09/March-2014-Annual-Report-and-Accounts.pdf

Brealy A., Myers S., Allen, F. (2013). *Principles of Corporate Finance*. London: Mcgraw-Hill.

Credit Suisse AG, Research Institute (2012). *Investing for Impact, How social entrepreneurship is redefining the meaning of return.* Zurich: Credit Suisse AG.

Intergovernmental Panel on Climate Change (IPCC). (2007). *Climate Change 2007.* Geneva: IPCC.

Intergovernmental Panel on Climate Change (IPCC). (2013). *Climate Change 2013.* Geneva: IPCC.

Solvay S.A. (2014). *Solvay Acetow signs global cooperation with Accsys.* Retrieved March 16th at http:// www.solvay.com/en/media/press_releases/20140806_Solvay-Acetow-signs-global-cooperation-with-Accsys.html

6. Investing in d.light

Miro Hemanus, Alina Körner, Mark Weiner

1. Introduction

Energy is an elemental part of today's society, as it is essential for productivity and development, infrastructure, the production of goods and delivery of services, as well as the supply of healthcare. At the most elemental level, energy permits the establishment of households, preparation of meals and the possibility of reading or studying in the evenings. Despite energy being essential to modern life, access to energy is not universal (Spagnoletti & O'Callaghan, 2013).

In 2011, 1.4 billion people, who represented approximately one-fifth of the worldwide population, lacked access to electricity (International Energy Agency, 2011). This "absence of sufficient choice in accessing adequate, affordable, reliable, high-quality, safe, and environmentally benign energy services to support economic and human development", is also known as energy poverty (Reddy et al. 2000, p. 44). In developing countries this kind of poverty hinders communities to escape from poverty, which affects women and children disproportionately (Spagnoletti & O'Callaghan, 2013). Current estimates anticipate that it might take US $700.0 billion and a quarter century to reach universal energy access (d.light design, 2015).

The company d.light design

d.light is a globally acting social enterprise, which provides distributed solar energy solutions designed for people suffering from energy poverty. The company's mission and goal is to provide the most reliable, affordable and accessible solar lighting and power systems to the developing world and reaching 100 million people by 2020 (d.light design, 2015).

Sam Goldman and Ned Tozun founded the company in 2006. The former witnessed an incident during a voluntary experience in Africa, where a young boy burned by an overturned kerosene lamp and was determined that there must be a safer way of light energy.

In 2008, d.light's first commercial solar product was sold. Today, d.light operates ten field offices and four hubs in Africa, China, South Asia and the United States, has sold over eight million solar light and power products, thereby improving the lives of approximately 47 million people substantially (d.light design, 2015). d.light has established market leadership in the off-grid solar industry, and enjoys a very good reputation due to the provision of a two-year warranty on every product, which established trust, and dealer support through field-based staff as well as marketing materials (d.light design, 2015).

Impact potential

With one-fifth of the world's population suffering from energy poverty, the impact potential for the off-grid solar industry is immense. d.light does not pursue profit for profit's sake, but reinvests all profits into growth, new products and distribution. d.light counts some of the leading and earliest participants of social impact investing, such as Omodyar Network, the Acumen Fund and Gray Ghost Ventures, to its investors (Haylins, 2014).

Positive impacts from investing into d.light's development of products or expansion of the distribution system are manifold:

- People who started using solar lighting reported improved health and safety, reduced eyestrain, better performance in school and an ability to generate more income
- d.light's products are distributed by local dealers, who can create or foster their own businesses, generate profit, and help their communities

2. Investment Readiness

The company has already received investments from several investors such as the Acumen Fund and Draper Fisher Jurvetson (DFJ) (d.light design, 2015). The Acumen Fund is a non-profit venture capital fund that was founded in 2001 with Assets under Management of about US$ 100.0 million and provides patient capital as well as management support services to early-stage companies whose products / ideas can help solve problems that the very poor face (Acumen, 2015). Meanwhile, DFJ was founded in 1985 and is a for-profit venture capital firm that invests in a wide range of companies with revolutionary product ideas at different investment stages (e.g. Tesla Motors, SpaceX, Skype) (DFJ, 2015).

So far, d.light has successfully completed three financing rounds:

- Series A financing round in 2008 raised US$ 6.0 million
- Series B financing round in 2010 raised US$ 5.0 million
- Series C financing round in 2014 raised US$ 11.0 million

Adding grants and donations, the total amount of capital raised amounts to US$ 40.0 million (d.light design, 2015).

Given that the company has been up and running for nine years and is profitable (Bannick & Palandjian, 2014) as well as having already received investments from well-known investors, we believe that d.light is more than ready to receive our investment.

3. Financing

In order to accelerate the path to energy access, d.light is continuously looking for prospective investors. The methods for delivering energy solutions to poor areas evolve all the time, and in order to help as effectively as possible research and development need more resources. In addition, according to our estimates, the total sales (in here, roughly the production) in 2014 equalled 3,25 million units (see Appendix) and is expected to grow even more. Hence, the necessary expansion of the existing business to new areas and the increase in production will require further investments.

As such, based on the company's previous financings, we estimate that d.light will require roughly US$ 20.0 million of additional capital. This capital should allow d.light to:

- Build a new construction site in Africa to double the capacity (currently entire production is located in China): US$ 8.0 million
- Build a new distribution hub in South America to ease the sales: US$ 0.5 million
- Develop a way to produce the current end-products cheaper and especially provide comprehensive electricity/power systems that enable the users to use multiple, different electronic devices: US$ 11.5 million

Based on our analysis of the company's financing needs, life cycle and our preferences, debt capital is the proposed instrument for the investment. With debt capital, the rather mature company does not need to give up any equity share, but gets long term-capital for enhancing its business. Our risk-profile as an investor is in line with this model, as we do want to be making an impact, but at the same time, we do not want to take excessive risk that equity capital investments entail. However, because of existing bank loans and their covenants, senior debt is unsuitable and thus, the proposed instrument is junior debt. The nominal monetary payback for our investment is highly appreciated (assuming no insolvency occurs), but the yield in this investment is partly tied to the performance of d.light. When details are being negotiated, our point-of-view is that:

- The size of our investment would be US$ 5.0 million.
- The maturity of the debt is long, as we want to truly support the aims of d.light. Thus, 10 years would be the ideal length for us.
- The nominal is to be paid back entirely at maturity
- A coupon of 4% p.a. is paid on top of the nominal amount (to cover inflation, etc.).
- Additionally, if d.light is successful with its goal of impacting 100 million lives by the end of 2020, an extra coupon of 2 p.p. per annum will be paid
- If possible, we would like to act as co-investors and hopefully the financing round will attract other investors.
- The debt is partly collateralized by the new production plant and distribution centre.

This capital structure should respond to the needs of d.light and our preferences. The company is at the moment roughly breaking even and, in order for us to support the business, the interest expenses should be kept moderate, as stated above. Furthermore, the sales figures (see Appendix) are in line with the size of the investment and the characteristics of it. Finally, the exact use of the capital, and other details still need to be negotiated further, but this outline serves as a solid starting point for negotiations.

4. Conclusion

d.light is a for-profit company that aims at providing the poor with affordable solar energy products as lack of energy is seen as one of the problems preventing the very poor from escaping poverty. The company has already reached profitability and successfully raised a further US$ 11.0 million of capital last February from several investors (Bank, 2014).

Given their goal to reach over 100 million customers by 2020, they will need to expand further, for which they will require significant capital. We estimate that d.light will need another US$ 20.0 million in order to boost production, distribution and R&D. We propose to cover US$ 5.0 million of d.light's total financing needs via junior debt with a 10 year maturity, whereby interest will be 4% p.a. plus an extra 2% p.a., if d.light reaches its goal of impacting 100 million lives by 2020.

Bibliography

Acumen. (2015). *Acumen*. Retrieved March 19, 2015, from http://acumen.org/#about/

Bank, D., (2014). *This Startup Wants to Shine a Light on Far Reaches of the Globe*. Retrieved March 19, 2015, from http://www.entrepreneur.com/article/239270

Bannick, M. & Palandjian, T. (2014). *Private capital, public good*. Retrieved March 19, 2015, from http://thehill.com/blogs/congress-blog/economy-budget/210972-private-capital-public-good

DFJ. (2015). *DFJ Venture*. Retrieved March 19, 2015, from http://dfj.com/about/

d.light design. (2015). *d.light*. Retrieved March 17, 2015, from http://www.dlight.com/

Haylins, A. (2014). *Applying the social business model to energy poverty.* OFID.

International Energy Agency. (2011). *World Energy Outlook* . Retrieved March 17, 2015, from World Energy Outlook 2011: Energy Development Index.: http://www.worldenergyoutlook.org/resources/energydevelopment/theenergydevelopmentindex/

Reddy, A., Annecke, W., Blok, K., Bloom, D., Boardman, B., Eberhard, A., et al. (2000). *Energy and Social Issues, in World Energy Assessment: Energy and the Challenge of Sustainability.* New York: United Nations Development Programme.

Spagnoletti, B., & O'Callaghan, T. (2013). *Let there be light: A multi-actor approach to alleviating energy poverty in Asia.* Melbourne: Elsevier Ltd.

