

FINAL PAPER

Developing a Communication Strategy for a crowd source project of
Enviu for the target group of biologists and toxicologists

Submitted to:
Ms. Elze Bosker

The Hague University of Applied Sciences

Academy of European Studies and Communication Management

Supervisor:
Docent Zah Kahar

Second Reader:
Docent Barry Verbeek

Developed by:

Emil Donchev

10028196

+31 06 38416148

Convivastraat 81, The Hague; 2522 XE

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Executive Summary

The purpose of the following paper is to present a communication strategy for the target group of biologists and toxicologists for crowd source project of Enviu.

The situation analysis chapter of the paper presents the current situation of Enviu as an organization and traces its development, experience and network expansion in recent years. Furthermore, it provides an analysis of the external environment of the organization. That involves general factors that have effect on all companies and organizations in the environment.

The literature review chapter of the paper offers an overview of communication factors for creating engagement with a target group, found in both online and offline literature. It also explains how those factors can be applied in the case of the target group mentioned above in the in-depth research, which includes face-to-face interviews.

The in-depth research methodology chapter discusses in detail the design of the in-depth interviews with the target group. It also justifies the choice of research strategy selected.

The research data analysis chapter discusses the results achieved through the research and provides a base for the final development of the communication strategy.

The conclusions chapter offers an analysis of the data in the research data analysis and discusses through the literature concepts discovered during the literature review.

The recommendations chapter presents the finalized communication strategy for the selected segments of the target group. It also provides the reader with the limitations of the research in some aspects, which would have made the research too broad and unfeasible for the scope of the paper.

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Declaration of Authorship

I hereby declare that the thesis entitled “Developing a Communication Strategy for a crowd source project of Enviu for the target group of biologists and toxicologists” has been carried out in the Faculty of International Communications Management, The Hague University of Applied Sciences, The Hague, The Netherlands under the guidance of MSc Zah Kahar. The work is original and has not been submitted in part or full by me for any degree or diploma at any other university. I further declare that the material obtained from other sources has been duly acknowledged in the paper.

Signature:

Date: 16.09.2013

Place: The Hague, Netherlands

Chapter 1: Introduction

Chapter Introduction

The purpose of the following chapter was to provide an overview of Enviu as an organization and the issue the following paper would be aiming to overcome. Furthermore, it would offer to the reader the specific research questions, designed for this research. The chapter would conclude with justification of the research methodology applied in the paper.

1.1. Organization Information

Enviu had three core businesses. They were initiating impact-driven businesses for private and public partners, building of impact-driven communities, and management of start-ups, developed through a venturing process. Up till that moment, Enviu had launched five start-ups. They were Three Wheels United, ImpactCrowd, YUNO, Energy Floors, and INURBA. It was the goal of Enviu as an organization to establish two more companies annually in the coming years (Enviu, 2013, About us, Paragraph 3-4)

Enviu launched lucrative communities and businesses that were aimed at facilitating environmental and social impact. The services and products of the start-ups (that Enviu creates) increased the quality of life of as many people as possible. With its community of more than 10 000 people in over 30 countries, Enviu produced pioneering business concepts and created partnerships to tackle local environmental and social issues. In order to establish its start-ups, the organization worked together with governments, businesses, investors, entrepreneurs, and other stakeholders in the Netherlands, but also from around the world (Enviu, 2013, About us, Paragraph 1-2).

1.2. Problem Background

For one of its most crowd source¹ recent projects – Toxic Metal Challenge (TMC) – Enviu worked together with Clear Light Ventures (CLV). CLV was a U.S. based Social venture (company), founded in 2007. The goal of the company was to enable widespread screening for toxic metals, which could impair health and performance. The idea behind TMC was the discovery that high levels of methyl mercury (and other toxic metals) could lead to chronic diseases, higher risk of cardiovascular disease, and attention deficit disorders. In TMC, Enviu and CLV invited the participants in it to develop a cost-effective, non-invasive screening tool to test the methyl mercury levels in the human body. The product that would result from this challenge, was aimed at end consumers. That included people who could purchase such a testing kit at the pharmacy or the supermarket. From the point of view of distribution parties, they included doctors, hospitals and private clinics. Those parties could potentially buy the test in large amounts and then sell it. However, the main party of the business model remained the end customer. The potential markets for this product would be mainly countries in which the issue of mercury poisoning was prevalent, such as the United States and Japan. However, this issue was global and markets were yet to be explored (ToxicMetalChallenge, 2013, About, Paragraph 2-4)

The professional core target group which Enviu and CLV wanted to reach for the project was around 100 biologists and toxicologists. However, people from other professional fields were also invited to join. Such other professionals included industrial designers, engineers, sales representatives, business students, product managers, and mechanical engineers. The reason why Enviu wanted to attract participants, other than the core target group, was due to the fact that people from the other spheres could have better understanding of qualities of the product such as design, that could make it more appealing to the customers (F. de Holder, Personal Communication, March 18, 2013).

¹ Crowdsourcing – Utilizing the expertise of many people in various parts of the world to achieve something (Turner, 2010, p.37).

1.3. Problem Analysis

Enviu commenced approaching biologists and toxicologists with e-mails describing TMC, the structure of the crowd source project, and its ultimate goal. What Enviu wanted to achieve with this was to make biologists and toxicologists interested in the project and become engaged in it with their knowledge, expertise and network. Eventually, those scientists would upload ideas on the website of the project of what a tool for testing the methyl mercury levels in the human body would look like and how it would work. They would also take part in brainstorm sessions with regard to the project and give feedback on ideas posted by other participants. This was the first crowd source project in which Enviu was targeting this target group. As the project did not achieve the set number of scientists from the core target group (biologists and toxicologists) Enviu wanted to develop an improved communication strategy for them in order the engage members of the target group in sharing their knowledge, expertise and network (F. de Holder, Personal Communication, March 18, 2013).

1.4. Organizational objective

TMC was eventually a successful crowd source project with a business idea for a screening tool selected. However, the challenge with communicating to and engaging biologists and toxicologists to participate in a crowd source project remains. As a result of that, Enviu wanted to develop a new communication strategy that would allow it to engage biologists and toxicologists to share their knowledge, expertise and network (F. de Holder, Personal Communication, March 18, 2013).

1.5. Research Objective

The objective of this research was to design a communication strategy that would help Enviu achieve engagement among the above-mentioned target group for future crowd source project that might involve it. The scale of TMC would be used as a leverage to define the number of people that would be the target

number for it. The research would provide a review of the most efficient communication factors and applications of social media to achieve this aim. The in-depth interviews conducted with the members of the target audience would demonstrate how those concepts could be applied in the case of this specific target group.

1.6. Research Questions

1.6.1. Advice Question

In order to offer the appropriate communication advice for Enviu, the research had to provide insights to the following question: What is a successful communication strategy for Enviu to engage biologists and toxicologists to participate in a crowd source project with their knowledge, expertise and network?

1.6.2. Central Questions

With regard to the objectives of this paper, two central research questions were developed that would result in a communication strategy for biologists and toxicologists:

- What are the key factors for achieving engagement with the target group of biologists and toxicologists in a crowd source project?
- What are the communication steps and channels used for creating engagement with the target group of biologists and toxicologists in a crowd source project?

1.6.3. Sub-questions

Sub-questions were also needed in order to assist the researcher in providing an answer to the central questions in his research:

-What is the influence of the Internet on knowledge sharing and crowd sourcing on the target group of biologists and toxicologists?

-What communication practices can lead to the engagement of a target group of biologists and toxicologists with a crowd source project?

-What factors can motivate the target group of biologists and toxicologists to become engaged with a crowd source project?

-What online and offline communication tools can be used to achieve the engagement of the target group of biologists and toxicologists with a crowd source project?

-What steps have to be taken to create engagement in the target group of biologists and toxicologists with a crowd source project?

1.6.4. Justification of the Research

As mentioned earlier, the goal of the research was to produce a communication strategy for biologists and toxicologists in order to engage them to participate in a crowd source project with their knowledge, expertise, and network. The research had to discover which communication factors were more efficient for creating engagement with target group in similar situations. Furthermore, those factors would be adapted appropriately in order to meet the communication and information needs of the segments of the target group that were more open towards taking part in such a crowd source project. The scale of the crowd

source projects of Enviu and the communication channels the target group was using were also important factors to be considered when developing the new communication strategy.

The information collected in the research was gathered through both desk and field research. The desk research part of the paper involved relevant literature, both online and offline. The field research included conducting in-depth interviews with members of the target group. The purpose of the in-depth interviews was to observe how the finding in the desk research could be applied in the specific case of this target group. Furthermore, the in-depth research assisted in segmenting the target audience. On the basis of the results from the desk and field research, the recommendations for the new communication strategy for the target group were developed in order to tackle the communication issue that existed in TMC with the target group of biologists and toxicologists.

Chapter 2: Situation Analysis

The purpose of the following chapter was to provide an overview of the current situation and work of Enviu as an organization and the environment in which it was operating, both directly related to Enviu and IN general. It would result in a SWOT analysis and definition of bottlenecks for the subsequent chapters of the research.

2.1. Internal Environment Analysis

2.1.1. Crowd source projects

One of the first crowd source projects of Enviu as an organization was Our Mobile Generation (OMG). The purpose of this project was to encourage the development of sustainability in the mobile phones industry. OMG aimed to instigate the users of mobile phones to think of sustainable ideas and solutions that would make the telecom industry and lifestyle more sustainable. The company that was developed from this project was the HELP! App and the project itself was sponsored by the Vodafone Netherlands Foundation (Our Mobile Generation, 2013, About us, Paragraph 1).

Enviu had also carried out a crowd source project in the field of sustainable housing. It was called Open Source House and it was organized as a competition between students and architects from all over the world. The purpose was to develop and design for a flexible, sustainable, and locally embedded one-family house in Ghana. As a final design was selected, it was adapted to the local cultural values of the community in Ghana. In December 2011, the first Open Source House was finished. In the beginning of 2012, the entrepreneur Rick Holt started INURBA to work towards the goal of Open Source House (Enviu, 2013, Our work, Open Source House, Paragraph 1-5).

One of the on-going crowd source projects of Enviu was the Open Health Community. It was launched to discover innovative methods for international collaboration and to recognize pioneering business opportunities with the aim to increase the quality of health care. Enviu was organizing the Open Health

Community together with Achmea. Achmea was a leading health insurance company in the Netherlands and it aims to advance health care in the country (Open Health Community, 2013, Challenge, Paragraph 15).

Another on-going crowd source project of Enviu was What to do With Poo. The purpose of the project was to develop innovative business concepts for services and products that were using human waste in Nakuru County Kenya. The goal of the project was to finalize the sanitation value chain that was developed by the Sanitation Program in Nakuru. The partners of Enviu for this project were BoP Innocation Center, Vitens Evides International, SNV, and Philips from the Dutch side and Nakuru Water & Sanitation Services Co Ltd (NAWASSCO) from the Kenyan side (What to do With Poo, 2013, About the challenge, Paragraph 1).

2.1.2. Economy of the crowd

As an organization, Enviu is a strong supporter of the economy of the crowd. The term stood for an economy that was based on entrepreneurs developing businesses, products, and services that have not only financial success, but also a societal benefit. Those enterprises, products, and services would be developed through knowledge sharing and collaboration, resulting in improving the quality of life of as many people as possible in the world (Enviu, 2013, Vision, Paragraph 3).

2.1.3. Management of crowd source projects

The management of the crowd source project was a function of the project manager and the community architect of Enviu. Each crowd source project was in most cases supported from a volunteer or an intern in charge of its marketing and promotion activities. However, crowd source projects that required more in-depth scientific knowledge involved an employee of Enviu with that knowledge

or an entrepreneur from the network of Enviu was in charge of the development of the project (Enviu, 2013, Team).

2.1.4. Traditional marketing and promotion

Apart from the events which Enviu was organizing and taking part in, the organization was not active in using traditional marketing and promotion in order to reach more people. Advertising and promotion in traditional media could generate significant publicity about Enviu and more people willing to discover how they could contribute to the organization. Those channels could be also very efficient for generating participants in local crowd source project in the Netherlands (Enviu, 2012, p. 9). For the target group of biologists and toxicologists that could mean an opportunity to reach a higher number of local professionals, if Enviu decided it would focus on them for its next crowd source project.

2.2. External Environment Analysis (macro environment)

The following section of the chapter would offer an analysis of the external environment factors that affected knowledge sharing in crowd source projects of the format of Enviu.

2.2.1. Globalization and its effect on knowledge, education, and training

A report from Global Information Infrastructure Commission stated that the world is in an ongoing process of globalization in all levels of life – political, economic, and cultural. Together with these changes, the requirements for the information, knowledge, and education within this system had evolved likewise. The educational standards for the future workforce were of paramount

importance. Furthermore, informal learning systems, especially the ones designed to engage adult learners in life-long learning were of great importance as well (Global Information Infrastructure Commission, 2013).

2.2.2. Effect of technology on education and knowledge sharing

With the development of the Digital Revolution, knowledge sharing and education were becoming accessible to larger number of people everyday. The possibility for a person or an organization to connect online to another individual or an enterprise, sharing the same values had become tremendously higher due to the technologic changes. Specific knowledge could be shared not only in a classroom with a group of students, but with a group of people living thousands of kilometers away (Heick, 2012, Paragraph 8-10).

2.2.3. Crowd sourcing as a trend

As a tool the Internet had a profound effect on the development of crowd sourcing as a trend. It allowed millions of people world wide to contribute with knowledge and ideas to projects that vary in size and scale. Crowdsourcing could provide solutions to considerable issues by providing localized information. Reaching to people with different professional expertise and allowing them to share their knowledge had been made possible from the Internet (Eaton, 2013, Paragraph 1). For the crowd source projects of Enviu that meant the organization was able to reach a much considerable number of professionals worldwide for its projects.

2.2.4. Social Media in crowd sourcing

Together with the Internet, social media had become an important part of crowd sourcing as well. It allowed organizations to reach to their prospects faster, more

efficiently, and cheaper than ever before. Ongoing crowd sourcing initiatives were almost always making use of social media in order to attain a higher number of contributors to them. In theory, that resulted in a better quality of the service, idea or product, depending on the goal of the crowd source project. As the monitoring of social media had become progressively popular and complex, more and more businesses would start paying more attention to how they could make use of social media in order to gain more participants for their crowd source initiatives (Marchionda, 2013, Paragraph 2-4).