World Economic Forum (2014). *"d.light" Executive Case: USA*. Retrieved April 20, 2015 from http://reports.weforum.org/new-models-for-entrepreneurship/illustrative-executive-cases/d-light-executive-case-usa/

Appendix

Known figures:		
Compound annual growth rate of sales	100 %	(World Economic Forum, 2014)
Total units sold (by 12/2014)	8 000 000	(d.light design, 2015)
Out of which multi-functioning power systems (by mid-2014)	125 000	(d.light design, 2015)

Sales estimates			
		Inexpensive Units	Expensive Units
2008		60 000	
2009		110 000	
2010		250 000	
2011		600 000	
2012		1 200 000	
2013		2 400 000	50 000
2014		3 100 000	150 000
Total	**7 920 000**	**7 720 000**	**200 000**

Sales (2014, estimates)				
	Inexpensive Units	(á 14 USD)	Expensive Units	(á 95 USD)
Monthly	258 333	units	12 500	units
	3 616 667	USD	1 187 500	USD
Yearly	3 100 000	units	150 000	units
	43 400 000	USD	14 250 000	USD

7. *Impact Investing Group* Investing in ÄSS-BAR

Nicolas Berchten, Jodok Betschard, Maurice Gillardin

The investor & the report

The Impact Investing Group is a conglomerate of private investors that are on a constant search for investment opportunities with a high social impact. The following is an executive report, which aims to give recommendations to the investment committee of the Impact Investing Group on whether ÄSS-BAR can be considered as a potential investee (described in Part II). These recommendations are based on the specific due diligence process the social enterprise in question has undergone and which will be depicted in the following (described in Part I).

Part I: The due diligence of *ÄSS-BAR*

1. *ÄSS-BAR* – A new business model

Thrown away food nowadays produces a very real issue in most developed countries. The causes for this situation can be found all along the supply chain, which result in two specific phenomena, namely food loss and food waste. Food loss takes place at the back-end of the supply chain and is triggered by either food producers or processors facing difficulties in bringing their to goods to the next stage of the supply chain. Food waste then is a problem caused by retailers, restaurants and consumers, which encounter numerous difficulties in managing their stocks of food. Food loss as well as food waste, both result in disastrous consequences on an environmental, economic and ethical level. The solution presented in the following relates specifically to the problem of food waste. (Food Waste Facts, 2011) (Bundesamt für Landwirtschaft, 2011) (Payne, 2014) (foodwaste.ch, 2014)

Repulsed by its consequences, *ÄSS-BAR* has chosen to tackle the problem of food waste at its roots and helps creating a food waste free world. They aim to achieve their vision by creating sustainable value for all stakeholders. Accordingly they employ a dynamic application of offer and demand in the bakery and pastry industries. By linking the food overproductions in bakery stores with the present desire for affordable yet, not only edible, but still delicious food, they are able to reintroduce bakery and pastry goods a second time into the economic circle through their "second-hand" stores and counteract one aspect of senseless food waste. For the time being, *ÄSS-BAR* aims to deliver their solution only to the Swiss market, nevertheless would be easily implementable in an international sphere.

Although people seem to grasp the issue at hand pretty easily and get emotionally involved quite rapidly, one must consider some statistics in order to determine the total span of the area and the potential of its underlying market. The amount of wasted food around the globe amounts to 1/3 of its totality, which roughly equals 2.3 billion tons of food or a value of 1 trillion USD. This translates to the same ratio in Switzerland where also 1/3 of all produced food is lost or wasted and which amounts to 2 million tons every year, or CHF 2'010.27 per Swiss household every year. From the above-mentioned facts one can quite easily derive that the potential of creative business applications countering food waste is extremely high. (Food

Waste Facts, 2011) (Bundesamt für Landwirtschaft, 2011) (Payne, 2014) (foodwaste.ch, 2014)

Only three main players are involved in the *ÄSS-BAR* business model; themselves, bakery stores and retail clients. *ÄSS-BAR* offers the bakery stores participation on sales in order to receive their stock of unsold bakery goods directly after the first day of offering. To further incentivize the cooperation with the bakery and pastry stores *ÄSS-BAR* offers free and easy pickups of the goods, for them to be part of a sustainable and logic idea and to contribute to the image of bakeries in exchange for free merchandise. *ÄSS-BAR* then sells the enjoyable goods to its retail clients for half of the initial price demanded the day before by the bakery and pastry stores. A participation of 10% of all earnings generated is then reattributed to the bakery and pastry stores to finalize the closed-loop business model.

ÄSS-BAR builds upon three core competences to shape its underlying magic and guarantee their competitive advantage. First of all the specialization in the bakery and pastry industries enables them to limit the complexity of all storage related and regulatory issues and establish an industry-specific brand and network around *ÄSS-BAR*. Secondly a specific knowledge in logistics enables *ÄSS-BAR* to assemble the goods in time for market opening. Last but not least, the specific distribution channels employed by *ÄSS-BAR* guarantee locations, which are very close to their clients, an important condition in retail businesses.

2. The technical composition

ÄSS-BAR is a GmbH, registered in Zürich and equally owned by four partners. The social enterprise thereby falls under the Swiss and more specifically the Zurich fiscal law and the Swiss food law. New stores are mostly operated through a franchise concept and must therefore be considered separately regarding the specific fiscal law in place at their establishment. From a legal point of view should be considered that regulations set by Swiss food law are stricter regarding storage than distribution. In practice, you are allowed to sell the goods as long as they are enjoyable, which opens an individual space, however, after one more day at *ÄSS-BAR*, the bakery goods will eventually have to be thrown away for good.

Based on the 5 C concept of marketing established at the University of St. Gallen *ÄSS-BAR* shows the following specificities. In respect to the configuration the high quality bakery goods legitimize the undeniable economic value of the products offered. The competence aspect has been well established in the underlying magic section. Regarding communication, *ÄSS-BAR* is prone to sensitize and educate their clientele in relation to food waste and propose alternatives, rather then to communicate about themselves. This is done via strong use of PR, as well as communities and events, and their employee and customer experience. When it comes to commercialization, *ÄSS-BAR* introduces an intuitive, but still economically very convincing and sustainable business model.

In the following are enumerated the three most important factors from each category of a SWOT analysis *ÄSS-BAR* has undergone. The most important strengths seen with *ÄSS-BAR* are their important network of partners, their impeccable social reputation and image and their aiming at a market of very healthy supply and demand. Weaknesses can be seen in the limited scalability of the model, the randomness of daily product supply and the costliness of a good point of sales. Additionally *ÄSS-BAR* faces threats like the market entry of big companies, the replication of their model by small start-ups and the possibility of self-killing. Opposed to that, opportunities are then seen in the weak competition on the market targeting food waste, the yet high relevance of the topic and the scalability of the model into other product categories. Here should be mentioned that in fact competition prices lie on average 100% above the ones of *ÄSS-BAR*.

The 4 Swiss entrepreneurs, 3 branch managers and 11 employees compose the Team at *ÄSS-BAR* and were so far able to manage operations without any greater difficulty (Furnari, 2015). The before-mentioned 4 founders Sandro Furnari, Projekt Manager at Alpiq (currently Gotthard-Basistunnel), Philippe Martin, Private Banker at Credit Suisse, Raimund Möhl, Medical Technician at Biotronik and Raoul Stöckle, Manager at Mobiliar Insurances compose the board. Everybody holds a participation of 25% ands so governance does not merely depend on one person already (Furnari, 2015). Additionally the 4 entrepreneurs seem pretty coachable. To complete matters, their franchising system of expansion allows a pretty good control without much participation, because the franchises rely on the expertise gathered by *ÄSS-BAR*, as well as their brand and network. The business partners of *ÄSS-BAR* are premium bakery and pastry stores in Zurich and Bern. *ÄSS-BAR* has also established a noteworthy network in the non-profit sector with institutions such as Foodwaste.ch, United Against Waste, Our Common Food, OGG and WWF.

A representation of the current financial situation of the social enterprise cannot be reviewed in this paper due to its conciseness. What is striking however regarding this matter, and should therefore be mentioned here, is that *ÄSS-BAR* has managed to become profitable within their first year of operations.

PART II: The investment recommendations

3. The evaluation of the social enterprise

It goes without saying that food waste is a very real problem in our current eco-system. *ÄSS-BAR* puts forward a very viable solution to oppose the externalities produced by food waste, however intuitive and easy it might be. The business model guarantees a solid money inflow through the integration of a network of partner bakeries and pastries. We further judge that this business model can also easily be expanded into other food industries, thereby augmenting its potential. On the flipside of this advantage we do however also see challenges like for example the complexity of the storing process emerging with diversification. The underlying magic of *ÄSS-BAR* relies on their first mover advantage and has allowed them to develop a very specific set of knowledge and skills resulting in a competitive advantage. For the time being these assets hold strong, but might only represent a temporary advantage, as their set of competences cannot be categorized as completely non-imitable. Swiss fiscal law is known to be very attractive, which is to be classified as a big plus of *ÄSS-BAR*. Also storage and distribution regulations do not seem to pose a considerable obstacle. From a marketing and sales point of view we know that in retail business location is key and it seems like *ÄSS-BAR* has adopted a very location-based approach to distribution, which can be evaluated as very valuable. So far the market analysis has shown no greater danger, at least on the national level. On the international level on the contrary there seems to be already some competition. As far as the board is concerned, the members seem to bring a nice complementarity of skill sets to the task even if none of them is specialized in the specific domain they are competing in. Also their maturity and experience seems to help them getting the job done and add to their coachability. Financial projections as well as the results depicted on the timeline of the social enterprise show ample evidence for the maturity of the model. **All things considered, we strongly recommend that the Impact Investing Group to make an investment in *ÄSS-BAR*.**

4. The financing model

Valuation of ÄSS-BAR

The actual valuation of *ÄSS-BAR*, as calculated by the Impact Investing Group, has been based on the DCF and multiple methods. Taking into account the same growth, which *ÄSS-BAR* experienced in the past, with no substantial investments (two new stores) the actual value has been calculated to around 2.6 MCHF (See FinancialPlanning_150413_NB; "Valuation today"). The Future value of *ÄSS-BAR* has been calculated using the same methods. In order to minimize the risk of miscalculation three scenarios where defined with different growth rates taking into account the same investment (form the Impact Investing Group). The average value over all scenarios is 10.6 MCHF. (See FinancialPlanning_150413_NB; "Valuation with our Investment").

Our financing model

We suggest investing via equity, as we strongly believe in the long-term value of the company, its brand and scalability. We recommend employing the following investment plan. As a starting point we invest CHF 100'000 for 4% of equity in order to open one new store in January 2016 in Luzern. Then we monitor the development of business based on the four key performance indicators described in the following chapter "The Monitoring Process" and if these goals have been reached we will invest another CHF 400'000 for 16% of equity to open four new stores in January 2017 in St. Gallen, Winterthur, Basel and Zug. This makes us a shareholder of 20% whereas the four founders will each remain with 20% of equity.

If these five stores all reach their goals, which were set for a one-year time frame, step three will be considered in January 2018, which is not part of the financial calculations yet. Impact Investing Group wants to apply the business model to different products and use the brand and expertise to diversify the product range. Finally building up a strong brand and distribution network will ensure to a) get a better return over the long term and b) increase the sustainable impact.

5. The monitoring process

The monitoring system of ÄSS-BAR is based on four main key performance indicators revenue, expenditures, liquidity and cooperation partners, whereas the following target values have to be reached within the first year:

Revenue:	- Revenue level has to be above Break Even before month 4 and should show a healthy stable growth throughout the year
Expenditures:	- The initial investment will cover the expenditures of the first 3 months, which will further be monitored by a weekly reporting
	- Starting month 4, the store has to be self-supporting and cover the expenditures with own revenues, which will be monitored by a monthly reporting
Liquidity:	- There has to be a minimum stock of CHF 20'000 at any time
Cooperations partners:	- An ongoing retention and acquisition of partners who provide ÄSS-BAR with bakery products has to be pursued

6. The scale of impact

ÄSS-BAR sells currently 140 kilogram of bakery products only in its Zürich store every day (Furnari, 2015). This is 3.5 tons a month, 42 tons a year. If you scale this number up by 5 stores and multiply it with growth rates in three different scenarios we expect *ÄSS-BAR* to actively contribute against food waste by selling 629 tons of bakery products per year in the best case scenario, 458 tons in the middle scenario and 365 tons in the worst scenario by the year 2019.

Considering the possibility of diversifying the product range by also offering vegetables, fruits etc. there is no way to predict up to which scale the impact of *ÄSS-BAR* could move. A summarizing timeline giving an overview of this and all other topics is provided in the appendix.

References

Food Waste Facts. (2011). Retrieved April 30, 2015, from United Nations Environment Programme: http://www.unep.org/wed/2013/quickfacts/

foodwaste.ch. (2014). *Was ist food waste*. Retrieved April 30, 2015, from Foodwaste.ch: http://foodwaste.ch/was-ist-food-waste/

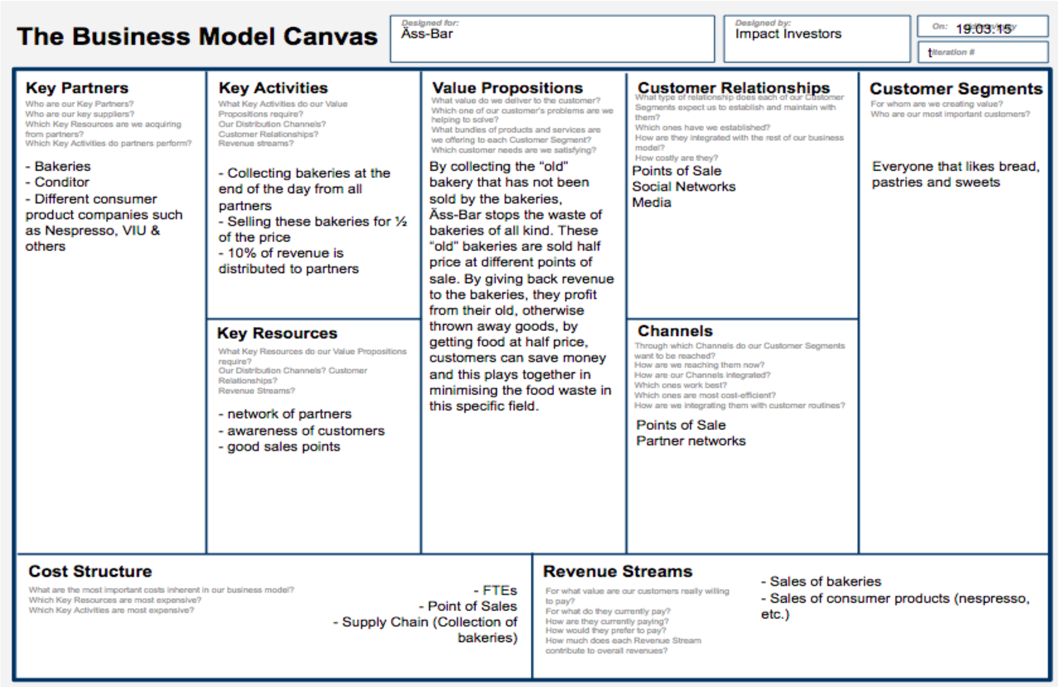
Furnari, S. (2015). Memo based on an Interview held by Jodok Betschart. Zürich, 12th March 2015

Bundesamt für Landwirtschaft (2011). *Foodwaste BWL*. Retrieved April 30, 2015, from ÄSS-BAR - frisch von gestern: http://www.aess-bar.ch/docs/Foodwaste-BWL.pdf

Payne, K. K. (2014). *The Consequences of Food Waste*. Retrieved April 30, 2015, from Student Pulse: http://www.studentpulse.com/articles/890/3/the-consequences-of-food-waste?utm_expid=22625156-1.JXOwidWBT9qABIv2oA58RQ.0&utm_referrer=http%3A%2F%2Fwww.studentpulse.com%2Farticles%2F890%2F2%2Fthe-consequences-of-food-waste

Appendix

Business Model Canvas of ÄSS-BAR



The timeline

	Ideation	**Conception**	**Commit ment**	**Validation**	**Scaling**	**Establish ment**
Period	Before Sept. '13	Sept. '13	Sept. '13 until Jan. '15	Jan. '15 until Current Status	Current Status until Jan. '18	Starting Jul. '17
Achieveme nts & Goals	Business model	Foundation of *ÄSS-BAR*	-First store in ZH in Nov. '13 -Sustainabi lity of first store	-Food truck in ZH in Jan. '14 -Second store in BE in Mar. '15	-Third store in Luzern Jul. '15 -Fast expansion with stores in St. Gallen, Winterthur, Basel & Zug in Jul. 2016	Diversifica tion of product range
Investors	none	4 Swiss entrepreneurs	4 Swiss entreprene urs	4 Swiss entrepreneurs	-4 Swiss entrepreneurs -Impact investors	Tbd.
Team	4 Swiss entrepreneu rs	4 Swiss entrepreneurs	Few employees	11 employees	More FTE's	Tbd.
Use & necessity of funds	Self-funded	Self-funded	Self-funded	Self-funded & Equity in Franchise BE	500'000 CHF	Tbd.

8. Investing in Anudip

Thomas Aeschbacher, Christof Bucher Marisa Schudel

Management Summary

Anudip works with India's uneducated rural poor, seeking to provide an "integrated livelihood model" through skills training, facilitating job placement, and stimulating local job creation with micro-entrepreneurship programs. In addition, it runs its own Business Process Outsourcing (BPO) centers that provide jobs to many youths, women, and minorities in the booming Information Technologies (IT) sector that symbolizes India's future.

We propose to grant a convertible debt of USD 400,000 over 8 years. The first two years will be interest free, afterwards the debt will yield an annual interest rate of 16,3 percent. Additional clauses and monitoring processes will be put in place to avoid mission dilution.

WHY WE CHOSE TO INVEST

Impact area, impact potential

India has been one of the economic powerhouses of the last decade. By more than quadrupling its Gross domestic product (GDP) since the year 2000, it managed to lift millions of people out of poverty. However, not everyone in the region profited equally from this development. Whilst the lucky members of top of the social pyramid started striving, the vast bottom[4] of the pyramid still struggles to survive. Especially in the rural regions of the country, numerous Indians still find it difficult to meet critical livelihood needs. Unable to attain proper education, they remain also marginalized in society and find themselves cut off from the opportunities that the economic emerge brings on.