2.2.5. Global co-operation to grow market for social investment

On June 6th, 2013 in Bloomberg, London, the first G8 conference with a focus on social investment took place. It announced measures to increase the global market for social investment. At that moment in time, only in Britain existed more than 180 000 social enterprises, adding £55 million to the economy. Although traditionally many of those businesses had been relying on grant funding, an increasing number of investors were already offering them repayable and affordable finance. That fact demonstrated that socially -minded investors were able to enlarge the impact their money had, since the return of investments from those enterprises could be reinvested in developing projects and ventures, whose aim was to boost economic growth and confront social problems. Furthermore, at the same conference, the governments of the G8 countries obligated to assist in increasing the global market for social investment. They announced three steps as a beginning of this effort. First, an OECD report was to be prepared to assess the international market that existed for social investment. Second, efforts would be made to bring social investment closer towards international development projects. And third, create a global expert group that would focus on best practice and established international standards in social investment (Cabinet Office, 2013, Paragraph 1-4). In the case of Enviu, that meant there was growing government support in stimulating businesses that tackle social issues. In the same manner as Enviu, those parties were recognizing

the importance of enterprises that were not only earning money, but also having a positive effect on society.

2.2.6. Political Situation in the Netherlands in terms of knowledge

In November 2012, the Dutch Minister of Education, Jet Bussemaker announced that she would aim to attract more international students to stay in the Netherlands after their graduation. Furthermore, she requested from the Social-Economic council (SER) to discover ways in which universities, schools, companies, and the government could contribute to attracting more international talent to the Netherlands. According to a study conducted by the CPB, if the Netherlands managed to attract 20% of the international students to stay and work in the Netherlands after they graduated, that would add € 740 million to the treasury. This could benefit the budget a lot, particularly in the unstable recovery of the economy of the European Union from the financial crisis (Thomas, 2012, Paragraph 2-4). In the case of Enviu that meant in the future there could be a higher number of foreign professionals that could be potential participants in the crowd source projects of the organization.

2.3. External Environment Analysis (meso environment)

The following part of the chapter will discuss developments in the external environment of Enviu, related to crowd sourcing as a way in which the organization developed the concepts for its start-ups. The reason for the selection of competitors as the only relevant stakeholder in that regard was due to the fact that they were the ones capable of attracting professionals that could have otherwise joined a crowd source project of Enviu.

2.3.1. Competitors

2.3.1.1. Ashoka

Ashoka was the largest global network of social entrepreneurs, with approximately 3 000 Ashoka Fellows in 70 countries, offering their innovative ideas into practice on a world scale. Established in 1980, the organization offered financing for start-ups, connections to a world network in the social and business sectors, professional support services, and a platform on which people could get in touch with other individuals that wanted to work towards building social businesses. Ashoka was activating partners from multiple sectors around the world that were looking for innovative ideas and entrepreneurial talent to tackle social issues. (Ashoka, 2013, About us, Paragraph 1).

2.3.1.2. Battle of Concepts.nl

Battle of Concepts was a platform that offered participants in it the chance to offer their solutions for a real issue that existed for a business or an organization. Government agencies and companies were the sources of the questions that were being posted on the website, which could look for an idea of a product to tackle a particular need, a solution for a social issue or a concept for a marketing campaign. The authors of the ideas posted on Battle of Concepts had to be students (college or university) or Young Professionals (graduated HBO/WO), under the age of 31. By winning a competition with his or her idea, the individual could win a monetary prize or apply for a position at the organization or company that posed the issue (Battle of concepts, 2013, Content, Paragraph 1-6)

Although the above-mentioned organizations had similarities with some of the services of Enviu, they did not offer all of them in one. Enviu was undertaking the entire process from the inspiration to tackle a certain social or environmental issue towards developing a specific business concept that was afterwards

transformed into a real business venture. At that moment, there was no other organization or a company that offered all those services at one place.

2.4. Consumer profile

The community of Enviu consisted of 9 600 members, of whom 1 050 were core-members. The average age of the community was between 25 and 35 years and was present in more than 30 countries. Students accounted for 35% of the community members. Career starters and young professionals were respectively 15% and 45% and the remaining 10% of the community were the experts. All the community members were from different kinds of background, expertise and nationality (Enviu, 2013, p.5).

2.5. SWOT Analysis

<i>Strenghts</i> 1. The organization has an extensive experience in launching and managing crowd source projects 2. The organization is gradually building a large network of partners with companies, NGOs and governmental agencies 3. Unique Business Development Model from an inspiration to a start-up venture	<i>Weaknesses</i> 1. Insufficient spending on traditional marketing and communication tools 2. Differences in the communication preferences of target groups for different projects 3. Still not solid sources of organization finances
<i>Opportunities</i> 1. Crowd sourcing as a growing trend due to the Digital Revolution 2. Social media as a powerful tool for attracting participants in crowd source projects 3. The Netherlands as an attractive destination for qualified immigrants	<i>Threats</i> 1. Unstable economic recovery in the European Union 2. Experiences professionals could be preferring to sell their knowledge instead of sharing it for free

2.6. Conclusion

By analyzing the results of the desk research in the situation analysis, it could be said that Enviu had an advantage over other organizations that were trying to organize crowd source projects in order to initiate new businesses. Although some of the services offered by its competitors had similarities with the ones of Enviu, none of them offered the entire spectrum of services from an idea for a business to starting a real enterprise.

However, there were also weaknesses that were observed in the communication strategy of the organization from an internal perspective. Enviu was still not investing efficiently in traditional communication channels that could make the organization and its work (e.g. the HELP!App) more visible to the general public, especially in the Netherlands. Online communication, supported by traditional one, would be able to reach a larger amount of audience that would want to become involved in the organization in different ways.

On the other hand, the development of the online marketing communication tools offered a great assistance for Enviu and its crowd source projects. Since the aim of a crowd source projects was to reach to a specific number of professionals, social media could be utilized to reach to them on the social media platforms they were active on.

With regard to the external environment, a growing trend for support for social businesses could be observed globally. Governments had started to recognize the positive effect social businesses had on the economy and were willing to support them and the impact they had on society. The Digital Revolution also has had a profound effect on knowledge management and education. The ability to communicate and share information with professionals all over the world had created a positive predisposition of the general public towards crowd source projects.

As an organization, Enviu had already displayed its ability to utilize successfully crowd sourcing as a tool in its business development process. From the external environment there were also factors benefiting the organization and its activities, ranging from factors, that were ubiquitous for the entire environment (Internet) to such that affect its industry in particular (governmental support for social innovation).

With regard to the spending on traditional marketing and promotion, further research was needed to display whether this would affect the communication of the organization with the target group of biologists and toxicologists. The following stages of the research would offer an insight on the factors that would allow the organization to engage this target group in a project in which it would share its knowledge, expertise, and network.

Chapter 3: Literature Review

The aim of the following chapter was to provide an analysis of the communication factors for creating engagement with a target group. This was selected as the main theme of the literature review since the goal of the research was to provide insights on how to engage the target group of biologists and toxicologists to share their knowledge, expertise and network in a crowd source project. For this purpose, both online and offline literature sources were monitored. The chapter also contained analysis of each factor and its implications for the in-depth research.

3.1. Satisfying emotional need of the target group

In his article “Engagement Model: From Following to Co-Creating”, the management consultant Luc Lalande presents his Engagement Development Model (Figure 3.1.). The Engagement Model Development is suggested as a way to enhance an in-depth understanding of the phases an individual in a “network” or a “community” might pass through as he or she invests money, knowledge, and time in supporting a collective initiative (Lalande, 2013, TrueInnovators). According to the model the behavior of the individual progressively develops from a “self-interested” individualistic basis towards a greater collective effort.

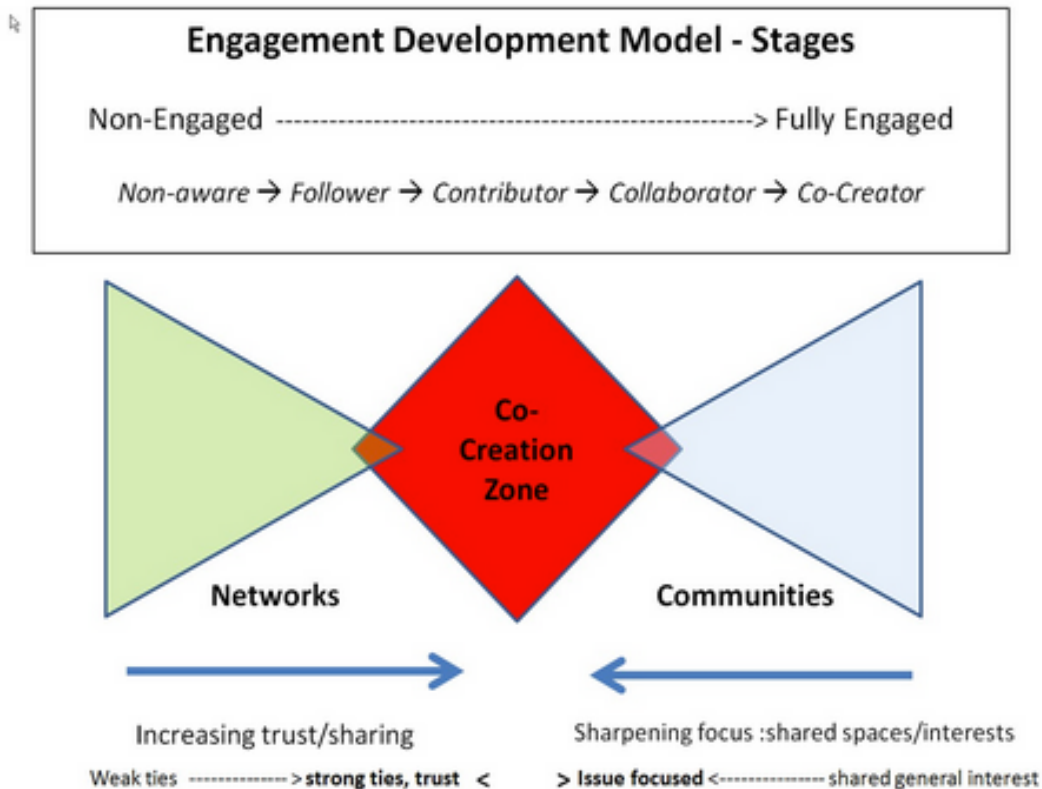


Figure 3.1. Engagement Development Model – Stages (Lalande, 2013, True Innovators).

For the in-depth research with the target group of TMC, an aspect to research would be on which stage of the engagement development model the participants in the interviews were. . It would be valuable to understand the extent to which they are willing to take part in a crowd source project and the information they would need to take the decision. This could provide valuable assistance in designing a better communication strategy for the target group they belong to.

In their book “How to Make Money with Social Media”, Jamie Turner and Reshma Shah, present communication factors using social media. Some of those factors can be used for creating engagement with a target audience. Their first engagement factor discusses the need an online community can serve for its members. The community has to serve an emotional and societal need for the

participants in it (Turner, 2011,p. 21). Customer/member experience was also the number one factor for building a community in an article from Wikibrands on the success factors of an online community (Moffitt, 2013,Wikibrands). Focus on the important for the participants content is one of the key factors for the success of branded online communities in an article from Econsultancy. Subjects that are relevant for both the participants and the company/organization that has launched the community should be used to make it meaningful for the users (Robles, 2010,Econsultancy). According to the community consultancy FeverBee, an organization, needs to create a plan of how it will create an emotional unity among its members. The developer of the community needs to display proactivity in finding ways to create emotional connections between the community members (Millington, 2013, FeverBee,).

In the case of biologists and toxicologists a subject for the in-depth research could be the emotional motives that could trigger members of the target group to take part in a project with their knowledge and expertise. A community created around such a crowd source project should give them the emotional feeling that can stimulate them to take part in it.

3.2. Mixing online and traditional marketing to achieve engagement

Another important factor for attracting participants, noted by Turner and Shah is to use word-of-mouth advertising and traditional marketing to attract traffic and awareness to an online platform. Thus, traditional marketing provides assistance to the online communication efforts of a company or an organization (Turner, 2011,p 23). In his article “How to Blend Online Marketing and Traditional Media” for Uberflip, the Organic Search Manager Jason Corrigan also brings up the necessity of a cohesive work between traditional and online marketing channels to successfully market a business or a product. According to Corrigan, online marketers should focus on seeking opportunities to apply traditional top of mind advertising (TOMA) in bringing offline consumers to their mobile devices and

desktops (Corrigan, 2013, Uberflip). The same insights are shared by Mindy Lilyquist in her article “Types of Marketing: Traditional and Internet” for About.com. Lilyquist mentions the operation of marketing before the development of the Internet and its channels – direct sales, radio, TV, and mail. In comparison, today, in the age of Internet, customers are expecting a customized marketing message with value in it. Lilyquist also suggests a formula for combining the traditional and online marketing by using the 80/20 rule to the marketing mix – by investing 80% of the marketing budget and time in Internet marketing and 20% in traditional marketing (Lilyquist, 2013, About.com).

In the case of the target group of TMC, a subject for the in-depth research would be which online and traditional communication channels the target group is using. This way a new and more effective communication strategy could be developed for it than can be beneficial for future crowd source projects.

3.3. Lead Generation through Social Media

Another engagement factor mentioned by Turner and Shah is called lead generation. In this case, social media are being used to drive participants to a website where they can obtain more information about a project. Once the contact information of the prospects has been acquired, they can be contacted later via direct e-mail, or a different type of method (Turner, 2011,p 40). In her article “Marketing Benefits of Using Lead Generation” for About.com, Laura Lake explains the benefits of using lead generation. From the perspective of the buyer, prospects have the opportunity to demand information from companies or organizations about the product or a service they are interested in. From the point of view of the seller, he or she is given the opportunity to pitch their service or product to an individual that has given them a permission to do so. According to Lake, the conversion rates on leads a business has received have a better conversion success comparing to cold contacts. This is due to the fact that

a received lead is pre-qualified before the business discovers him or her (Lake, 2013, About.com). In his article “Who Knew? LinkedIn Is An Amazing Lead Generation Tool” for HuntBigSales, Gretel Going mentions the benefits of LinkedIn for generating lead users. Going points out several features of LinkedIn that make it attractive for generating leads – quality discussions, highly-engaged community, and the opportunity to produce an astonishing amount of leads and traffic. Going also points out that LinkedIn can be used as a highly efficient tool for business-to-business companies if it is used strategically (Going, 2013, HuntbigSales).

A subject for the in-depth research of the target group of TMC could be on which social media channels the members of the target group are most active. Those social media could assist in achieving higher number of participants in the crowd source project.

Turner and Shah also discuss a consumer behavior model that emphasizes how different members of the target group are at different stages of the buying process - AIDA (Awareness, Interest, Desire, and Action). According to this model, each consumer needs to be addressed correspondingly to the phase in the buying process he or she is in. This way, specific pieces of information are communicated to each consumer, depending on the phases in the buying process he or she is at the moment (Turner, 2011, p.50). In his article “How to: Optimize Your Social Media Marketing Strategy” for Mashable, Josh Peters defines the AIDA model as an efficient way to optimize the social media marketing of a company or an organization. Peters points out that although the concept is very basic and simple for sales and marketing channels, it is still considerably applicable with regard to Internet marketing strategies and social media (Peters, 2010, Mashable). In his article “Get To Know, and Use, AIDA” for About.com, Paul Suggett, also mentions the importance of the principles of the AIDA model in modern-day advertising and marketing. Suggett also adds that if the advertising or marketing of a company or an organization lacks one of the AIDA components, there is a high probability that it will fail (Suggett, 2013, About.com).

In the case of the TMC target group, this model could deliver relevant information to members of the target group in different phases of their buying process towards a crowd source project. The buying process discussed in the model is similar to engagement on knowledge sharing in their goal to generate leads for a product or a service – in the case of the target group of biologists and toxicologists, a project. By providing an insight about the current position of members of the target group in this process, the communication strategy with them could be further improved.

In his book “Social Media ROI”, Olivier Blanchard discusses the role of social media for creating high-quality communities around companies and organizations. According to Blanchard, the reason for social media to be embraced so quickly from the general public is due to the fact that they fulfill the need for interactions, dialogue, and participation in social dynamics. Smart businesses have always been aware that emphasizing on this need for social connections and group validation is the first step towards building customer loyalty (Blanchard, 2011, p.4). Blanchard also points out the ability of social media to take the word-of-mouth-effect and multiplies its reach and its velocity to an immense extent. The social networks are able to create lateral engagement that is not limited by geographic barriers. A recommendation for a product or service can be sent to hundreds, or even thousands of people in an instant. The creation of engaged communities around brands allowed businesses not to rely on discounts for services and products (Blanchard, 2011, p.10). In his article “Social Media’s Effect on Human Interaction”, Haley Jones discusses the effect of social media on human interaction. The author quotes results from a study of the National Institute of Health, showing that young people with positive and strong face-to-face relationships are the ones who most frequently use social media. Instead of threatening personal interaction, social media enhances it, allowing people to stay in touch over a prolonged period of time (Jones, 2013, Hastac). In his article for TheConversation.com, Casey Bergman states that social media have been increasingly used by scientists to communicate, discuss, and publicize

current research. Bergman mentions two recent papers, (one from “PLOS Biology” and the other called “The Role of Twitter in the Life Cycle of Scientific Publication”) talk about the way scientists use social media. The author also points out that it is the scientists themselves that want to participate in the formation of the new ways of scientific communication in the Internet age (Bergman, 2013, The Conversation.com).

In the case of the target group of TMC, a subject for the in-depth research could be the extent to which members of the target group are willing to disseminate a crowd source project in their network and also share knowledge in it. The more they are willing to share it, the more diverse professionals can be brought to the crowd source project.

3.4. Delivering relevant information to prospects

In their book “Social Marketing: Influencing Behaviors for Good”, Nancy Lee and Philip Kotler describe social marketing as a tool that presents opportunities for attracting participants to projects with social benefits. As a distinct discipline in the field of marketing, social marketing refers mainly to efforts that focus on influencing behaviors that will contribute to the improvement of healthcare, prevention of injuries, protection of the environment, community involvement, and enhancement of financial well-being (Lee, 2011,p.2). In his article “Introduction to Community-Based Social Marketing” for Tools of Change, Doug McKenzie-Mohr points out how developers of programs promoting sustainability and health are increasing using as a tool community-based social marketing. The removal of structural barriers and direct contact between community members are aspects which community-based social marketing puts specific emphasis on. Furthermore, the author states that research has shown such actions are likely to foster behavior change (McKenzie-Mohr, 2012, Tools of Change). In the article “Community-Based Social Marketing”, the BearSmart Society in Canada also point out the same research and add that social sciences research show how behavioral change is achieved when initiatives are carried on community level.

In order for such projects and programs to be successful they should also include direct contact with people. (BearSmart Society, 2012).

In the case of the target group of TMC, a subject for the in-depth research could be what information they would like to acquire about the crowd source project before deciding to join in and what concerns they might have towards sharing knowledge online. Emphasizing on those themes on the communication with them could generate more participants in the project.

3.5. Audience segmentation

Another successful tip for implementing a social marketing campaign that Lee and Kotler comment on in their book is the identification of audience segments that are most ready to take part in a project or initiative that is being promoted. Social marketers should focus their resources and efforts on discovering segments of the target group that are most likely to buy the desired behavior. The chances of success of campaigns increase when they begin with segments that are in the necessary precondition to take action (Lee, 2011, p.7). In her article: "How to segment your audience" for Radiate Media, Whitney Denney states that audience segmentation is based on customers acting differently through the various stages of the buying process. A company or organization can increase the conversion rates if it provides relevant content to those groups that indicate willingness to go through the entire buying process (Denney, 2013, Radiate Media). In the article "Audience Segmentation: Social Media vs Traditional Media" in her blog, Margie Clayman points out that segmentation of audience is of vital importance, regardless of the channels intended to be used. Furthermore, the author adds that although social media is a great tool to conduct the segmentation, traditional media should also be taken into account due to their vast reach (Clayman, 2012, ClaymanMarketingCommunications). In her article "Start with Audience Segmentation" for Agency Post, Susan Baier points out the reasons why audience segmentation is useful to be conducted in

the preliminary stage of a campaign strategy. According to Baier, audience segmentation aids in improving the information that needs to be delivered to prospects and enhances the understanding of the motivations to purchase a product or a service. Furthermore, if a company or an organization has a good insight on the different segments, it can avoid the efforts to engage segments that are not willing to take action. (Baier, 2011, AgencyPost).

For the case of TMC, a subject for the in-depth research could be the importance of the opinion leaders in the target group, and in particular, to what extent their opinion could persuade or not members of the group to join the project. Furthermore, it is imperative to discover which segments of the target audience are most willing to take part in such crowd source project.

3.6. Social marketing application in crowd sourcing

In his book “Built in Social: Essential Social Marketing Practices for Every Small Business”, Jeff Korhan describes social marketing as a three-step tool to achieve the engagement of a target group. The process can be seen in Figure 3.2. below. First, it launches with valuable and useful content that triggers the attention of buyers. Second, social media is used to engage them further in order to earn trust and build relationships. Third, the result is a real business or product that is primarily established with direct selling in the real world (Korhan, 2013, p. 13). In his article “The Anatomy of a Social Marketing Campaign: 5 Steps to Success” for Fastcompany, Scott Lake also points out the steps for building a successful social marketing campaign. After the definition of clear campaign goals, Lake immediately puts the development of a valuable offer for the audience. The author states that the content needs to be valuable, useful, and engaging in order to grasp the interest of the target group (Lake, 2013, Fastcompany). For her article “7 Steps to Planning a Successful Social Marketing Campaign”, Melonie Gallegos also shares her professional insights on developing a successful social marketing campaign. A key part of the planning, according to Gallegos, is using

social media platform on which the target group is most active. As the author mentions, people tend to stick with their familiar and convenient social networks, rather than ones they are not familiar with (Gallegos, 2013, BrandWithFansBlog)). Meredyth Glass also mentions an important tip for accomplishing sales in the real world with social marketing in her article “How to Build a Solid Social Marketing Plan” for SmallBusiness. According to her, it is important to generate applicable ideas regarding the product that enhance the quality of life of a prospective customer. Glass states that it is vital to demonstrate to the customer how a product or a service enhances his or her lifestyle and goals (Glass, 2013, SmallBusiness).

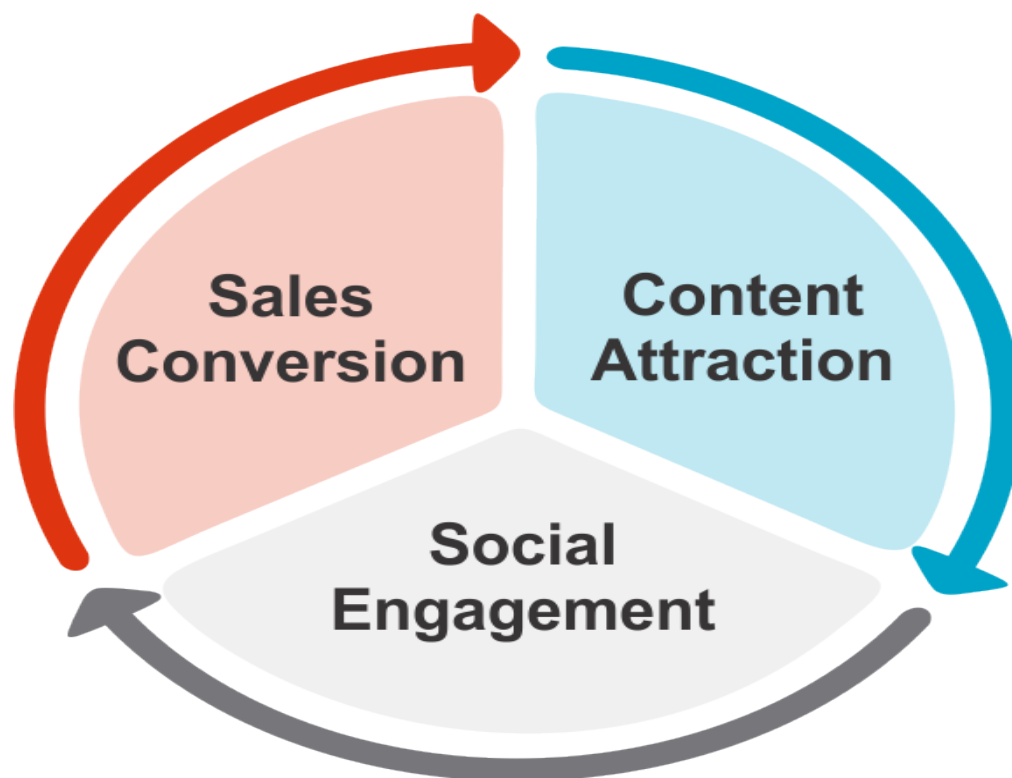


Figure 3.2. The Social Marketing Process (Korhan, 2013, p. 13)

In the case of TMC, this three-step progression could be utilized for achieving the engagement of the target group in the project with sharing their knowledge and expertise. For the in-depth research, it is important to discover the needs and wants of the target group in order to design social

media content, that will make them interested in the project and stimulate them to know more and take part in it.

In his book, Karhan describes another effective way for generating new prospects by using social marketing - turning the entire process of purchasing a product or service into a social experience. This can make a product or a service considerably more relevant to the business environment. This environment has experienced a huge impact imposed by the social media (Korhan, 2013, p.33)). In his article "Turn B2B Buying Into a Social Experience" for BuyerPersonInsights, Tony Zambito mentions the changes social media has inflicted on B2B marketing. Zambito states that B2B buyers have started thinking increasingly more in terms of the experience, rather than the transaction. According to him, this is also a sign that the marketing and sales approach regarding B2B needs to be changed accordingly (Zambito, 2011, BuyerPersonInsights).

For the case of TMC, this could be an essential concept since the aim is to engage the members of the target group to participate in a project with their knowledge. For the in-depth research it is important to discover the emotional feelings that would stimulate them to take part in such a crowd source project.

3.7. Conclusion

From the engagement factors discovered through the literature review, the most revealing was the extensive use of social media for creating engagement and generating new leads. That discovery correlated with the research in the situation analysis that also pointed out social media as a tool that could be successfully applied for achieving engagement.

Another meaningful factor for achieving engagement of a target group was the combination between the emotional need that an online community must serve and the relevant content that can trigger the interest of the target group in a

product or a service. In the case of the target group of biologists and toxicologists that could be an obstacle as it is aiming at finding a balance between emotional feeling and rational-thinking.

Another way in which the discoveries of the literature review allied with the ones of the situation analysis was the combination of online and traditional marketing in order to communicate effectively with a target group about a product or a service. In designing the communication strategy for biologists and toxicologists, an issue that might occur whether the right balance between online and traditional communication would be achieved. At this point of the research it was still not researched whether members of the target group actively use offline communication channels to inform themselves and whether both channels would have to be used to communicate with them about the crowd source project.

The segmentation of the target audience was also an important factor to consider for the in-depth research. It was imperative to discover which segments of the target audience were more likely to take part in a crowd source project with the knowledge, expertise, and network. Although the communication strategy would aim at achieving engagement at those segments most willing to act, they would also be stimulated to spread the project in their own network with aim of receiving possible reply from other segments of the target group as well.

Chapter 4: In-depth Research Methodology

The aim of the following chapter was to present the design of the in-depth research methodology of the paper. It was conducted after reviewing the results of the situation analysis of Enviu as an organization and the factors on creating engagement, revealed in the literature review.

Conceptual Design

4.1.In-depth Research Objectives

By taking into account the conducted Situation Analysis and Literature Review, the following Research Objectives for the In-depth Research had been formulated:

- Discover the predisposition of members of the target group to participate in a crowd source project
- Discover the emotional motives that stimulate members of the target group to perform their work activities
- Discover which online and traditional communication channels members of the target group are using
- Discover which social media platforms members of the target group are most active on
- Discover which aspects of a crowd source project are most relevant for members of a target group before they decide to join it
- Discover the extent to which members of the target group are willing to disseminate a crowd source project in their professional network

- Discover which segments of the target group are most willing to take part in a crowd source project

4.2.In-depth Research Questions

Therefore, those were the questions that were designed for the in-depth interviews with the members of the target group of biologists and toxicologists:

What is the predisposition of members of the target group to take part in a crowd source project by sharing their knowledge, expertise, and network?

What are the emotional motives that stimulate the members of the target group to perform their occupation?

What communication channels members of the target group are using (both online and traditional?

What social media platforms members of the target group are most active on?

What aspects of a crowd source project are most relevant for members of a target group before they decide to join it?

What is the extent to which members of the target group are willing to share the crowd source project in their network?

What segments of the target group are most willing to take part in a crowd source project by sharing their knowledge, network, and expertise?

4.3.Operationalization

Concept: relevant content

Variables: appropriate information; source of update information

Appropriate information: Which are the main aspects of a crowd source project members of the target group want to know about?