Dipak Basu and his wife, Radha Ramaswami, both distinguished former engineers and business executives in the United States and India, founded Anudip in 2006 in an attempt to address this issue and connect the bottom of the pyramid to the new economy. They demonstrated their strong commitment to Anudip from the beginning, working long hours pro-bono and providing their own capital. Originally designing Anudip as a purely philanthropic venture, they quickly understood that people in rural India were not in the need of help per se – what they needed were opportunities to turn their energy into money. They needed jobs.

[4] World Bank, World Resource Institute defines the bottom of the pyramid as those individuals with an annual income of less than USD 3,000.

Innovative Business Model

In order to create jobs, they created the impact sourcing company iMerit: after educating people in both, basic IT skills as well as spoken English, Anudip refers some of them to iMerit which provides BPO solutions and other services and thereby funds Anudip's activities and acts as an access gate to the global economy. However, the vast majority of the program's graduates end up in other firms, which highlights the labor market value of the education Anudip provides. As a whole, iMerit, together with Anudip Foundation, applies a vertically integrated framework to development. So far, Anudip has already trained more than 25,000 students with an outside placement ratio of 75 percent. Once the students were placed in jobs, their average family income tripled from USD 40 to 120 per month (Chu & Barley, 2013).

In 2012, the iMerit started generating profits and has continued doing so since. As many rural citizens, especially women, can't leave their villages and move to cities to work, Anudip contrived the DREAM project which provides its protégés with know-how and equipment to start their own businesses in their rural communities which helps creating jobs right where people need them.

Investment readiness of Investee

Anudip has already passed its early stage and commenced an aggressive expansion of its activities, promising a high return on investment in terms of both, social impact and, through iMerit, also finances. As of March 2014, it is running 152 Market Aligned Skills Training (MAST) centers in eastern India and four iMerit Centers, three of which are located in West Bengal with a total of 350 employees and one in Ranchi, Jharkhand, where 50 employees are working. These iMerit Centers are generating most of the revenue of the organization by offering BPO services. The MAST Training centers are projected to help 100'000 individuals in the year 2015 alone (projected cumulative lives impacted by 2017 is over 360'000) by offering them education or providing them with equipment to start their own businesses in their hometowns. Additional capital is required to expand the reach of the organization and spur economic development and rural empowerment in order to provide even more people with 21st century jobs. As the concept has proven to be both, profitable and highly scalable, investment risks are modest and the possible impact very promising. Furthermore, only 10 percent of Anudip's MAST graduates are employed by iMerit, which

How does MAST work?

Market Aligned Skills Training (MAST) is a ten-week course that combines IT-skills training with spoken English and workplace readiness training, including grooming and interview preparation. Anudip sought local employers' input to tailor its course curricula to meet their needs and requirements. It charges only $17 per student (whilst educational costs per student are approximately $50). Other organizations charge 50$ to 100$ for comparable training programs (Chu, M. & Barley, L., 2013).

highlights the highly competitive educational skills attained by students. The vast majority is therefore able to find an employment outside the organization (Anudip, n.y.).

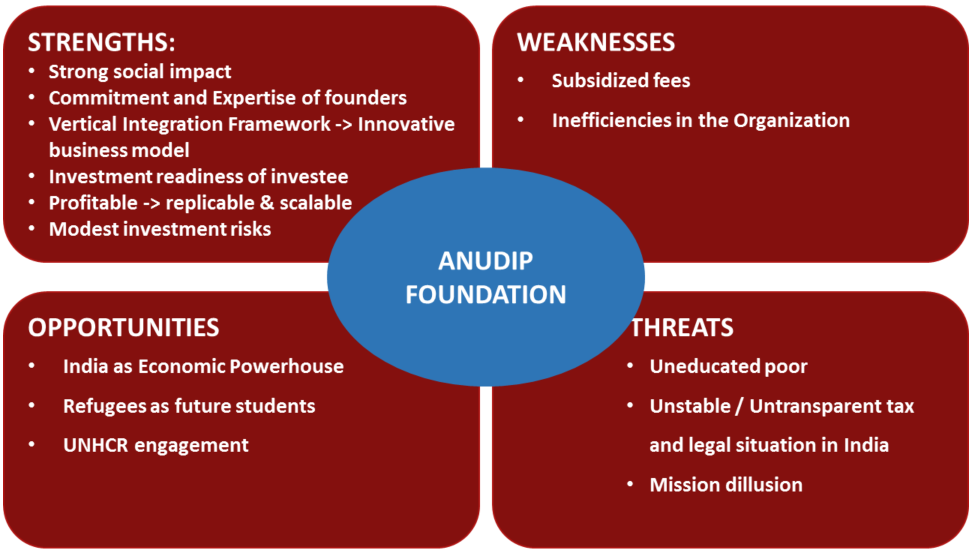
Anudip's needs for capital are likely to increase due to recent developments, leading to further growth. One reason for that is the fact that India has become home to refugees from all over the world. In recent years, tens of thousands of refugee, mainly from Afghanistan, Burma and Somalia, came to India in pursuit of a stable life. Especially those new arrivals need to establish a financial basis for their livelihood. Just recently, in July 2014, the UN Refugee Agency (UNHCR) investigated a possible expansion of Anudip/iMerit's operations to the country's capital New-Delhi (iMerit, 2014). This has led the UNHCR to actively search for companies that are interested in outsourcing data work to iMerit. Many refugees could therefore greatly benefit from enhanced future opportunities as they could get education and employment (Maitem, J., 2015).

Legal and Tax Implications

The Anudip Foundation is a nonprofit organization with 80G tax-exempt status in India and 501(c)(3) tax-exempt status in the United States. Therefore, their profits are not affected by any tax changes. However, Anudip's sister company iMerit is an independent for-profit company with a social mission. iMerit's revenues are fed back to Anudip in order to make the foundation sustainable. Their profits as well as our return on investment will therefore be affected by taxes in both the USA and India. Normally it is not possible to acquire an equity stake in a foundation, nor is the foundation allowed to distribute profits (save expense allowances). This directly impacts our decision on how we want and are able to invest. Specifically, we will have to provide funds to iMerit rather than the foundation itself.

SWOT Analysis

Below, we briefly summarized our findings by using a SWOT analysis as a visual aid.



HOW WE CHOSE TO INVEST

As Anudip is already an established foundation and mainly seeks to expand the scope of its operation, providing patient capital for establishing new MAST Training Centers and iMerit centers is the most viable investment mode. Also, as we lack understanding of the Indian business culture and don't have proper supervisory resources in place locally, we don't consider equity a valid option. In order to still provide the social business with as much support as possible whilst not straining its debt ratio, we would invest in mezzanine debt over a period of no less than five years. Due to its lower seniority, mezzanine debt is usually rewarded with higher interest rates, which could hamper the development and expansion pace of the social enterprise. Thus, we offer an interest holiday for the two years it usually takes until the new iMerit centers are operational and generating revenue. Due to the aforementioned implications with regard to the legal and tax sphere, we choose to grant a mezzanine debt over eight years to iMerit and establish a covenant to feed back 35 percent of their revenue into Anudip which uses it to create social impact. Anudip, through its DREAM and MAST projects, generates less pecuniary returns in the short term but has, as of 2015, a 21 times higher impact as they spur development of rural communities(Anudip, 2014). Thusly, we can ensure that not only program participants but also their entire surroundings are positively affected by our endeavor and therefore avoid mission dilution. Once the convertible debt reaches maturity, the investment may be prolonged if desired.

To determine the size of the investment, it is critical to estimate what a newly set up center costs. As iMerit's annual reports are not public, we have to rely on our own estimates, which take into account the office space, labor and hardware required. To start with the most expensive part of the business – the rent of office space – we rely on estimates of Cushman & Wakefield (2014). The rent per square foot of office space per year amounts to USD 38.52 in Kolkata (West Bengal, where the previous iMerit centers are located). Following an estimate of Bucki (n.y.) and Khan, Sharma & Kumar (2011), an office for 100 employees requires around 100*60 square feet. In total, Anudip and iMerit employ 500 people. This leads us to estimate that there are roughly 100 employees (wage of USD 12*120 per person per year) at each iMerit center. From Anudip's Annual Reports we can infer that it costs around USD 30,000 to initially equip a center of 100 employees with the material needed to get the business started (printers, LCD monitors, Cloud Class Servers, computer tables, chairs and ceiling fans). Adding up all costs for one year of a newly opened iMerit center in Kolkata we get an estimated expense of USD 400,000 which we would borrow to iMerit in INR as a convertible debt for which they pay a fixed annual interest rate of 16.3 percent[5] p.a. for six years after the two years of interest rate holiday. We hope that the interest rate holiday and our longer investment horizon will permit them to kick-start their business and turn it into a prosperous social enterprise.

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[5] Computed at March 26th 2015 as follows: 12 percent base interest rate (average long-term financing costs for SMEs according to Khan (2012)) over a period of 8 years, with the first two years being interest free: 1.12^(8/6)-1 = 16.3 percent.