Source of update information; Which is the channel through which members of the target group would want to acquire information, once they join the project? Would the source of information matter for them? Project manager or a communication intern?

Concept: knowledge and network sharing

Variables: offering accumulated knowledge; provision of network access

Offering accumulated knowledge; What are the cautions (if there are any) that members of the target group have towards sharing knowledge and expertise they have gained? What is the attitude of the target group towards sharing knowledge on social media platforms?

Provision of network access; Would members of the target group be willing to share the crowd source project in their network, once they have joined it? Would members of the target group ask the opinion of people in their network before they decide to join the project or not?

Concept: motivation to trick engagement

Variables: emotional feeling from work; issues occupation solves for society

Emotional feeling from work; What type of emotional feeling does their work give to members of the target group? (sense of meaningfulness, of an achieved dream, of a conquered fear, etc.)

Issues occupation solves for society; Which are the issues members of the target group would say their job solves for society (tackling disease, making the world a better place, making their profession itself look more social, making professionals in their field more confident and successful, etc.)

Technical Design

4.4. Research Strategy

For the case of Enviu, with the target group of TMC, there was one specific organization that was the focus of the research. Due to this fact, the most appropriate research strategy to be employed was the Case Study one.

The key characteristics of the Case Study Strategy were that it offered detailed and deep insights on a specific issue. For the case of Enviu, this strategy was appropriate for achieving the results needed to comprehend how to achieve engagement of the target group.

The methods used for this type of research strategy included interviews and questionnaires.

Another feature of this category of research strategy was the definite variables that were studied and compared. Furthermore, this kind of research strategy focused on the comparison and interpretation of the in-depth research.

4.5.Research Material

In terms of the material for the in-depth research, there were six toxicologists and biologists with whom an appointment was feasible to be made. An effort was made for the participants to be as diverse as possible in terms of level of work experience, demographics, and nationality. That was necessary in order to make as good segmentation of the target as possible with the available interview participants. Apart from the members of the above-mentioned target group, there were also one business administration student and one sales representative professional involved. This was due to the fact that professionals with different expertise than the core one are necessary for the efficiency of a crowd source project. All of the eight participants had replied positively to a request for an interview that was sent and that was the reason for the number of interviewees.

4.6.Research Methods

In terms of a method for conducting the in-depth research, in-depth interview was designated. For the particular case of Enviu, pre-structured, personal interviews were the most appropriate type. With regard to channels for conducting the interviews, the main ones were Skype and telephone conversation, but there was also one face-to-face interview. In this case, the big advantage of the in-depth interviews was the opportunity to ask more questions on topics on which the interviewee was more eager to talk about.

4.7.Research Planning

Six of the conducted interviews were with biologists and toxicologists and two of them were with the two other professionals mentioned above. Six of the prospects contacted for the interviews had already been part of the network of Enviu, developed around TMC and the other two interviewees were contacts of

those prospects. There were also posts on Meetup and LinkedIn groups, on which the target group was present, requesting for volunteers for the interviews. This action was performed in order to provide as many respondents for the interviews as possible.

With regard to the interviewees there were ethical issues that needed to be addressed as well. Their personal data and interview answers would not be used for other purposes than the crowd source projects of Enviu – that was stated before the commencement of each interview. Their confidentiality was guaranteed and their personal data was not to be given to third parties.

Chapter 5: Research Data Analysis

The aim of the following chapter is to offer an assessment of the qualitative data that was gathered from in-depth interviews with biologists and toxicologists from the United States, the Netherlands, France, and Hong Kong. There were also two other interviews conducted with a business management student and a sales representative professional.

Since the aim of the paper was to collect insights for the improvement of the communication strategy of Enviu with biologists and toxicologists, the most suitable approach for it was considered to be conducting an in-depth interview with members of the target group. The interviews had the aim to give a precise picture of the emotional feelings that stimulate them to perform their job and the information they would need about a crowd source project before they decide to join it or not. Furthermore, the questions of the interview had the goal to discover the communication channels they would prefer to use in terms of learning about the project and working on it. Furthermore, the interviews had the goal which segments of the target group would be most willing to take part in such a project and whether they would share it in their network. Other important subjects in the interviews were whether the prospects would prefer to work on social media or on the website of the project, which social media channels they used, which channels they preferred to use for receiving the update information on the project, and issues they had with sharing knowledge. The reason for those factors of the interviews to be selected for analysis in the following chapter was due to their high importance with regard to the planning of the communication strategy for the target group of biologists and toxicologists.

5.1. Social Media Channels used by the target group

The carried out in-depth research demonstrated that members of the target group were active on several social media platforms. However, there were platforms that stood out in terms of usage for work from members of the target group. The results of the interviews showed that all of the eight participants are using LinkedIn. Second and third place respectively is for Facebook and Twitter, with 6 and 5 users. Instagram, Foursquare, Youtube and MSN Blogs were last with only one user. In the interview with him, Kewin Gombeau called LinkedIn: “...really well-conceived for spreading of the information and the discussion in a professional way...” (K.Gombeau, personal communication, August, 24th, 2013). The high usage of LinkedIn could be explained by its increasing popularity not only in professional networking but also with companies and organizations utilizing it for the promotion of their projects and initiatives. Twitter and Facebook are also social networks with great sharing capacity and the results of the in-depth interviews show that this is the case within the target group of biologists and toxicologists as well. The use of those social media channels by the target group is an important aspect to consider when developing the recommendations about the communication strategy for them.

5.2. Target Group Segmentation

The in-depth interviews also assisted in segmenting the target group. The interviews showed that professionals that had worked in the field for a longer period of time and had accumulated a high amount of knowledge were more cautious with regard to sharing knowledge and expertise with others. They preferred to take part in a project that could guarantee them money in return for their knowledge sharing, not one in which they share their knowledge for free. In the interview with him, Boris Pents stated that due to the limited amount of time apart from his regular job, he would rather: “...take part in initiative that offer payment for my knowledge...” (B.Pents, personal communication, August 20th, 2013). On the other hand, young professionals and students felt much more

open towards crowd source projects and sharing their knowledge and network in them. A huge incentive for them to take part in such a project was the ability to extend their network with professionals they had never worked with. They wanted to use the opportunity the crowd source project offered to gain knowledge about spheres they knew nothing about. In the interview with him, Louis Hom mentioned that for the benefit of a crowd source project, it is imperative to: "...make it easier for people with a business-type background more accessible for me..." (L. Hom, Personal Communication, July 5th, 2013). In order to make the communication strategy for the target group more specific and feasible, it was going to be focused on the segment of students and young professionals.

5.3. Work on the project website

The interview questions also had the aim to discover whether the target group was open towards using social media platforms for project work. The results of the interviews showed that members of the target group were open towards social media use in the project, but only if it was to be done with the aim of promoting the project. The interviewees answered that they would prefer if the core work on the crowd source projects takes place on the project website. In the interview with Vasil Daskalov, he stated that: "...people who are really dedicated to the project should have a place online, like the website of the project where they can focus on the work on the project..." (V. Daskalov, Personal Communication, July 6th, 2013). According to some of the respondents, that way the discussions and posts on the website of the project would be followed only by the members that were really committed to the goal of the project and the product or service it aimed to develop.

5.4. Network sharing from the target group

Another aim of the interview questions was to discover the extent to which members of the target group were prompt to invite in the crowd source project people from their personal and professional network. According to the interview results, members of the target group were open towards sharing the crowd source project in their network. However, an important condition for them would be to know people whose knowledge and expertise would fit with the project and its goals. The interviewees stated that they would not invite a contact of theirs to take part in a project if they believed the individual could not contribute to the project with his or her knowledge. In her interview, Sevgi Karaman stated she would invite her contacts to join if: "...I know people who have a fit with the project in my opinion..." (S. Karaman, Personal Communication, July 25th, 2013).

The willingness of professionals from the target group to spread the word about the project in their network were in line with one of the discussed trends in the situation analysis of the paper about knowledge sharing. Technological innovation had increased the speed in which knowledge was being transmitted beyond geographical boundaries.

5.5. Important information about the project for the prospects

Another important question asked to members of the target group was about the most important piece of information they would like to have about a project before they decide to take part in it. The interviewees stated that an important thing for them was to know who the organizer of the project was, what the goal of the project was, and what kind of expertise was going to be needed in it. (as mentioned in the section about knowledge sharing as well). In his interview Derek Greenfield stated that for him it would matter a lot "...the other people that are involved in the project..." (D. Greenfield, Personal Communication, August 2nd, 2013). Job Screuder, in his interview, mentioned: "...it is most

important to know what is going to happen after the crowd source project is finished...” (J. Screuder, Personal Communication, July 8th, 2013). Taking that into account, it was important to provide the target group with more information about the work of Enviu in their previous projects, especially since they might not be familiar with the organization and its activities. Those projects and the companies the organization had created until that moment could create the sense of transparency and trustworthiness that could influence in a positive way the decision of the members of the target group so that they would eventually join the project. Furthermore, this would assure the members of the capacity of Enviu as an organization to execute such a crowd source project in a professional way and achieve the results that were set as goals in its beginning.

5.6. Emotional Motivation

Emotional motivation was one of the most important factors to consider for the interviews with the target group and the development of the communication strategy with it. If a company or an organization knows which needs it has to approach in the target group it wants to engage, that provides it with a valuable insight in communicating with those people. The interviews showed that there are two main emotional feelings that their work gives to biologists and toxicologists. Due to the nature of their professions, they derive satisfaction from their work on developing products that can increase the quality of life of society and also protecting the environment. In his interview, Derek Greenfield mentioned that in his work there were “...goals, which if reached, will have a positive effect on society...” and the work on such projects was “...personal sense of satisfaction of being given a project and then completing it on time...” (D. Greenfield, Personal Communication, August 2nd, 2013). With regard to working towards protection of the environment, Kewin Gombeau defined it as “...a real feeling of satisfaction...” and “...making the world a better place...” (K. Gombeau, Personal Communication, August 24th, 2013). It would be imperative for the communication with the target group of biologists and toxicologists, to put an

emphasis on the positive effects the products of that crowd source project would have.

5.7. Update and promotional project information

The members of the target group pointed out online communication as the predominant source for work-related initiatives. They also stated they would like to receive via e-mail the update information about the crowd source project. In his interview Pink Kwan mentioned he would like to receive the update information in: "...some sort of bulletin board through e-mail..." (P.Kwan, Personal Communication, July 5th, 2013). In his interview, Derek Greenfield stated: "...a short e-mail, containing a link for more information, sounds enough for me..." (D. Greenfield, Personal Communication, August 2nd, 2013). Those preferences of the target group were important to be taken in account in designing the update information.

5.8. Issues towards knowledge sharing

Another important point touched in the interviews with members of the target group was about issues they had with regard to sharing knowledge in a crowd source project. That was an important point in the course of the research, since sharing knowledge is an integral part of crowd source projects. One of the two main concern about knowledge-sharing was stated by Sevgi Karaman in her interview. In it, she mentioned she would not mind if another person in the project was using her idea but "...it would be at least an act of respect to mention me as the owner of the idea..." (S. Karaman, Personal Communication, July 25th, 2013). Another concern stated by Derek Greenfield in the interview conducted with him. As an issue with knowledge sharing he mentioned potential information that "...conflict of interests with my current employer..." Those two issues needed to be addressed carefully during the work on the crowd source project in order to guarantee its proper conduct.

Chapter 6: Conclusions

6.1. Conclusions

The objective of this paper was to design a communication strategy for Enviu with the target group of biologists and toxicologists for a crowd source project with the goal of gaining 100 participants. This strategy would result in the engagement of the required number of professionals in the above-mentioned crowd source project. Through the conducted in-depth research, the researcher aimed at gaining a better insight in the emotional stimulus that would prompt members of the target group to take part in such a project, as well as the most effective channels for communicating with them, during and after the project.

The preliminary research discovered that crowd sourcing had been a growing trend, supported by the increase of knowledge sharing, due to the exponential growth of online communication. Furthermore, Enviu had developed unique business development model, combined with crowd source projects, that none of its competitors had in terms of the parts involved in it from the concept creation to the establishment of a real business venture.

The literature review showed important factors for the engagement of a target group around a product or a service. Important parts in it were creating a product that had an emotional appeal for the target group, discovering the segments of the target group most willing to take action, and the most effective communication channels for promotion and support of the crowd source project.

The interviews revealed that the biggest emotional motivator for members of the target group to practice their profession was its societal benefit and creating a product that would improve the quality of life of people. They saw their work as having a positive impact on society – by tackling disease and designing products that increased the quality of life of people and assisted in environmental preservation. Furthermore, young professionals and students were most open towards sharing knowledge and expertise for a crowd source project, as they

saw it as a step in extending their network and achieving a higher status in professional hierarchy. The target group viewed social media as an efficient tool in terms of the promotion activities around such a project. As social media platforms they use, members of the target group identified LinkedIn as the main one and to a lesser extent – Facebook and Twitter. As a place for work on the crowd source project itself, members of the target group favored the online platform (website) of the project. The channel through which members of the target group preferred to receive update information about the development of the project was e-mail. In terms of other benefits from the crowd source project, members of the target group viewed the chance of meeting professionals from other fields apart from their own. They saw the crowd source project as a place where they could gain information about areas they had no knowledge about.

6.2. Discussion

The findings of the in-depth research demonstrated that segments of the target group that were more prompt towards taking part in a crowd source project in the format of Enviu, were students and young professionals. They saw in crowd source projects a way to increase their professional network and also to see application of their knowledge in applied project work. A product that could increase the quality of life of people was a project they found appealing to contribute to. Furthermore, they cherished that as an opportunity to learn about fields of knowledge apart from their own.

There was a significant overlap between the emotional stimulus of biologists and toxicologists to do their work and the aims Enviu had as an organization by organizing its crowd source project. Members of the target group were excited by the development of products and services that were aimed at increasing the quality of life of people. Enviu also aimed to create businesses that aim at solving social and environmental issues at once. With regard to that, there was a good predisposition future crowd source project of Enviu involving this target group

to be successful in terms of achieving the required number of professionals to participate in them.

The reason why students and young professionals in the field of biology and toxicology felt more eager to participate in crowd source project might have to do with their belonging to generation Y or the Millennials. In his article “Millennials as Crowdsourcing’s King” for the “Media is Power” website, Iman Rahim quotes a research from the Public Relations firm Edelman as he describes this demographic cohort as one that wants to be engaged constantly, both offline and online. According to Rahim, despite being extremely tech savvy, a representative of Generation Y seeks actively information not only via Internet, but in person as well. For this reason, the personality features that representatives of Generation Y could bring to the field of crowd sourcing is something to be taken seriously in account from organization and companies that utilize crowd sourcing in their business activities (Rahim, 2013, Media is Power). The communication strategy would be focused on students and young professionals, but would also aim to attract representatives of the target group from the more experienced scientists as well. The members of the target group demonstrated their readiness to share the crowd source project in their networks, which is another prerequisite for it to be spread there.

Chapter 7: Recommendations

7.1. Communication Objectives

Target group: Students and Young Professionals in the field of biology and toxicology. Although the communication strategy focused on this segment of the target group, more experienced professionals would also be approached with the message about the crowd source project. Furthermore, the students and the young professionals would also be encouraged to disseminate the project in their own networks.

Objectives:

1. Three months after the beginning of a new crowd source project of Enviu, involving this target group, the online platform of the challenge would have attracted 100 students and professionals from the field of biology.
2. Three months after the beginning of this crowd source projects, the participants will have generated and discussed 30 ideas, based on the question stated in the beginning of the crowd source project.

7.2. Main Goal

At the beginning of the research, its goal was to design a communication strategy to achieve engagement of biologists and toxicologists for a future crowd source project of Enviu. As in this way the target group was very broad, a segmentation of the target group had to be carried out through the in-depth research, based on the insights of the literature review about the importance of audience segmentation for the success of the communication effort. The in-depth research demonstrated that students and young professionals were most prone to take action with regard to such a crowd source project. As stated above however,

more experienced professionals would also be approached with the message about the project.

Another element of vital importance for the successful development of the new communication strategy, were the discovery which social media platforms were most frequently visited by the target group. The in-depth research showed that such a social media platform is LinkedIn. Following that discovery from the in-depth research, it was imperative to make use of LinkedIn even more in its role for generating leads among the target group. Specific attention in this case needed to be given to LinkedIn pages of universities and faculties teaching the above-mentioned disciplines and also the pages hosting large numbers of professionals from the field of biology and toxicology. When members of the target group saw the communication message about the crowd source project they would recognize the opportunity to participate in the development of a product or a service that would increase quality of life. Furthermore, the project would assist them in enlarging their professional network and discovering information about fields they were not familiar with before.

7.3. Tactic

Based on the findings of the research, the most appropriate type of communication with students and professionals from the target group would be two-way communication. The justification of the choice of this type of communication came from the results of the in-depth research. Despite their willingness to participate in such crowd source projects, it was imperative for them to know about the organizations or companies organizing it, what the end-product of it would be and how it would be used, and how the funds for it would be allocated (if there were such). This point in the communication process was suitable to show to those target audience members the projects that Enviu had achieved and the companies it had started. Thus, a great sense of credibility was to be established not only in those segments of the target group, but in their professional networks as well. In terms of the tone of voice at the beginning of

the promotion it would be better if it was formal, moving to semi-informal as the crowd source project developed. An efficient part of the tactic for the future crowd source project for Enviu would be to initially focus on the leads that were established during the TMC. Once the organization had contacted them, it could continue with communicating towards the potential leads identified.

7.4. Communication Tools

The communication strategy for this crowd source project was to include the following social media platforms: Facebook, Vimeo, Twitter, Meetup.com, and a specific emphasize on LinkedIn, due to its high use among the targeted segments of the target group. For the crowd source project itself, the communication tools would be update e-mails and the platform of the project itself. As the webinars and online conferences had proven to be an effective communication tool with the target group from the experience with TMC, they would better remain part of the future crowd source project as well.

7.4.1. LinkedIn

As mentioned in the above section, LinkedIn was the social media platform that required special attention with regard to communicating with the segments of the target group most predisposed to taking part in a crowd source project of the format of Enviu.

The new communication strategy contained a detailed LinkedIn description of the crowd source project. In the “About” section of the project, it was imperative to provide information about Enviu, the projects the organization had conducted up until that moment, and most importantly the companies it had started around the world and in the Netherlands. A concern might appear here that this would be a repetition of the information posted on the official page of Enviu. However, the information posted on the LinkedIn section with the description of the

project would provide the potential participants in the project all the relevant information they needed to have about Enviu, its mission and vision, at one place.

With regard to the LinkedIn promotion texts that were going to be uploaded on the LinkedIn groups of universities that have faculties in biology and toxicology and groups in which young professionals are present, the information needed to be as short and as relevant as possible, with attached link to the page of the crowd source project on LinkedIn.

As the crowd source projects starts to develop, posts should be made on the LinkedIn page of the project, containing information about the important developments in it. They should not be made on a weekly basis as that is not what the target audience wants, but rather when important events in the project are taking place.

7.4.2. Vimeo

As Vimeo had continued to be an important part of the promotion of the crowd source projects of Enviu, it was a relevant platform to be included in the promotion plan of that crowd source project too. A link could be included next to the video posted on the platform to direct the viewers to the website the project.

7.4.3. Facebook

Although Facebook was not the most popular social media platform among the selected segment of the target audience, its great sharing capacity in the social networks of the target groups should not be underestimated. However, in order not to confuse the target audience with simultaneous messages on different social media platforms, it would better to only make a post about the project on the Facebook page of Enviu.

7.4.4. Twitter

The in-depth research showed that opinion leaders in the industry were not the most important factor that would convince members of the target group to take part in the crowd source project. However, the platform, as mentioned for Facebook, had a great sharing capacity. Furthermore, it has been successfully incorporated in the promotion strategy of Enviu, so it could also be used for the promotion of this crowd source project. As for Facebook, the best solution is to use the central Twitter account of Enviu.

7.4.5. MeetUp.com

Meetup.com was increasingly gaining importance in terms of professional networking. As it was successfully made use of for TMC, it could undoubtedly be a successful part of the promotion of the next crowd source project that would involve the target group of biologists and toxicologists.

7.4.6. E-mail

As the crowd source project is already underway, the participants in it would be receiving the update information about it via e-mail. The e-mails would be sent depending on important milestones in the development of the project. They would not be sent on timely basis (e.g. weekly basis) as that was not what the target group desired as shown in the in-depth research, but rather when an important development for the project takes place.

7.4.7. Webinars and meetings

Webinars were part of the structure of TMC and they proved to be very efficient with regard to the target group, resulting in a number of more ideas to the project. Furthermore, they increased the sense of credibility as the participants in the project got to know each other in person and not simply as exchanging opinions on the platform. Once the community has grown to more members, it could be possible to organize a meeting for the community members that are able to attend it in person. This could provide an even better sense of transparency to the development of the project.

7.4.8. Project website

The project website would be the place on which the core work for the project would be taking place. According to the views of members of the target audience from the interviews by doing so, the project work would be focused only around the professionals that were really involved in the project and want to achieve the results it had set. The website would also contain important information with regard to the organizations and companies that were organizing it, what the end goal of the project was, and relevant news around the project and the parties organizing the project.

7.4.9. Video timeline of Enviu projects

In order to add one more interactive element to the communication strategy for biologists and toxicologists, Enviu could prepare a video, containing timeline of the projects it had carried out and the companies it had started. Thus, the video would show to the scientists the emotional aspect of the social and environmental change Enviu is bringing to the world with its work. By observing how the businesses started from Enviu were bringing positive change and creating products and services that were increasing the quality of life, they

would feel more inspired about the crowd source project they would take part in on their own.

7.4.10. Limitations to communication tools

The limitations of the communication tools were that the way in which they were used, did not allow approaching professionals from other fields whose expertise would be valuable for the crowd source project. However, the entire research in the paper would be too broad for its scale if would focus on other professionals, different from the core target group of biologists and toxicologists. For this reason, that was a limitation that existed for the paper from its beginning.

7.5. Planning

Taking into account the target number of participants for crowd source projects of Enviu of the same scale, the timeframe for the implementation of this communication strategy was decided to be three months. By the end of this period, the project should be close to the point of stopping the posting of new ideas on the platform and focus on improving the ones that exist there already. Promotion materials for the Facebook page of Enviu, the information for the LinkedIn page of the crowd source, the promotion posts for LinkedIn and Twitter can be developed from an intern, working under the supervision of the project manager of the project. In terms of the movie developed for Vimeo, Enviu could either hire a graphic designer for it or search for a volunteer to do it free of charge. The project manager can be responsible for the update information about the project, sent via e-mails to the participants and the communication with the MeetUp groups. Once the crowd source project was completed, a week might be needed to carry out an assessment of the results that the communication strategy produced for the project. The planning of the activities

could be found in Table 7.1. below. The date for the beginning of the campaign has been randomly chosen:

<i>Target group</i>	<i>Activity</i>	<i>Instruments</i>	<i>Time</i>	<i>Frequency</i>
Students and young professionals in biology and toxicology (age 20-35) in the Netherlands, United States, Hong Kong, and France	Launching the communication strategy	Linkedin, Facebook, Twitter, Meetup.com, Webinars, Vimeo and video timeline of Enviu projects (only once)	March 2014	Facebook, Twitter 1/week; Linkedin 3/day, Webinar 1/3 weeks
	Continuing strategy		April 2014	
	Continuing strategy	Posts on social media, Online talks on webinars	May 2014	
	Continuing strategy	Posts on social media, Online talks on webinars	June 2014	
	Strategy evaluation	Posts on social media, Online talks on webinars	July 2014	

Figure 7.1. Planning

7.6. Budgeting

In terms of the social media platforms used for the promotion part of the project there were no cost expenses. The video timeline with the projects and companies started by Enviu could be assigned to some of the graphic design volunteers from the community of the organization. The video for the project that was going to be used for Vimeo could be produced by an agency or by a volunteer from the network of Enviu. Furthermore, Enviu could either keep the internships not paid or decide to make them paid. One full-time employee and an intern from the side of Enviu could be responsible for the communication efforts around the project. In case Enviu decided to keep the internships not paid and look for a volunteer in its network, then the implementation of the strategy would be free of charge. In case Enviu decided to make the internships paid and hire a video editor from an agency to prepare the video for Vimeo, the costs apart from the salary of the full-time employee working from the side of Enviu on the project would be as follows:

Paid communication intern and hiring video editor from an agency

1 Intern x 400 EUR/month (net) x 4 months = 1 600 EUR

1 video editor = 70 EUR/ hour

10 hours x 70 EUR = 700 EUR

Total cost: 2 300 EUR

7.7. Further Research

The results of the desk and field research presented in this paper display a communication strategy for creating engagement of a segment (described in the previous chapters) of the target group of biologist and toxicologists for a crowd source project of Enviu. An aspect in which the research is limited is the number of respondents in it – they are 6 people from the core target group (biologists and toxicologists) and 2 different professionals, whose expertise and knowledge could be beneficial for such a project. With regard to this, a further research might be necessary in other segments of the target group. Another aspect of the research was the precise texts that were going to be used for the promotion of the new crowd source project. Due to the specifics of this paper, the detailed texts for the promotion strategy were not developed from the researcher.

As mentioned, other professionals like industrial engineers, business developers, etc., were also valuable in such projects. However, developing a communication strategy for them as well as for the core target group would have made the subject of the research very broad and out of the scope of this paper. Therefore, subject of further research could be the communicating to some of those groups of professionals in order to achieve their engagement in such crowd source initiatives.

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Appendixes:

Appendix 1: Interview Questions:

1. What kind of emotional feeling does your work give to you? Satisfaction? Or is it a sense of fulfillment? (sense of meaningfulness, of an achieved dream, of a conquered fear)
2. What are the issues do you like to say your job solves for society? Tackling disease? Making the world a better place? Making professionals in your field feel more confident and successful? Making your profession itself more social?
3. Are you familiar with the term crowd sourcing? If not where would you look for information about it?
4. What would you say if you are invited to participate in a crowd source project in your field with social implications by sharing your knowledge, expertise, and professional network in it?
5. What would you say about the same crowd source project if an influential person (opinion leader) in your field recommends you to participate in it (Like Toxic Metal Challenge) (If not why?)(If yes why)
6. Would you ask the opinion of people in your network about this crowd source project before deciding to join it or not?
7. Would you invite people in your professional field and network to join this crowd source project as well?
8. What are the main aspects of the crowd source project you would like to know more about before deciding to join it?

9. In what manner and from whom would you like to receive updated information about the development of this crowd source project?
10. Through which channel would you like to receive this information?
11. What are some cautions you have towards sharing knowledge and expertise within your network?
12. What are the main media channels you use to inform yourself?
13. In what frequency are you using each of them?
14. Which social media channels are you using most? Why?
15. What are the challenges you identify in social media? Is it too open? Is it that there is lack of control over the conversation?
16. What is your attitude towards using social media for project work? Would you like to receive update information about the crowd source on social media?
17. Are there any other remarks that you would like to make?

Appendix 2: Interview (Transcript) with Job Schreuder, Toxicologist ERT & Sr. spec. Environment, Royal HaskoningDHV, Chemicals Risk Assessment Toxicoloog Risicobeoordeling

1. What kind of emotional feeling does your work give to you? Satisfaction? Or is it a sense of fulfillment? (sense of meaningfulness, of an achieved dream, of a conquered fear)

It is indeed a sense of fulfillment. On the job I currently work (independent engineering & consultancy) we work for a sustainable environment and the vision is enhancing society together.

2. What are the issues do you like to say your job solves for society? Tackling disease? Making the world a better place? Making professionals in your field feel more confident and successful? Making your profession itself more social?

For me it is about improving the quality of the environment and human health; at the moment it is really trendy to work in the field of chemical substances and other agents.

3. Are you familiar with the term crowd sourcing? If not where would you look for information about it?

Yes, because of the TMC I took part in myself. Originally, I had the idea that it especially referred to investing money in a certain (beneficial) purpose.

4. What would you say if you are invited to participate in a crowd source project in your field with social implications by sharing your knowledge, expertise, and professional network in it?

I think it depends a lot: especially when I have already a lot of knowledge about the subject in question (the methyl mercury in the TMC) and, or like to extend that. It might be an issue for my employers, because they might want our

organization to be paid so that some of its employees to take part in such a project. It will be an issue what crowd sourcing of (technical) knowledge will mean for their current business model.

5. What would you say about the same crowd source project if an influential person (opinion leader) in your field recommends you to participate in it (Like Toxic Metal Challenge) (If not why?)(If yes why)

It will a little bit change. Because I consider myself to be educated and qualified enough to quickly listen to an expert in this field. You know that there are many people who are experts (or call themselves “experts”), but that does not mean that their opinion should be accepted automatically and without doubts.