In order to make sure that iMerit does business as desirable and won't become like other BPO firms and do business as usual, we will have to establish a close monitoring. Besides observing the development of the balance sheet, a particularly important challenge is measuring the impact the business generates. Due to the nature of the business, it is practical to evaluate and hence maximize the number of people affected by its operations as a measure for impact.

BIBLIOGRAPHY

Anudip. (2014). *Annual Report 2013-14*. Retrieved from: http://anudip.org/about/annual-reports/

Anudip. (2013). *Annual Report 2012-13*. Retrieved from: http://anudip.org/about/annual-reports/

Anudip. (2012). *Annual Report 2011-12*. Retrieved from: http://anudip.org/about/annual-reports/

Anudip. (2011). *Annual Report 2010-11*. Retrieved from: http://anudip.org/about/annual-reports/

Anudip. (2009). *Annual Report 2008-09*. Retrieved from: http://anudip.org/about/annual-reports/

Anudip. (n.y.). *Livelihood initiatives through knowledge.* Retrieved from: www.anudip.org

Bucki, J. (n.y.). *How much office space do you need?* Retrieved from: http://operationstech.about.com/od/startinganoffice/a/OffSpaceCalc.htm

Chu, M. & Barley, L. (2013). *Omidyar Network: Pioneering Impact Investment*. Harvard Business School Case 313-090.

Credit Suisse. (2012). *Investing for impact: How social entrepreneurship is redefining the meaning of return.* Retrieved from: http://publications.credit-suisse.com/index.cfm/publikationen- shop/research-institute/investing-for-impact/

Cushman & Wakefield (2014). *Office space across the world.* Retrieved from: http://www.cushmanwakefield.com/~/media/global-reports/OSATW%202014%20Publication%20updated.pdf

iMerit. (2014). *UNHCR Livelihoods Partners with Anudip and iMerit*. Retrieved from: http://imerit.net/news/unhcr-livelihoods-partners-with-anudip-and-imerit

iMerit (n.y.). *History & Social Impact*. Retrieved from: http://www.imerit.net/about/history/#

Khan, S., Sharma, R. & Kumar, I. (2011). *IT, ITeS firms pack more employees in confined work space to save on real estate costs.* Retrieved from: http://articles.economictimes.indiatimes.com/2011-08-03/news/29846647_1_ites-firms-employee-office-space

Khan, T. (2012). *Standing firm.* Retrieved from: http://businesstoday.intoday.in/story/indias best-smes-full-list/1/21914.html

Maitem, J. (2015). *Encouraging Self-Reliance*. UNHCR Global Appeal 2015 Update. Retrieved from: http://www.unhcr.org/5461e5efb.pdf

9. Investing in Selco Solar

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Maria Cecilia Rocca Pereiro

Investment Proposal: Selco India-Mini Grids Project

Selco's mission and its business model

Selco India Solar Light was founded in 1995 with a mission to provide sustainable energy solutions to households and businesses living off the grid in India. About 77 million Indians lack access to grid electricity, which means that they are stuck using expensive, unclean, unsafe kerosene lamps. By setting up Selco, its founder, Harish Hande, wanted to dispel three myths:

1. Poor people cannot afford sustainable technologies
2. Poor people cannot maintain sustainable technologies
3. Social ventures cannot be run as commercial entities

The core business of Selco is the design and sale of solar energy solutions. These are individually adapted to meet the needs (and budget) of each customer. Local service centers are located so that all customers are within three hours travelling distance of a center. All installations and user trainings are carried out by Selco technicians.

The company does not have any marketing budget; all the efforts are into pre sales and post sales services because they rely on word of mouth marketing. The pre-sales activities are carried by the technicians because they are in the best position to understand the customer requirements. Post-sales activities such as service is free during the first year, and then, for a fee, Selco staff visits each system every three months to make sure that it is working properly. In addition, Selco's service centers hold stocks of spares, so in case of repairs, they can be made quickly.

All the components of the PV systems are manufactured in India. Selco believes in developing long-term relationships with its suppliers and has chosen to work with local suppliers in order to ensure supply, to reduce inventory levels up to 25% and, most importantly, to work closely with them to meet specific needs of Selco customers.

Selco does not provide direct loans, but has closely worked with banks and microfinance organizations giving them the confidence to provide credit for their customers and an understanding of the payment terms different owners may need ("door step financing").

Selco not only lights up homes and improves productivity, but also mentors entrepreneurs in rural poor India that, for example, rent Selco products to local vendors. These entrepreneurs are highly loyal to Selco and therefore go an extra mile to, for example, get financing for their customers.

As one of the early players in the solar home system segment, Selco realized that innovation was key to keep products relevant, competitive and attractive to consumers. Thus, Selco has created a platform of 3 separate entities: Selco Pvt. Ltd, Selco Foundation, and Selco Incubator. Selco Foundation develops new products for needs discovered by the enterprise, the enterprise commercializes the new products and the incubator plays a central role in identifying and mentoring entrepreneurs to expand the reach of Selco's innovations.

The right people on the Bus: Team, Board of Directors, Partners and Investors

The management team has several years of start-up experience in the field of sustainable energy solutions to the under-served in the society. The Board of Directors of SELCO was carefully selected so the members are aligned to the company's mission. A key attribute of the board members is that it comprises a majority of independent outsiders, from different backgrounds, but who share passion and commitment for Selco's Mission.

SELCO's success relies on the partnerships with various financial institutions. In order to get financing for its clients, the firm has partnered with several institutions: commercial and regional rural banks, micro finance institutions and rural farmers cooperatives.

Given a bad experience in the past, Selco has learned to carefully select its investors. The founder, Harish Hande stated "Today, we do equal due diligence on investors, as much as they do due diligence on us" (Arthur & Barton-Sweeney, 2009). Nowadays, The financing is consortium of social investors, including "The Good Energies Foundation", "The Lemelson Foundation" and "E+Co".

SWOT Analysis: Selco's potential for the future and its readiness as an investee.

<table>
<tr><td>Strengths:
Good reputation for service and reliability
Good at customizing integrated solution
Workers committed to the firm's mission
Support from financial institutions
Long-term and exclusive relationship with suppliers and own distribution system</td><td>Weaknesses:
Highly dependent on one supplier (may lead to overpayment)
Diversification into other products could dilute SELCO's brand
Challenging for SELCO to acquire local knowledge in other countries to expand</td></tr>
<tr><td>Opportunities:
Worldwide awareness and Indian government support for eco-friendly energies
Growing interest for social enterprises
High demand
Opportunities to expand geographically</td><td>Threats:
Global Economic conditions
Regulatory environment
Intense competition with new technology
Demanding consumer markets</td></tr>
</table>

Expansion projects

Selco has recently started to expand to regions like Naharashtra with high potential for a solar energy product called mini-grids, as they have a large percentage of their population off-grid, with kerosene solutions for lightning. Instead of setting individual systems for each customer, Selco can generate solar energy from a centralized location and feed not only houses but also local businesses, schools and pumps. After a pilot in a community last year, Selco believes there is high potential of growth with this new product in these regions and is willing to:

- exploit its network to provide customized financing solutions
- expand its maintenance structure to provide high service levels leveraging the latest technology and its innovation culture
- apply its experience in identifying and mentoring local entrepreneurs to administer the grids in each community, overcoming the great challenge of collecting payments from villagers.

Investment Structure

We propose an equity investment of $ 300 000. The expected return of the equity investment is expected to be 3-4% and the number of households reached by our investment within the first five years is expected to exceed 8500.

Investment Instrument

The choice of equity as the investment instrument is based on several considerations. First of all, Selco experienced managers have achieved healthy financial results and substantial competitive advantage over the years. We also see promising growth potential with the new expansion projects, which should fuel additional sales of existing products. Another reason is that a debt structure requires a tedious regulatory process in India, which isn't worth for this small amount. The instrument is also chosen based on our investment fund expertise in India and the Indian legal system.

Investment Amount and Financial Return

The amount of $ 300 000 is chosen based on a thorough analysis of funding needs for the expansion. Our estimation is that $ 160 000 (53.3%) of the investment will fund the mini-grid investment, $ 70 000 (23.3%) will cover initial start up costs of additional branches in the new regions, $40 000 (13.3%) will help provide bank guarantees for certain low quality borrowers and the remaining $ 30 000 (10%) will be dedicated to R&D. Based on the balance sheet from 2009 and some estimations, this will represent a 5-10% stake in the company. These numbers will enable SELCO to open 9 new branches and invest in 54 mini grids over the first few years.

We have conducted a scenario analysis of the mini-grid project with the payback rate of the entrepreneurs as the variable of focus. We consider this to be the main risk factor, and therefore hold all other factors constant during this analysis. Based on three scenarios with payback rate of 100%, 90% and 80% we observe an IRR of 15.05%, 3.90% and -6.68% respectively. We choose to use the payback rate of 90% as our benchmark, and view it as a conservative estimate based on previous payback rates for comparable projects. This figure combined with a cash flow analysis of the remaining part of the business shows a 3-4% return on our equity investment.

Social and Environmental Impact

We expect, based on conservative assumptions, to reach around 8500 households within the first five years, who will have better health, more hours for study and work and improved access to the financial system. Given that 60-70% of SELCOs customers never had electricity before, the impact of our investment is unquestionable. Also, considering that the regions we prepare to enter have a higher density of cheap kerosene users, we expect to reach even lower income households than before. You can’t tell a poor person to quit using kerosene for the environment but you can provide an alternative. Therefore, the investment will have environmental and social effects.