6. Would you ask the opinion of people in your network about this crowd source project before deciding to join it or not?

When I decide to join such a project, I do it privately. But I inform my boss that I am doing it. I also work on this project in my private time, so that it does not interfere with my core job.

7. Would you invite people in your professional field and network to join this crowd source project as well?

That could be. But not so quickly, since I am not connected to that large number of people. However, if I know that a certain person is really interested, than I would invite him or her. But until now I haven't come across that many people that would be interested. In fact, Toxic Metal Challenge was very specialized to a certain subject and at the moment I don't know other people that are working in this specific area. It depends on the subject and when it is not too specialized on a certain very specific topic, then I would inform some of my contact earlier.

8. What are the main aspects of the crowd source project you would like to know more about before deciding to join it?

For me, it is most important to know what is going to happen after the crowd source project is finished. How is it going to be continued? What is going to happen with the information that has been spread? From business point of view I would imagine I would be working on the project from my workplace. It is not the case at the moment, but it could happen in the future. Then, I would hope that some business would be formed in the future with the final product.

9. In what manner and from whom would you like to receive updated information about the development of this crowd source project?

That does not matter so much to me. I would like to receive the information from the party that is organizing the crowd source project instead of the party that has ordered the project itself. For instance, Toxic Metal Challenge was organized by Enviu, but the original question came from the United States.

10. Through which channel would you like to receive this information?

Personally, I work mostly with e-mail and the official website of the project. On social media, I am not very active with LinkedIn being the exception. But this is only for me, I know a lot of people that are very active on social media. But I am from a bit older generation and the situation with my children I do not have time for it.

11. What are some cautions you have towards sharing knowledge and expertise within your network?

Yes, of course. And especially when it can be used from others. In this case, we lose knowledge that can be used from business point of view by others. But for the Toxic Metal Challenge this was not relevant, because the question was very narrowed down and specific. But the question could be more loosely formed and then you need to be more careful about the knowledge and expertise you are giving away.

12. What are the main media channels you use to inform yourself?

Mostly I use television and teletext. I also use websites to get information. From the social media, as I mentioned I am using LinkedIn. I also read magazines, but during the current period I am a bit busy and I don't have time for it.

13. In what frequency are you using each of them?

I use them every day during the working week.

14. What are the challenges you identify in social media? Is it too open? Is it that there is lack of control over the conversation?

I would not say that there is a problem with social media being too open. Because you choose in advance the social media channels you want to use. On the other hand when it is open it gives you an access to the information other users are uploading and you can use that information. Such open information can present a huge stimulus for developments in the world in a positive aspect. Someone is benefiting from the information you share and you benefit from the information other people are providing at the same platform.

15. What is your attitude towards using social media for project work? Would you like to receive update information about the crowd source on social media?

Yes, I would like to receive it. But it depends on which subject. For example for the most important updates I would use LinkedIn, if there is a group there dedicated to the project. Around the Toxic Metal Challenge I also learned a lot from the other participants. It was not only knowledge-sharing from my side, but from the others as well.

16. Are there any other remarks that you would like to make?

You can use crowd sourcing for information. You can also use it for finding investors. For example, if there is need for a tool to screen for a disease in a certain country or area and the people there cannot afford it, there could a crowd fund effort to bring it to the market. This is just an example, but you get the picture about the ROI of the funds of the investors once the product establishes itself on the market.

Appendix 3: Interview (Transcript) with Boris Pents, Policy Office at Natuur en Milieufederatie Groningen

1. What kind of emotional feeling does your work give to you? Satisfaction? Or is it a sense of fulfillment? (sense of meaningfulness, of an achieved dream, of a conquered fear)

My work gives me a bit of both. It gives me satisfaction but also meaningfulness, I feel my work provides something meaningful for society.

2. What are the issues do you like to say your job solves for society? Tackling decease? Making the world a better place? Making professionals in your field feel more confident and successful? Making your profession itself more social?

I would say, making the world a better place, but also getting things to work out for the best for everybody.

3. Are you familiar with the term crowd sourcing? If not where would you look for information about it?

I am just a little bit familiar with it. I would google it of course to find out more about it.

4. What would you say if you are invited to participate in a crowd source project in your field with social implications by sharing your knowledge, expertise, and professional network in it?

Depends on whether I could do it through my regular job or if I would spend private hours for it. I would also consider my available time versus the type and impact of the project. Since I have very limited time apart from my work hours, I would rather take part in initiatives that offer payment for my knowledge.

5. What would you say about the same crowd source project if an influential person (opinion leader) in your field recommends you to participate in it (Like Toxic Metal Challenge) (If not why?)(If yes why)

I would consider this an honor, but possibly also a project with a bigger impact because of the participation of the influential person)

6. Would you ask the opinion of people in your network about this crowd source project before deciding to join it or not?

That would depend on how I find the project myself. I think if I feel good about it I would not ask other people, but if I had doubts, they maybe I would seek the advice of other people.

7. Would you invite people in your professional field and network to join this crowd source project as well?

I could do, but as I mentioned, I am not very familiar enough with this type of projects at the moment.

8. What are the main aspects of the crowd source project you would like to know more about before deciding to join it?

The main thing I would like to know is what will happen with the ideas developed during the project. I would also like to know about the people that are going to select the winning ideas.

9. In what manner and from whom would you like to receive updated information about the development of this crowd source project?

I have not participated in a crowd source project and I don't know how to answer this question.

10. Through which channel would you like to receive this information?

It does not really matter for me. I would prefer the e-mail.

11. What are some cautions you have towards sharing knowledge and expertise within your network?

I have no issues with sharing my knowledge with colleagues when they need my advice.

12. What are the main media channels you use to inform yourself?

I use Google a lot, also official websites (of governments for instance), also Wikipedia.

13. In what frequency are you using each of them?

I use them every day I think.

14. Which social media channels are you using most? Why?

I am using Facebook, Twitter, and LinkedIn. I use them because members of my networks are active there and I can keep in touch with them there.

15. What are the challenges you identify in social media? Is it too open? Is it that there is lack of control over the conversation?

I sometimes I find the tone of voice on social media not formal enough to have a serious conversation there.

16. What is your attitude towards using social media for project work? Would you like to receive update information about the crowd source on social media?

Maybe I would try, I don't have experience with it. But personally I would prefer something more formal where the actual project work could be done like the official website of the project.

17. Are there any other remarks that you would like to make?

At the moment no, thank you.

Appendix 4: Interview (Transcript) with Kewin Gombeau, Ph.D. student at IRSN

1. What kind of emotional feeling does your work give to you? Satisfaction? Or is it a sense of fulfillment? (sense of meaningfulness, of an achieved dream, of a conquered fear)

It's a real feeling of satisfaction. I've always had a passion for the ecology universe and the impacts of the pollution on fishes (I am an avid fisherman since my childhood). So, in a sense, it is too a feeling of fulfillment as I am fortunate to work in the field for which I am passionate.

2. What are the issues do you like to say your job solves for society? Tackling decease? Making the world a better place? Making professionals in your field feel more confident and successful? Making your profession itself more social?

In a sense, my job aims at making the world a better place. Indeed, we are working on the impacts of pollution on fishes in laboratory. So, if we are able to show that environmental concentrations can lead to effects in the organisms

studied, it can lead to a decrease in environmental norms of quality and making hydroecosystems less polluted.

3. Are you familiar with the term crowd sourcing? If not where would you look for information about it?

No, I'm not familiar with that term. I would look on the Internet to get more information about it and how it works.

4. What would you say if you are invited to participate in a crowd source project in your field with social implications by sharing your knowledge, expertise, and professional network in it?

I think I would be really interested and would agree with pleasure to take part in it.

5. What would you say about the same crowd source project if an influential person (opinion leader) in your field recommends you to participate in it (Like Toxic Metal Challenge) (If not why?)(If yes why)

I think that I would participate to it because that person must know if it could bring something in terms of knowledge and important contacts.

6. Would you ask the opinion of people in your network about this crowd source project before deciding to join it or not?

I don not think so, because that will only complicate my decision-making process and I am the only one that can take that decision.

7. Would you invite people in your professional field and network to join this crowd source project as well?

If I decide that they can benefit the project and my contacts I would gladly share with some of my contacts.

8. What are the main aspects of the crowd source project you would like to know more about before deciding to join it?

I would like to know more about the field in which the crowd source project is implicated. Also, I would like to find out about the company or organization organizing the project and what the goal for the end product is.

9. In what manner and from whom would you like to receive updated information about the development of this crowd source project?

I think that it should come from the project manager in charge of that project and maybe by specific topic in the forum of discussion or by e-mail.

10. Through which channel would you like to receive this information?

I don't mind, but I guess e-mail would be fine.

11. What are some cautions you have towards sharing knowledge and expertise within your network?

My main concern is organizers to sure that all the information brought by users is protected and connected to users who have brought it.

12. What are the main media channels you use to inform yourself?

It depends, but most part of the time I receive e-mails from journals that provide the latest news.

13. In what frequency are you using each of them?

I don't really know. With the Internet I think it is every hour

14. Which social media channels are you using most? Why?

Except for linkedin that I find really well conceived for the diffusion of information and the discussion in a professional way, I don't really use other social media channels.

15. What are the challenges you identify in social media? Is it too open? Is it that there is lack of control over the conversation?

It depends on the different groups or topics you join I guess. But for myself, I never had that kind of problems.

16. What is your attitude towards using social media for project work? Would you like to receive update information about the crowd source on social media?

I think this could work, but only in terms of promotion of the project and specific phases from it. I think it would be more efficient if the project work is done on the website of the project. I think it might be a bit confusing for users if there are conversations happening at several places

17. Are there any other remarks that you would like to make?

At the present moment, no, thank you.

Appendix 5: Interview (Transcript) with Louis Hom, Microbiology Lead at ZeaChem Inc.

1. What kind of emotional feeling does your work give to you? Satisfaction? Or is it a sense of fulfillment? (sense of meaningfulness, of an achieved dream, of a conquered fear)

I have chosen my areas of work mainly because they affect society in a positive way. I have a general desire to make the world a better place. And that is through improving human health. Sometimes that is through benefitting the environment. But generally that is my motivation –I want to make the world a better place for people to live in.

2. What are the issues do you like to say your job solves for society? Tackling disease? Making the world a better place? Making professionals in your field feel more confident and successful? Making your profession itself more social?

Louis answered this question together with the first one.

3. Are you familiar with the term crowd sourcing? If not where would you look for information about it?

At the current moment, I have a very little knowledge about the term. If I need more information about it, I would probably just go to the Internet and find more about the term there. If there were crowd source projects that sounded interesting and I could find or know someone related to that field, I would probably ask him or her for more information as well.

4. What would you say if you are invited to participate in a crowd source project in your field with social implications by sharing your knowledge, expertise, and professional network in it?

The main thing for me is whether I feel like I have something meaningful to contribute. Even though crowd sourcing is, sort of, in its infancy, I think there are enough crowd source efforts around that I might feel like joining. For example, project A might be a better fit for me than project B and therefore I may not work

at all on project B. In this situation, I would feel like I can be more valuable to project A and can bring much to it.

5. What would you say about the same crowd source project if an influential person (opinion leader) in your field recommends you to participate in it (Like Toxic Metal Challenge) (If not why?)(If yes why)

Again, I think if there is a clear connection between my expertise and the needs of the project it is very likely that I would participate in it. It would not make much of a difference if an opinion leader in my field recommends it to me or not.

6. Would you ask the opinion of people in your network about this crowd source project before deciding to join it or not?

I may or I may not. I guess if I knew someone who is more experienced in that field than I was, I would go to him or her to ask for their opinion.

7. Would you invite people in your professional field and network to join this crowd source project as well?

Probably. If I found it worthwhile enough for me to participate, I would probably be spreading the word about it in my network.

8. What are the main aspects of the crowd source project you would like to know more about before deciding to join it?

I guess I would need to know what the objective is, who is going to benefit, what the needs of the project are, what is going to happen with the ideas that come out of it, is it just an academic exercise, or how people organizing and participating will move the ideas forward to becoming a reality.

9. In what manner and from whom would you like to receive updated information about the development of this crowd source project?

I think e-mails are probably the easiest way for me to keep track on things. I tend not to visit blogs very often or the project home page necessarily, unless there is a discussion board or forum that I need to keep track of. As far as whom it comes from, it does not really matter to me – it can be someone from the technical side of the project, someone from the non-technical side. As long as I feel that the information is useful, I will use it, regardless of whom it comes from.

10. Through which channel would you like to receive this information?

Louis answered this question together with the previous one.

11. What are some cautions you have towards sharing knowledge and expertise within your network?

Strangely, I have no cautions about sharing knowledge in my network. I would have more reservations within the crowd source effort if it is set up as a competition, because this is what makes it a little more tricky.

12. What are the main media channels you use to inform yourself?

It is mainly through e-mails and websites.

13. In what frequency are you using each of them?

I am probably using them every hour.

14. What are the challenges you identify in social media? Is it too open? Is it that there is lack of control over the conversation?

I would not say it is too open. I guess not being able to control the direction of things might be problematic. But overall, I do not consider social media to be more open than they should be.

15. What is your attitude towards using social media for project work? Would you like to receive update information about the crowd source on social media?

I do not think it would really affect me. Unless it is a matter of being informed about more projects or something like that. But in terms of project I am working on. I don't think it would really affect me. But otherwise, in terms of project work, I would prefer to work only on the official website of the project.

16. Are there any other remarks that you would like to make?

I guess that one thing that could have made it easier for me is if there was a way to make it easier for people with a business-type background to get in touch with me. I am someone with more of a technical background. One of the difficulties I had the idea about the testing kit, but I did not know anything about marketing, or regulatory issues, or anything like that. And it would have been nice to have a way in my profile or something like that or in a searchable database to say: "I am open to having people contact me about my idea and offer their thoughts on what a business plan might look like. I think this was the only major issue for me

Appendix 6: Interview (Transcript) with Derek Greenfield, Scientist at LS9, Inc, Construction of commercial strains for production of bio-based chemicals at scale

1. What kind of emotional feeling does your work give to you? Satisfaction? Or is it a sense of fulfillment? (sense of meaningfulness, of an achieved dream, of a conquered fear)

I would say definitely a sense of satisfaction if there were specific challenges that were given. If there were goals that need to be met that have wide ranging applications. When you have goals, which if reached, will have a positive effect on society is definitely satisfying and fulfilling. And there is also the personal sense of satisfaction of being given a project and then completing it on time with exciting scientific results.