Exit Strategy and Time Horizon

We expect this to be a long-term investment, and we might consider increasing our share in the company after 2-5 years if the progress is as expected. After 5-7 years an exit might be possible as well. This might happen through an acquisition from a larger player, however given the CEOs level of commitment and dedication there might be some problems with this. Another solution is to sell our share to another dedicated investor, which obviously would need to be approved by the board and the other investors first.

References

- GNESD. (2014) *Renewable energy-based rural electrification: The Mini-Grid Experience from India.* New Delhi: Prepared by The Energy and Resources Institute (TERI) for the Global Network on Energy for Sustainable Development.

- Hande, H., & Hiller, M. (2014). *REEEP - Lessons in Renewable Replication from SELCO*. Retrieved March 15, 2015, from http://www.reeep.org/news/lessons-renewable-replication-selco

- IFC. (2012) *Lighting Asia: Solar Off-grid Lighting.* Prepared by the International Finance Corporation (IFC), World Bank Group, with support provided by Department of State United States of America and Ministero Dell'Ambiente e della Tutela del Territorio e del mare.

- Janik Arthur & Barton-Sweeney Alexandra. (2009). *Selco Design and Social Enterprise Case Series. Yale School of Management*. Retrieved 18 March 2015, from http://nexus.som.yale.edu/design-selco/?q=node/87

- Mukherj, Sourav. (2011) *SELCO: Solar Lighting for the Poor.* UNDP Case Study: New York, NY, Retrieved 18 March 2015, from http://www.growinginclusivemarkets.org/media/cases/India_SELCO_2011.pdf

- Ramani, P. (2014). *Harish Hande | Here comes the sun*. *Live Mint*. Retrieved March 16, 2015, from http://www.livemint.com/Leisure/dLJtbPdbJeHgXmC6Qo2gWN/Harish-Hande--Here-comes-the-sun.html

- Selco-india.com. (2015). *Index | Selco Solar India, a social enterprise, provides sustainable energy solutions, and services to under-served households and businesses.* Retrieved 15 March 2015, from http://www.selco-india.com

- Selco Foundation. (2014) *Gaps and barriers preventing effective implementation of micro-grids in India: A summary of technical, financial, social, operational and political factor*s. Prepared by Selco Foundation.

- The Climate Group. (2015) *The business case for off grid energy in India.* Prepared by The Climate Group in partnership with Goldman Sachs.

10. Investing in Pro Mujer

Amin Saud Abdulkadir, Carlo Iengo, Natalie Stein

Investment Proposal - Pro Mujer

Amin Saud Abdulkadir, Carlo Iengo & Natalie Stein

Impact Investing: Redefining the Meaning of Return

April 2015

1. Introduction

This report is made to analyze the prospect of investing in the social enterprise Pro Mujer. Our impact investment fund focuses on eliminating poverty globally. The fund has investments in several parts of the world and now wants to enter a new market: Latin America. As such, our fund has used a set of eligibility criteria established by responsAbility[6] to select Pro Mujer, a solid company with a proven track-record, as a first investment in this new market.

Pro Mujer is a non-profit women's development organization dedicated to empowering women in Latin America (Argentina, Bolivia, Mexico, Nicaragua, and Peru) to break the cycle of poverty. The organization was founded in Bolivia in 1990 by Lynne Patterson and Carmen Velasco, two teachers who believed that education and easy, convenient access to health and financial services were crucial for women to climb out of poverty and to improve the lives of their families.

2. The Pro Mujer Magic Sauce

Many women in Latin America face violence and suppression in their daily lives through domestic abuse, trafficking and rape. This is a recurring problem in many developing and poor countries around the world, despite prevention efforts. According to UN Women data from 2011, Bolivia is reported to have the highest rate for domestic violence in South America[7].

In an interview at the World Economic Forum, CEO Rosario Perez describes the solution as "The Pro Mujer Magic Sauce", comprised of economic empowerment through financial services that enable clients to start or grow small businesses, as well as through group trainings and safe spaces in the Pro Mujer Centers, where high-quality, low-cost primary health care is also provided[8]. Pro Mujer operates over 160 such Pro Mujer Centers and 25,800 solidarity groups, also known as communal banks, comprised of around 15 micro-entrepreneurs that support each other, share learnings and guarantee each other's loans. Each group is supported by a Client Advisor that builds trust and helps keep clients in the program[9].

The success of this business model is clear in the numbers. According to the Annual Report 2012/2013, Pro Mujer disbursed 1,374,500 loans with an average balance US$448 and a repayment rate greater than 90%[10]. These loans and related services helped improve the lives of 282,300 low-income women in Latin America and their 1.5 million family members. In addition, 95,500 financial literacy & small business trainings were carried out in 2012/2013, as well as 2 million health care services & screenings (ex. pap smears). Since its

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[6] ResponsAbility 2014
[7] Forman & Meacham 2013
[8] Lavender 2015
[9] Pro Mujer 2014, *Annual Report 2012/2013*
[10] Pro Mujer 2015, *More than a transaction – a transformational experience*. According to the website, the "average client repayment rate is more than 96%." The average initial loan is $100 and many women take out multiple short-term loans of subsequently higher amounts within the two-year period (2012/2013) of the annual report.

founding, Pro Mujer has disbursed more than US$1 billion in small loans to over 1.6 million women. From 2006 to 2013, Pro Mujer increased the reach of its services by 95%[11].

3. Management and Company Structure

Pro Mujer is led by the strong, capable leadership of Rosario Perez, who joined in 2008, bringing invaluable experience from a 21-year career in private banking, including at J.P. Morgan Chase, where she led the Private Bank Latin American division. She was named a 2014 Schwab Foundation Social Entrepreneur for Pro Mujer's groundbreaking work in health care delivery to poor women in Latin America. Pro Mujer has grown under her leadership largely because of her ability to attract and maintain top investors and partners. Notable partners include Citi, JP Morgan Foundation, MasterCard, Johnson & Johnson, Pfizer and the Clinton Global Initiative[12]. Ms. Perez, who earned US$211,244 in 2013[13], is supported by a strong Executive Team and Board of Directors, whose members use their extensive business expertise and experience to improve both the financial return and the social impact of the organization. The strong brand and reputation of Pro Mujer[14] ensures a large effect with simple marketing tactics, both with clients and with investors and partners.

Pro Mujer is headquartered in New York, where Pro Mujer International provides support for each of its subsidiaries. The company has a daughter company in each of the countries in which it operates and these are subject to country-specific tax laws. The Pro Mujer affiliates in the US, Mexico, and Argentina are exempt from income tax. Pro Mujer in Bolivia and in Nicaragua are subject to income tax[15]. Pro Mujer was, as of December 31, 2013, not granted permission to renew its Exempted Entity Income Tax Certificate in Peru[16].

4. Investment Proposal

Looking to the future, Pro Mujer aims to further expand in the countries where it currently operates. According to the 2013 Audit Report, Pro Mujer International is interested in attracting longer term, fixed-rate financing. We therefore believe that a debt investment is the financial instrument that best suits Pro Mujer’s needs and investors’ interests. Since each daughter company runs an independent business, carrying a different country specific risk, the optimal solution would be a structured debt product that allows for diversifying risk.

As a single investor, we propose a total investment of US$5 million in Pro Mujer International with a time horizon of 5 years. The debt product will be composed of five

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[11] Pro Mujer 2014, *Annual Report 2012/2013*
[12] Pro Mujer 2014, *Annual Report 2012/2013*
[13] Pro Mujer 2014, *Form 909*. Perez’ salary is low compared to the median Charity CEO Salary of $307,756 for a large charity in the Northeast USA, according to the 2014 Charity CEO Compensation Study.
[14] Pro Mujer 2015, *Awards & Recognition*. Top 50 brands in Latin America, Financial Times 2012
[15] Pro Mujer 2014, *Audit Report 2013*
[16] Pro Mujer 2014, *Form 909*. The only information about this decision is that Pro Mujer Peru amended some of its bylaws in 2007 and is fighting this decision, having been partially successful by getting request to pay tax for 2008 and 2009 suspended until a later hearing.

tranches including four tranches with a value of $1,150,000 and one tranche with a value of $400,000. The first four tranches will be assigned to Pro Mujer Mexico, Pro Mujer Bolivia, Pro Mujer Nicaragua and Pro Mujer Peru, all of which have a high and similar rating (SP2, Moodys). The simple annual interest rate for these tranches would therefore be fixed at 4.5%. Pro Mujer Argentina, on the other hand, presents a higher risk and has a smaller asset value than its sister companies. Thus, an appropriate investment would have a tranche for a value of $400,000 and a simple annual interest rate of 6.5% to compensate for the additional country-specific risk[17].

Our intention is to present this plan to Pro Mujer and to subsequently adjust it accordingly in order to account for the organization's specific needs at the specific time. Pro Mujer may, for example, have internal strategies planned that are unknown to us at the time of this investment proposal.

5. Social Impact

To increase the social impact and to capitalize on Pro Mujer's expertise with women in Latin America, we propose that the investment is used to expand to new regions within the countries in which Pro Mujer currently operates. The goal would be to establish additional Pro Mujer Centers and corresponding solidarity groups. This would also require that new Client Advisors are trained.