2. What are the issues do you like to say your job solves for society? Tackling disease? Making the world a better place? Making professionals in your field feel more confident and successful? Making your profession itself more social?

It is indeed about making the world a better place. My mission is also to take fuels and chemicals that are usually made from petroleum and instead make them from renewable sugars from plants. That way, less CO₂ is being released in the atmosphere. It is also contributing to green energy and green manufacturing. This is also what attracted me to this industry and to the company I am currently working for and why I am excited about it.

3. Are you familiar with the term crowd sourcing? If not where would you look for information about it?

Yes, I am familiar with the term. I have actually participated in crowd source projects that have resulted in a few consumer products already. I have participated in charity-type crowd sourcing events – in the fields of education and research. I have also been following some more scientific fundraising crowd sourcing events like Micro Biom and the Glowing trend project – those were also two crowd source projects that were really interesting.

4. What would you say if you are invited to participate in a crowd source project in your field with social implications by sharing your knowledge, expertise, and professional network in it?

I would be very interested. Of course it depends a lot on the other people involved in the project – also in terms of whether the project has a good fit with crowd sourcing. But would be for sure willing to participate and provide assistance in the project.

5. What would you say about the same crowd source project if an influential person (opinion leader) in your field recommends you to participate in it (Like Toxic Metal Challenge) (If not why?)(If yes why)

I think if I am not sure about the knowledge needed in the project or the team that would influence my decision. In this case I would ask the opinion of such a person.

6. Would you ask the opinion of people in your network about this crowd source project before deciding to join it or not?

Yes, I think so. I would ask in my network if some of them know the people organizing it. Also, if I did not have a good sense about the feasibility of the project and its cost then I would ask around in my network.

7. Would you invite people in your professional field and network to join this crowd source project as well?

That depends a lot on the knowledge needed in the project. I would definitely approach people in my network who have expertise in the fields needed for the project.

8. What are the main aspects of the crowd source project you would like to know more about before deciding to join it?

I think the most aspect is what is the topic of the project is and what they are trying to accomplish in enough details so that I can see if I agree with it. Second, would be the people that are carrying it out – whether they have enough expertise to pull it off. And then three would be how they would use the funds (if such are required) to get the project done and if they are appropriately allocating those funds or not.

9. In what manner and from whom would you like to receive updated information about the development of this crowd source project?

Probably from the team that is running the project. Maybe in the form of an e-mail. Not necessarily a weekly e-mail, but when something exciting or important has happened with regard to the project.

10. Through which channel would you like to receive this information?

I think a short e-mail, containing a link for more information, sounds enough for me. As long as it is not too frequent, as I mentioned I do not prefer weekly e-mail but mostly when something important has happened with regard to the project.

11. What are some cautions you have towards sharing knowledge and expertise within your network?

I do not think so for most projects, no. If for instance there was something controversial or a conflict of interests with my current employer definitely, but up to this moment, I have not been in such a position.

12. What are the main media channels you use to inform yourself?

Reading papers is a big part of it. Going to conferences, at least I wish I was able to go to more conferences. Also inviting people to come and give talks at my work. There is also networking type events, provided by local groups – collaborators, friends, and co-workers. For instance in the Bay Area we have a Meetup Group.

In my every day activities I am using only the Internet.

13. In what frequency are you using each of them?

Every hour I think.

14. What are the challenges you identify in social media? Is it too open? Is it that there is lack of control over the conversation?

I can imagine that there are people who would oppose hosting a Facebook page of a crowd source project. Their main concern would that they cannot control what everyone is saying there. But personally I do not see that as a serious issue.

15. What is your attitude towards using social media for project work? Would you like to receive update information about the crowd source on social media?

Social media is fine for me, but personally, as I mentioned I would prefer an e-mail and the official website of the project itself.

16. Are there any other remarks that you would like to make?

I think crowd sourcing is very exciting and it is a growing trend. They are very attractive to funding, especially projects that address public needs or popular scientific topics. I believe that can contribute a lot towards the development of community-based science.

Appendix 7: Interview (Transcript) with Sevgi Karaman, International Business and Management student at Hogeschool Fontys

1. What kind of emotional feeling does your work give to you? Satisfaction? Or is it a sense of fulfillment? (sense of meaningfulness, of an achieved dream, of a conquered fear)

For me with “Enviu in the World” it was indeed a kind of fulfillment. I was doing something meaningful. I was not just sitting in an office doing communication department activities or something like that. You realize how your work is something social, apart from it being a regular job.

2. What are the issues do you like to say your job solves for society? Tackling disease? Making the world a better place? Making professionals in your field feel more confident and successful? Making your profession itself more social?

The interviewee answered this question in the previous one.

3. Are you familiar with the term crowd sourcing? If not where would you look for information about it?

Yes, I was familiar enough with the term before I started working for Enviu.

4. What would you say if you are invited to participate in a crowd source project in your field with social implications by sharing your knowledge, expertise, and professional network in it?

If I like the project, because not every social project is appealing or sustainable enough for me, but if I like the project I would be very excited to participate in it.

5. What would you say about the same crowd source project if an influential person (opinion leader) in your field recommends you to participate in it (Like Toxic Metal Challenge) (If not why?)(If yes why)

Yes, if such a person recommends the project to me that would definitely be of positive influence.

6. Would you ask the opinion of people in your network about this crowd source project before deciding to join it or not?

If I seen something on my own or someone else recommends it to me, of course it will improve my perception about it, because someone I know has a good opinion of it. But if I find something on my own and I like it, I guess I would join without asking the opinion of others.

7. Would you invite people in your professional field and network to join this crowd source project as well?

It depends on the project. If I know people who have a fit with the project in my opinion, I do not hesitate to let them know about it.

8. What are the main aspects of the crowd source project you would like to know more about before deciding to join it?

Well, I would like to know where the money goes for example. I would also want to see a detailed description of the project and how it works. I am really a person that prefers a lot of information.

9. In what manner and from whom would you like to receive updated information about the development of this crowd source project?

Actually, I do not mind who sends the information. It can be the project manager, it can be someone from the communication department of the organization. As far as the content is relevant and contains the most important development around the project, it is fine for me.

10. Through which channel would you like to receive this information?

Personally for me, for this type of projects, I would prefer to receive it via e-mail.

11. What are some cautions you have towards sharing knowledge and expertise within your network?

As a matter of fact, I do not have any cautions with that. I do not mind sharing my ideas and knowledge with others. For instance if someone decides to use my idea for something, I think it would be at least an act of respect to mention me as the owner of the idea.

12. What are the main media channels you use to inform yourself?

Personally, I use only Internet.

13. In what frequency are you using each of them?

I think every hour.

14. What are the challenges you identify in social media? Is it too open? Is it that there is lack of control over the conversation?

No, I think it is fine. The only thing I do not like with social media in terms of crowd source projects is that sometimes it gets too much. For example, with Enviu, they have a lot of projects and there is always new information about the different projects. On one hand it is good to inform people, but I think it happens that people get really distracted from all the information that is being posted on the Facebook page for instance.

15. What is your attitude towards using social media for project work? Would you like to receive update information about the crowd source on social media?

Personally, I always prefer to have that information via e-mail. The social media is only good to make some promotion, but not to do some actual work on it.

16. Are there any other remarks that you would like to make?

After the winning idea with the project was selected, which was mine, there was little update information about what is happening with it afterwards. I think the same would go for other people, who took time to participate in the challenge, that it would have been nice if there had been regular update information about the winning idea and how it is being developed into a business venture.

Appendix 8: Interview (Transcript) with Vasil Daskalov, former Sales Representative at OYC Europe

1. What kind of emotional feeling does your work give to you? Satisfaction? Or is it a sense of fulfillment? (sense of meaningfulness, of an achieved dream, of a conquered fear)

For me it is very important to put passion in what you are doing. This is my philosophy of work. It is important to put heart and soul in the thing you do. It does not matter what it is. Let us say you are good at what you are doing, but you do not enjoy it personally, this will reflect on the quality of the work you deliver and ultimately it will not be what you expect or desire to make out of it.

2. What are the issues do you like to say your job solves for society? Tackling disease? Making the world a better place? Making professionals in your field feel more confident and successful? Making your profession itself more social?

At the company I recently worked at worked together with hospitals throughout entire Europe. We helped people to have cheap medicines. Consequently the price of healthcare decreases. People started having an access to a wide range of medicines and services they did not 20 or 20 years ago. And ultimately we were working towards saving human lives, which I think is the most important thing.

3. Are you familiar with the term crowd sourcing? If not where would you look for information about it?

I became really familiar with the term around Enviu. At my university I had heard about the term, but around Enviu I learned about the practical side of things. They had a project I think it was “Good Share”, in which people post items from their garage online and other people can rent them for a small amount of money over a period of time. So this is how I became more familiar with the term.

4. What would you say if you are invited to participate in a crowd source project in your field with social implications by sharing your knowledge, expertise, and professional network in it?

I would first check if the project corresponds to my knowledge, if there is a match between my skills and the ones required for the project. If marketing or other skills I don't have are required for this project I will not be able to contribute to it. And if there is a match between my set of skills and the ones required for the project, I would like to join it.

5. What would you say about the same crowd source project if an influential person (opinion leader) in your field recommends you to participate in it (Like Toxic Metal Challenge) (If not why?)(If yes why)

In most cases opinion leaders are trying to sell a project well. After all they are working for companies and they pitch an idea. But first I would check for myself as I mentioned if there is a match between the project and me. If there is something I can do to help the project, I would do it. If there is a good opinion leader pitching the idea, this is great, but first, I would see for myself if I feel I can be beneficial to the project before joining it.

6. Would you ask the opinion of people in your network about this crowd source project before deciding to join it or not?

Yes, I would do it. About Toxic Metal Challenge I consulted with my former company, how they can help out with their experience, and how it can be implemented in this crowd source project. So I think it is always good to consult with your network, especially if you have strong relations with businesses you have to use it for the good of the project. After all, a business can be very related to what a crowd source project is trying to achieve

7. Would you invite people in your professional field and network to join this crowd source project as well?

It depends. If the project is strong and has already gained some momentum, I would. Because the attempts are primary, but if a business sees that this is a serious initiative, it can be more inclined to take part. A business is interested in ROI and if they recognize the potential in a project, they would be more predisposed to join it.

8. What are the main aspects of the crowd source project you would like to know more about before deciding to join it?

Answered together with questions 4 and 5.

9. In what manner and from whom would you like to receive updated information about the development of this crowd source project?

E-mail always works well. However, we already live in the world of social media. I think the best solution would be to provide a place on the website where participants can have discussions on different topics. They can still receive notifications about these discussions via e-mail and Facebook for example.

10. Through which channel would you like to receive this information?

Answered together with question 9

11. What are some cautions you have towards sharing knowledge and expertise within your network?

Personally, I am okay with it. I can imagine there are people who would have a problem with it. But I think such people have higher positions in companies and organizations. But people like me at the moment that are at junior positions are much more opened to share their knowledge. Because we still do not have this pressure from the company to keep our knowledge at our work. For this reason, I do not think this a problem for me at the moment.

12. What are the main media channels you use to inform yourself? In what frequency are you using each of them?

Internet for almost everything I can think of – maybe 90-95 percent of the information I see is from there. I also like to listen to a radio in the morning and sometimes read newspapers, but most of the information I use is from social media.

13. What are the challenges you identify in social media? Is it too open? Is it that there is lack of control over the conversation?

With regard to openness, I think a certain balance has already been found with social media. The thing is, however, that the discussions that start there not always result in a fruitful discussion and thinking about the problem. I think social media is a good place to initiate a discussion, but it should be continued somewhere else. But in the course of the discussions they become very unorganized. It is nice for instance that I receive a notification on LinkedIn, for instance, about a discussion that has been started. But I would think that the best thing would be for the follow up to be at a separate place from the social media.

14. What is your attitude towards using social media for project work? Would you like to receive update information about the crowd source on social media?

As I said, I think it is nice for a project to have a page on Facebook, because this is a platform accessible to hundreds of millions of people. But I think people who are really dedicated to the project should have a place online, like the website of the project where they can focus on the work on the project alone, without distractions.

15. Are there any other remarks that you would like to make?

With me personal experience from Toxic Metal Challenge, I think more transparency about the follow up of each project is necessary. After the selection of the winning concept, there was little update on what is happening afterwards. The work on the concept and its transformation is as important as the process before that. This way, you also show to the entire community that took part in the project the actual result.

Appendix 9: Interview (Transcript) with Pink Kwan, Molecular Biology Researches

1. What kind of emotional feeling does your work give to you? Satisfaction? Or is it a sense of fulfillment? (sense of meaningfulness, of an achieved dream, of a conquered fear)

According to the best of my knowledge as well as the experience I have so far I would think that molecular biology is something trendy. It is something that is popular to everyone. So everyone is just, according to my colleagues, to my environment I think everyone is joined in into biological research at the moment, especially from the molecular side. Because it has, in my personal opinion, I would think that molecular biology has potential in developing or improving interventions in the future or in some other ways. So this is why I would say everyone wants to join in. Because molecular biology will continue to be a growing trend in the future.

2. What are the issues you like to say your job solves for society? Tackling disease? Making the world a better place? Making professionals in your field feel more confident and successful? Making your profession itself more social?

I would say that my work is doing something good for the world. In my personal opinion I would say it depends. But from my work so far, which is in the field of aging. I think there will be positive effects. So definitely I think my work is doing something good for the world.

But I think it also varies a lot. Because so far, in my personal opinion, I would say my current job actually is just a tool to solve the problem. Molecular biology research is just a tool to find out the answer in the molecular way. But how you deal with the information acquired varies a lot. Everyone is trying to work out the knowledge that would bring the insights for improving and the development of future therapies. So it is the very basis of this work itself it could bring at least some value to society.

3. Are you familiar with the term crowd sourcing? If not where would you look for information about it?

No, I am not aware of the meaning of the term.

Emil: The challenges Enviu organizes like Toxic Metal Challenge in which you took part are an example of crowd sourcing.

4. What would you say if you are invited to participate in a crowd source project in your field with social implications by sharing your knowledge, expertise, and professional network in it?

My opinion of the crowd source projects is good. It is a good idea to bring together different people with different professions and experience and to solve a problem in different possible ways.

5. What would you say about the same crowd source project if an influential person (opinion leader) in your field recommends you to participate in it (Like Toxic Metal Challenge) (If not why?)(If yes why)

If there is someone selling me the crowd source project, I would like to hear more about the properties of the project. For example, what the project is about, who are the people participating in it, what is it doing, what kinds of things it requires, what kinds of questions it addresses, before I decide to take part in it.