The estimated social impact of our investment is 60,950 people. Assuming all the money goes directly to new loans, we obtain 11,980 loans[18]. Then we assume that the 4% of borrowers who cannot repay their loans are not impacted in the longer-term (only in the short-term). This results in 11,500 loans, which we multiply by the number (5.3) of family members per woman[19], yielding our social impact estimate of 60,950 total women and family members.

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[17] MicroRate 2014. Comparable interest rates have been found at MicroRate, a rating agency for microfinance institutions. Additionally, the proposed investments are comparable with past investments in Pro Mujer.

[18] As estimates for the cost of building new Pro Mujer Centers are unavailable, we use the average loan amount of $448 and repayment rate of 96% to estimate the impact of the proposed $5 million investment.

[19] We have divided family members (1.5 million) with women served (282,300), figures from the Pro Mujer Annual Report 2012/2103, to get 5.3 family members per woman.

Sources

Charity Navigator. (2014). *2014 Charity CEO Compensation Study*. Retrieved 20.03.15, from https://www.charitynavigator.org/docs/2014_CEO_Compensation_Study.pdf

Forman, Johanna Mendelson & Carl Meacham. (2013). *In Latin America, Women Still Confront Violence*. Retrieved 03.04.15, from http://csis.org/publication/latin-america-women-still-confront-violence

Lavender, Paige. (2015). *Rosario Perez Explains Why Economic Gender Equality Is So Important.* Retrieved 03.04.15, from http://www.huffingtonpost.com/2015/01/21/rosario-perez-davos_n_6505506.html

MicroRate. (2014). *Microfinance Institutional Rating*. Retrieved 20.04.15, from http://www.microrate.com/ratings-list

Moody's Analytics. (2014). *Social Performance Assessment (SPA).* Retrieved 20.04.15, from http://www.moodysanalytics.com/Products-and-Solutions/Credit-Research-Risk-Measurement/Microfinance/Social-Performance-Assessment

Pro Mujer. (2015). *Awards & Recognition.* Retrieved 20.03.15, from http://promujer.org/news-media/awards-recognition/

Pro Mujer. (2015). *More than a transaction – a transformational experience*. Retrieved 20.03.15, from http://promujer.org/what-we-do/financial-services/

Pro Mujer. (2015). *Pro Mujer Website*. Retrieved 01.04.15, from http://promujer.org/

Pro Mujer. (2014). *Annual Report 2012/2013*. Retrieved 05.04.15, from http://promujer.org/get-involved/annual-reports/

Pro Mujer. (2014). *Audit Report 2013*. Retrieved 04.04.15, from http://promujer.org/get-involved/audit-reports/

Pro Mujer. (2014). *Form 990 - Return of Organization Exempt From Income Tax 2012*. Retrieved 25.03.15, from http://promujer.org/wp-content/uploads/PROMUJER-INC-FY13_Form_990.pdf

ResponsAbility. (2014). *Core financing partner for financial institutions*. Retrieved 03.04.15., from http://www.responsability.com/funding/en/978/Core-financing-partner-for-financial-institutions.htm

11. Investing in OneDollarGlasses

Fabian Morawa, Pascal Signer, Sven Wenner, Yi-Han Hsu

Investing for Impact – Redefining the meaning of return

Investment Proposal

Risk Analyst	Fabian Morawa
Project Analyst	Pascal Signer
Impact Analyst	Sven Wenner
Financial Analyst	Yi-Han Hsu

1. Impact Area

According to the global estimates of the World Health Organization 285 million people are affected by visual impairment (c.f. Mariot, 2010). Moreover, Pascolini and Mariotti (2010) found out that visual impairment is unevenly distributed towards developing countries and low-income families. About 150 million people worldwide suffer from an uncorrected refractive error. These people could easily be helped by an ordinary pair of glasses. Unfortunately, many of them do not have access to an optician and often do not have enough money to buy glasses. This has severe implications for their lives. Children cannot go to school and adults cannot work to generate income for their families.

2. Project Description

OneDollarGlasses – a German based charity organization with non-profit purpose – was initiated in 2009. With projects in seven different countries globally (Ethiopia, Benin, Rwanda, Burkina Faso, Nicaragua, Bolivia, Brazil) the organization's mission is "to provide 150 million people around the world with glasses – people who live on a dollar or less a day do not have access to glasses which they desperately need." (c.f. website of OneDollarGlasses). We believe that our selected social investee has the best approach in order to tackle the issue of visual impairment. Moreover, our mission as impact investor – having an impact on visual impairment – is in line with the project's mission. Hence, mission drift (c.f. Julius Baer, 2014) and major disagreements can be avoided during a possible collaboration.

Business Model

The project supports low-income communities all over the world according to three main sources:

- Provide know-how for the production of the glasses
- Teach basic skills in optometry and business administration
- Distribute facilities for the manufacturing

During a two week course members or volunteers of OneDollarGlasses instruct the local people with the know-how for the production of the glasses and teach them basic skills in optometry and business administration. Once trained, the micro opticians can afford a bending machine for free together with a loan contract. The materials are bought from the project directly and an additional 20% of the material costs are used to pay back the loan over time. Endowed with the know-how and the necessary materials these micro opticians start locally their independent and sustainable business.

Project Specific Impact

On the one hand, the project generates new jobs and creates sustainable business without building dependencies between the local communities and the project because the self-employed micro opticians work independently. Our calculations (see Appendix 1 for more details) illustrate that one bending machine can generate approximately 1’352’325 USD of economic impact annually. In other words, for every dollar invested in the project the subsequent economic output is roughly 500 USD. From a social point of view, the project strengthens local communities with a positive perspective for the future. Children can go to school and adults can work without any restrictions of their visual impairment. Moreover, it is estimated that a pair of glasses can increase a worker's productivity by about 35%, which increases a worker's salary by, on average, about 20% (c.f. Karnani et al.).

Investment Readiness of Investee

As previously mentioned, the project is still in its initial phase but it has already implemented numerous expansions to other countries successfully. So far the project has depended on minor financial resources based on regular and extraordinary donations, public grants and subsidies. Since these income flows are irregular and thus, do not allow to keep the activities on a stable level our social investee requires additional financial funds in order to continue expanding the project's mission.

3. SWOT Analysis

Firstly it is important to focus on the **internal strengths** of the project. It is a development aid approach specifying on a learning-by-doing implementation. Local people get empowered with the trainings and can thus independently continue with the production of the glasses. It creates jobs and thus additional income for the opticians. Also the replacement costs for broken glasses are low and the final purchase price for the buyers is on average only 4.5 USD. Another advantage is the high fitting accuracy of the glasses compared to the delivery of old used glasses as well as the fast production process.

On the other hand the **weaknesses** might be the non-profit-statutory framework of the organization, which can lead to difficulties regarding the financial return of the investments. Also there is a potential long delivery time for the bending machines and the lenses because these two things are not produced locally. The training procedure of the opticians is work- and time- consuming and requires a high dedication of the participants and the teachers. In the near future the problem of finding the adequate opticians will be resolved through cooperation with local schools. Another point to mention is the centralized structure of the organization and therefore the lack of authority in the local regions.

Regarding the external influences on the project there are plenty of **opportunities**. Real competition does not exist at all since it is a unique production process and a new idea of implementation. There is a huge potential demand for the produced glasses in the developing countries because common opticians are extremely scarce and their imported glasses are far too expensive for the average local population.

However there are also **risks** to consider. Especially the political risk needs to be mentioned. The institutional settings in the target countries are rather unstable and therefore there is risk of corruption (c.f. Transparency International, 2014). Additionally potential barriers-to-trade exist in the respective countries, e.g. government regulations or license issues. One last important threat to mention is the bad shape of the local infrastructure, which might pose problems to the expansion plan of the project.

Strengths:	Weaknesses:
• very sustainable approach, learning-by-doing, empowering the people • low replacement costs for broken lenses, low production costs • very high fitting accuracy and fast production process • creation of jobs and income for the opticians	• non-profit statutory framework of the organization • potential long delivery time of the material and the machines • work and time intensive training process of the local people, high need of volunteers • centralized structure, lack of local authority
Opportunities:	**Threats:**
• no competition in the market for locally self-produced glasses • very high potential demand for the product, huge lack of opticians and common glasses are far too expensive	• political risk, institutional settings in the target countries rather unstable • risk of corruption/rent-seeking • potential barriers-to-trade, e.g. government regulations/license issues • bad infrastructure might lead to distribution problems

Table 3: Summary SWOT Analysis

4. Investing Approach

Our investing approach is to support the organization to provide more loans to well-trained participants in order to distribute bending machines. The size of the investment is 325’000 USD which is an equivalent to 120 bending machine loans. The goal is to amortize the investing amount with a reasonable interest rate. Originally, participants pay an additional 20% of the material costs for the amortization of the loan. Our investment approach is slightly different. However the overall structure of the loan contract between the project and the micro opticians remains the same. Concretely, the debtor has to pay us directly an additional 10% of the material costs as interest rate payments each time they purchase the materials from the project. Moreover, an additional 10% are reinvested in the project in order to support the trainings and thus, increase the education of opticians. Our investment is rather a long term approach and thus, we do not expect to break even in the short term.

Investing Instrument

Our investing approach would be implemented by loan contracts in order to match the characteristic of the organization and our investment intentions. Firstly, the organization has come to the mid-expansion stage in its life cycle for three main reasons:

- Commercialized product
- Reach participants in 6 African countries and start expanding to China and India since 2014
- Profit of 98’000 USD while office expense only account for 23% of the total expenses

Based on the previous risk analysis, we identified a couple of internal weaknesses and external risks. Hence, loan contracts as investment instrument seem to be legit in order to reduce risks and to increase the likelihood of positive returns.

Lastly, the loan structure with annual payments allows the organization to temporarily use the capital and thus increase flexibility, which is crucial while an organization scale up. Hence, we can overcome the current problem of the organization regarding irregular income flows.

Exit Strategy

The exit strategy is to get all principal back as a closed commitment after 6 years. In order to get a dynamic forecast of our investment over time we derived three possible scenarios.

Based on reasonable assumptions (c.f. annual report), we expect to break even in the 4th year with an IRR of 29% and a ROI of 0.96 in our investment horizon (for the calculations see Appendix 2). On the upside, if the sales and production meet the full capacity of the bending machine, break-even is reached in the 3rd year with an IRR of 68% and a ROI of 2.58. On the downside, if the sales and production become less than 50% current amount, the investment wouldn't reach breakeven within our time horizon of six years.

Scenario	Glasses sold/day	Break-even	IRR	ROI
Estimated	10	4th year	29.21%	0.9623
Upside	55	3rd year	68.40%	2.5842

Table 4: Summary of Investment Scenarios

5. Conclusion

Based on our impact and project analysis we are convinced that our investment target OneDollarGlasses has the best approach in order to tackle the issues of visual impairment. With our suggested investment strategy we can achieve a high social and economic impact. In order to match the life cycle, the characteristic of the organization and our investment intentions we decided to invest with a simple loan contract. Concretely, the debtor has to pay us directly an additional 10% of the material costs as interest rate payments each time they purchase the materials from the project. Moreover, an additional 10% are reinvested in the project in order to support the trainings and thus, increase the education of opticians. The size of the investment is 325'000 USD which is an equivalent to 120 bending machine loans. Within our investment time horizon of six years we expect to reach break-even in the 4th year and achieve an IRR of 29%.

6. Appendix

Appendix 1: Calculation of the Economic Impact

Based on the annual report one bending unit allows three opticians to work simultaneously. One micro optician can produce 10 glasses each day and hence, three opticians produce 10’950 glasses annually. Assuming the additional net income as a micro optician of around 3.50 USD for each pair of glasses sold, three opticians can earn **38’325 USD** annually with one bending machine.

Moreover, people who buy the glasses can benefit with an increase in their productivity. Assuming an increase of around 20% and an average salary of 600 USD annually, there is a **1’314’000 USD** gain for the overall economy (20% * 600 USD * 10’950 glasses).

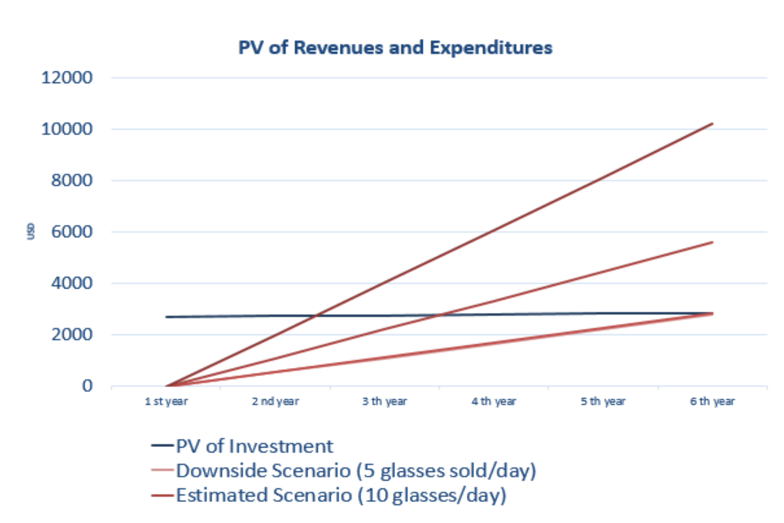
Therefore, the aggregated total economic impact is around **1’352’325 USD** for each bending machine. With an initial investment for one bending machine of 2’708 USD each dollar invested in the project can generate around **500 USD** (1’352’325 USD/2’708 USD).

Appendix 2:
Dynamics of Investment

Expected Senario						
Year	Cash Flow	Expenditure (PV)	Revenue (PV)	Net income (PV)	ROI	IRR
1	-2708	2708	0	-2708	-1.0000	
2	1095	2735	1095	-1640	-0.5996	
3	1095	2762	2201	-561	-0.2033	
4	1095	2790	3318	528	0.1892	
5	1095	2818	4446	1628	0.5778	
6	1095	2846	5586	2739	0.9625	29%

Upside Senario						
Year	Cash Flow	Expenditure (PV)	Revenue (PV)	Net income (PV)	ROI	IRR
1	-2708	2708	0	-2708	-1.0000	
2	2000	2735	2000	-735	-0.2688	
3	2000	2762	4020	1258	0.4552	
4	2000	2790	6060	3270	1.1721	
5	2000	2818	8121	5303	1.8818	
6	2000	2846	10202	7356	2.5845	68%

Downside Senario						
Year	Cash Flow	Expenditure (PV)	Revenue (PV)	Net income (PV)	ROI	IRR
1	-2708	2708	0	-2708	-1.0000	
2	548	2735	548	-2187	-0.7996	
3	548	2762	1101	-1661	-0.6013	
4	548	2790	1660	-1130	-0.4049	
5	548	2818	2225	-593	-0.2104	
6	548	2846	2795	-51	-0.0178	0.39%



7. References

Credit Suisse AG Research Institute. (2012). *Investing for Impact, How Social Entrepreneurship is Redefining the Meaning of Return*. Credit Suisse Group AG, Zurich.

EinDollarBrille e.V. Entire website: http://www.eindollarbrille.de/

Enactus Germany. *Annual Report 2013*. Retrieved from: http://ww.enactus.org/wp-content/uploads/2014/05/Germany.pdf

Haverkock, A., Armbruster, A., Aufmuth, M., Demel, J. (2014). *Jahresbericht des EinDollarBrille e.V. 2013*. EinDollarBrille e.V., Erlangen.

Julius Baer Group. (2014). *Julius Baer Wealth Report: Europe*. Bank Julius Baer & Co. Ltd., Zurich.

Karnani, A., Garrette B., and Kassalow J. (2010). *Better Vision for the Poor*. (Working Paper No. 1137). University of Michigan: Ross School of Business, Ann Arbor, Michigan.

Mariot, S.P. (2010). *Global Data on Visual Impairments 2010*. World Health Organization. Retrieved from http://www.who.int/blindness/data_maps/en/

Pascolini, D., Mariotti, S.P. (2010). *Global Estimates of Visual Impairment*. Chronic Disease and Health Promotion Department. World Health Organization, Geneva.

Transparency International. (2014). *Corruption Perceptions Index 2014*. Retrieved from: http://www.transparency.org/cpi2014

Context Editorial Notes and Disclaimer on this Collection of Short Papers

This course titled *Impact Investing: Redefining the Meaning of Return* took place as part of the Contextual Studies at Master's Level in the Spring Semester of 2015. Contextual Studies at the University of St. Gallen constitute a pillar of the educational concept. They provide an opportunity to develop intellectually and culturally beyond the scope of core studies. The course has also been successfully delivered at the University of Tübingen in Germany and will be offered to various universities around the globe.

In addition to the short papers compiled in this document participating student teams presented their investment proposals in a one hour session in class. During these presentations the presenting teams assumed the role of Investment Managers of a fictitious Impact Investing Fund and the rest of the class acted as the Fund's Investment Board. Following the pitch presentation, the Investment Board had the opportunity to raise questions on the proposed investment structure as well as the financial and impact case driving the proposal. Each Investment Board member subsequently took a decision on whether or not to invest and gave reasons based on the social and / or environmental impact as well as their financial return expectation. The role assumed by the participants in this course and the investment proposals they have developed were fictitious. The investees researched by the student teams however are all real, impact oriented organizations changing people's lives and / or providing a healthier environment through their daily operations.

During the last two days of this block seminar the course enjoyed a small conference with guest speakers from UBS Sustainable Investing and LGT Venture Philanthropy from Zurich Switzerland as well as the Impact Investing in Latin America Research Platform (IILA) from Sao Paulo, Brazil.

Disclaimer: All case examples presented in this document result from self conducted research by the participating student teams. Where data was not available or not accessible to the teams, figures shown are based on the teams' own estimations and assumptions. It is therefore explicitly stated here that no claim of accuracy is made regarding any figures shown throughout this document. If you are a member of an organization featured in this document and do not consent to the public availability of its content please let us know so that we can remove the case or correct any possible misrepresentation.

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Impact Investing: Redefining the Meaning of Return

Collection of short papers researched and written by the participants in the Master's Level course on Impact Investing in the Contextual Studies at the *University of St. Gallen* in the Spring Semester of 2015

Humanistic Management Center