6. Would you ask the opinion of people in your professional network about this crowd source project before deciding to join it or not?

Yes, I would ask them. Because I think sometimes I may try to invite my friends or colleagues around and ask their opinion about such a project or event and if they feel good I would have a more positive understanding of the project.

7. Would you invite people in your professional field and network to join this crowd source project as well?

Yes, of course. I would invite them to join.

8. What are the main aspects of the crowd source project you would like to know more about before deciding to join it?

I will consider the questions asked in the project, what kind of outcome is expected from the project, and of course the requirement, the knowledge requirement of the project. Say for example, it matches my expertise or not, so that kind of things I would consider. Just say for example, it requires competences not in my range, than of course I would be much more reluctant to joining than those that are in my expertise.

9. In what manner and from whom would you like to receive updated information about the development of this crowd source project?

First of all, I would prefer to receive update information from the project organizing group. I would like to see the most important points of the development of the project in some sort of bulletin board through e-mail. However, I was also receiving some unrelated material about the other challenges that were running at the same time.

10. Through which channel would you like to receive this information?

I would like to receive this information through my e-mail.

11. What are some cautions you have towards sharing knowledge and expertise within your network?

Yes, but to varying degrees. Because again I think it depends on the questions the project is asking. Because during my work I find there may be several points, several stages in which you are asked different questions. Sometimes you need to find the answer yourself by doing research. During the research some of the questions might be pretty easy, the information will be pretty easy to obtain or the question is easy to answer. But in most of the cases the questions can be difficult to answer. The resources of a project can be limited. Say for example, there is a lack of funding and sometimes you like to prove something objectively but because of the fact that you do not have enough funding you can't do it and you can't obtain the necessary information to answer the question. So, overall, yes, I did face some challenges, but that also depends on the progress in any given project.

12. What are the main media channels you use to inform yourself?

Mostly I use the Internet, because of the ubiquitous information it contains about all sorts of topics. Other source I use is friend network and colleagues. For example as I am working in the field of aging muscles, but my friends' work is osteoporosis, so if I have a question regarding to their work I could ask them. Another source would be libraries as they contain also a large amount of literature on the issue I need information about.

13. In what frequency are you using each of them?

14. What are the challenges you identify in social media? Is it too open? Is it that there is lack of control over the conversation?

I think social media is pretty open for me. According to my work and experience so far I think social media such as the software through which we are talking there is no limitation. Because it is very convenient as it is through the Internet, not through the telephone line. So I think it is pretty open. On the other hand I think the limitation will not exist only if all the people have knowledge about the given topic. For example, in molecular biology as it is my area of expertise.

15. What is your attitude towards using social media for project work? Would you like to receive update information about the crowd source on social media?

Yes, I would say that this is a good idea. Because everyone would try to get their information from the most convenient for them source. I guess that the most convenient form in this case is the social media. So in this case, I would definitely prefer to receive such information on social media.

16. Are there any other remarks that you would like to make about crowd source projects?

No, at the moment I do not.

Appendix 10: Initial Reserch Proposal

1.Organization

Enviu is an organization that develops innovative solutions to social and environmental issues and introduces them to the market.

The organization has a profit and a non-profit part. Enviu Foundation Netherlands is the non-profit part of the organization is in charge of the development of the new start-ups. The funding is secured through grants, partnerships, profits made by Enviu B.V. and Enviu Participations BV, and sponsorships. The Enviu Holding B.V. is in charge of the commercial activities of

Enviu. Those activities include Enviu B.V., Enviu Participations BV, and Sproutsides B.V.

Enviu aims to provide assistance to young and entrepreneurial people in starting and scaling up their activities, dedicated to designing profitable solutions for those issues. The activities of Enviu are in the Netherlands, but also in middle-income economies such as India, Ghana, South Africa, Mexico, Brazil, and Nicaragua (Enviu, Our Work, 2013).

1.1.Mission Statement

The mission of Enviu is to discover how mankind can maintain its quality of life, end poverty, and restore the eco-systems of our planet at the same time (Enviu, Vision, 2013).

1.2.Problem background

For one of its most recent projects – Toxic Metal Challenge (TMC) – Enviu worked together with Clear Light Ventures (CLV). CLV is a U.S. based Social venture (company), founded in 2007. The goal of the company is to enable widespread screening for toxic metals, which can impair health and performance. The idea behind TMC was the discovery that high levels of methyl mercury (and other toxic metals) can lead to chronic diseases, higher risk of cardiovascular disease, and attention deficit disorders. In TMC, Enviu and CLV invited the participants in it to develop a cost-effective, non-invasive screening tool to test the methyl mercury levels in the human body (Toxic Metal Challenge, 2013). The product that would result from this challenge, was aimed at end consumers. This includes people who can purchase such a testing kit in the pharmacy or the supermarket. From the point of view of distribution parties, they include doctors, hospitals and private clinics. Those parties can potentially buy the test in large amounts and then sell it. However, the main party of the business model remains the end customer. The potential markets for this product would be mainly countries in which the issue of mercury poisoning is

prevalent, such as the United States and Japan. However, this issue is global and markets are yet to be explored.

The professional target group which Enviu and CLV wanted to reach for the project was biologists and toxicologists. However, people from other professional fields were also invited to join. Such other professionals included industrial designers, engineers, sales representatives, business students, product managers, and mechanical engineers. The reason why Enviu wanted to attract participants, other than the core target group, was due to the fact that people from the other spheres can have better understanding of qualities of the product such as design, that can make it more appealing to the customers.

1.3.Problem statement and organization objective

Enviu commenced approaching biologists and toxicologists with e-mails describing TMC, the structure of the project, and its ultimate goal. What Enviu wanted to achieve with this was to make biologists and toxicologists interested in the project and wanting to become involved in it with their knowledge. Eventually, they would upload ideas on the website of the project (<http://toxicmetalchallenge.com/>) of how a tool for testing the methyl mercury levels in the human body would look like and how it would work. They would also take part in brainstorm sessions with regard to the project and give feedback on ideas posted by other participants. This was the first project in which Enviu was targeting this target group. Enviu wanted to reach people from all over the world, as in almost every challenge. At the end, there were participants from 16 different countries. The target number for people joining the platform was 100, the number of people that joined was 90. Out of them, 23 were the active members with educational and working background in this scientific field that contributed with their knowledge to the development of ideas on the platform.

In the initial stage of the communication process, the biologists and toxicologists remained reluctant to the e-mail approach and did not join the project for most

of its duration. Towards the end the project, Enviu started organizing online brainstorm sessions with members of the target group that resulted in some of them joining the project. A hypothesis could be that this target group is interested in more interactive communication in order to contribute to a project with its knowledge. TMC was eventually a successful project with a business idea for a screening tool selected. However, the challenge with communicating to and involving biologists and toxicologists to participate in a project remains. As a result of that, Enviu wants to develop a new communication strategy that would allow it to involve biologists and toxicologists to share their knowledge.

1.4.Motivation for selection of topic

For TMC, Enviu wanted to target and involve biologists and toxicologists, so that they contribute to the project with their professional expertise. As already mentioned, the involvement of biologists and toxicologists for this project means that they come up and share ideas for a cost-effective, non-invasive screening tool to test the methyl mercury levels in the human body. As the communication strategy Enviu had before the project did not provide the necessary results from the beginning of the communication process, Enviu would like to develop a new communication strategy, better tailored to this specific target group.

2.Theoretical Framework

For this project, preliminary research will be needed in order for the project to produce qualitative recommendations for designing a new communication strategy for involving biologists and toxicologists. For this reason, related literature works will be needed. Using a communication strategy for a target group, based on research, is a prerequisite for its successful implementation. In the case of Enviu, this target group is explicitly defined. For my project I intend

to monitor communication literature in the sphere of marketing and social marketing communication.

Dan O`Hair: **“Strategic Communication in Business and the Professions”** (2010)- The book helps the reader understand the challenges of communication in the field of business. The examples provide focus on the balance that should exist between technology and communication. The book can be useful for the case of Enviu, since the input of toxicologists and biologists will lead to the establishment of a business startup.

Marita Vos, Henny Schoemaker: **“Integrated Communication: Concern, Internal and Marketing Communication”** (2011)- The book offers a new approach to communication, focusing on the communication needs of profit/non-profit organizations and their social environment. The book is focusing on three domain: concern, internal, and marketing communication. The content and the theories in the book will be of great use in developing the new communication strategy for biologists and toxicologists in the case of Toxic Metal Challenge.

Nancy R. Lee: **“Social Marketing: Influencing Behaviors for Good”** (2011) – The book gives information on planning and implementation of programs designed to bring about social change. The authors provide examples of how marketing principles can be used for campaigns and efforts to improve health and build communities around those campaigns. The book can definitely be useful in the case of Enviu, because improving health was the end goal of Toxic Metal Challenge.

Jeff Korhan **“Built-In Social: Essential Social Marketing Practices for Every Small Business”** (2013). The book provides step-by-step approach for using social media networking and marketing to turn a social quality into a profitable outcome.

Apart from the mentioned books, journals, databases with academic articles that provide information for developing a communication strategy for a specific target group will be monitored. Relevant sources with engagement models and theories, stakeholder analysis, and the role of social media to engage will also be monitored.

3.Research Advice Question, Objectives, Central Questions, Sub-questions and Research Topic

3.1.Advice Question:

What is a successful communication strategy for Enviu to involve biologists and toxicologists to participate in TMC with their knowledge?

3.2.Research Objective:

To design a communication strategy in the field of social marketing for involving biologists and toxicologists to participate in TMC with sharing their knowledge by:

- Making an assessment of the concerns of biologists and toxicologists when they consider participating in a project
- Making an analysis of the communication accessibility of biologists and toxicologists
- Making an analysis of the communication challenges with biologists and toxicologists
- Discovering which concepts for communicating with biologist and toxicologists are most effective for involving them in a project
- Discovering what the information needs of biologists and toxicologists are when they learn about a project
- Discovering the communication modes for involving biologists and toxicologists to contribute with their knowledge and expertise

3.3. Research Central Questions:

1. What are the concerns of biologists and toxicologists when they decide to participate in a project with their knowledge?
2. What are the steps in communicating a project to biologists and toxicologists in which they can participate with their knowledge?

3.4. Sub-questions:

1. What are the motivation factors for biologists and toxicologists to join a project in which they share their knowledge?
2. What are the communication practices to achieve involvement of biologists and toxicologists in a project with their knowledge?
3. What the information needs of biologists and toxicologists are when they learn about a project they can participate in with their knowledge?
4. What is the communication accessibility of biologists and toxicologists?
5. What communication factors can stop biologists and toxicologists from participating in a project in which they share their knowledge?

3.5. Research Topic:

Developing a communication strategy in the field of social marketing to achieve involvement, in the form of sharing knowledge, of toxicologists and biologists in a project.

4. Research Methods

4.1. Research Design

The focus of this research is on a communication issue that an organization is facing. Enviu wants to achieve involvement of biologists and toxicologists in a

project. The involvement, in the case of this project, stands for sharing knowledge.

In order to get a better understanding of the issue, I am going to start my research by using some secondary data available for the target group. I will use the information Enviu is going to provide me with to get a better picture of biologists and toxicologists and their characteristics from communications point of view. From the communication literature I monitor, I will extract concepts that are valid for the building of a communication strategy for biologists and toxicologists. In the interviews I will develop for members of the target group, I will aim to identify which concepts from the literature are valid for them, and how they will be applied in the new communication strategy.

In the beginning of my research, I am going to focus on gathering quantitative information –trends in the field of social media marketing, social marketing communication practices used for achieving involvement, and concepts and models for achieving involvement. After this step is completed, I will move to conducting interviews in order to provide the qualitative data that will be necessary for the in-depth research.

4.2.Data collection

The reason why I have chosen to use interviews for my in-depth research is due to the fact that this is the best way to obtain qualitative information in a sufficient quantity. The interviews will be developed to focus on biologists and toxicologists in the Netherlands mainly, but also from the countries in which the participants in TMC come from, in order to gain a good understanding of their communication needs and how they can be involved to participate in a project with their knowledge and expertise.

For the development of the interviews, I will take into account the research objectives, the central and sub- questions, and the communication concepts and theories I discover in the literature review for developing a good social

marketing communication strategy for biologists and toxicologists. Based on the answers the different interviewees give, I can ask more in-depth questions which will only improve the quality of the research, as this will produce more insights about the target group.

Appendix 11: Brief-Interview about Toxic Metal Challenge with Fransje de Helder, project manager at Enviu held on March 18th, 2013 in Rotterdam, the Netherlands; Interviewer: Emil Donchev

Question 1: Was the target number of participants set from the beginning achieved?

F.H: For the community of Toxic Metal Challenge, we had set the number for around 100 participants. The accounts created on the platform were around 90. The issue was that we did not manage to get that high rate of response from the core target group of the biologists and toxicologists. We wanted to attract specifically them, since they would have an experience in designing such test kits for other diseases or problems. However, we received good participation from other professionals that had knowledge on subjects the scientists did not.

Question 2: But you had a sufficient number of ideas on the platform before the deadline that was set?

F.H.: Yes, we had. We had a number of good ideas to select the winner from at the end. But still the problem remained since we did not have that much representatives from the group of the scientists.

Question 3: How did Enviu start communicating with the scientists at the beginning of the project?

Initially, we started sending e-mails approaching them about the project. Since we did not get a reply this way, we decided to focus more specifically on specialists

in the development of medical kits. A key factor we discovered was the little knowledge that existed about the effects of toxic metal in the human body.

When we started posting on LinkedIn groups, dedicated to toxic metals in the environment, we started receiving replies.

Then we managed to get in touch via LinkedIn with an entrepreneur that had invented a kit for testing for malaria. Through him, we got in touch with various do-it-yourself biology groups. At the last month of the project we already had webinars and events, once we had managed to engage more people from the target group.

Question 4: So the goal for the new communication strategy for this target group would be how to achieve engagement of this target group from the beginning of the project?

F.H.: Yes, it would be nice to see what the communication preferences of the target group are. Maybe there was something wrong with the communication strategy we have that does not work with this target group in particular and how this could eventually be changed.

Question 5: Which tool in your opinion produced a good effect on the community development?

I think the webinars and the offline meetings we managed to achieve during the last month of the project. It really gave a momentum to the community since the members were meeting and talking to one another, instead of just reading each other's comments on the platform.