

MSc in Technology, Innovation & Entrepreneurship

Report in the module of:

RESEARCH METHODS (TIE-4710)

Dissertation Proposal for the MSc thesis with subject:

*Recycling Stock Market Using Information & Communication
Technologies: An innovative service to create a micro-trend
for the environment*

By
ERGEN Evangelos

Module Director: Dr Costas ALEXANDRIS
Thesis' Supervisor: Dr Panayiotis KETIKIDIS

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ABSTRACT

The biggest threat to our survival is now ourselves.

From time to time significant facts, have demonstrated that human behavior may lead to crisis or success. This effort intends to investigate the possibility of creating a change effect (micro-trend), by placing the individual as end-consumer in a redefined recycling chain. The primary aim is to increase recycling percentages in a region while in parallel create growth for the local economy through an innovative service of investing. This effective recycling process is expected to add value in a simple daily task cultivating a different attitude and turning negative impacts to positive values.

The “Recycling Stock Market” is an innovative service which tries to stimulate three different areas -environment-technology-economy- in a progressive way, through jointure of their characteristics and attributes in order to accomplish one target: *To minimize human’s negative impacts to the environment, caused by mass consuming and careless behavior.*

The wideness of this approach was one of the factors that inspired the researcher to start thinking in a different manner, trying to innovate and adopting “outside the box” philosophies.

Therefore, by undertaking the responsibility of accomplishing this proposal, there is a great challenge and an opportunity to investigate, whether this is feasible and whether it could be possible to make a research, significant enough, to submit it in the correspondent Commission of the European Union for further research and discussion. It is intended to implement a real artifact and the approach to the subject of this thesis, is expected to be as up-to-date as possible.

SUMMARY

Purpose – The purpose of this proposal is to explain **what** the proposed research intends to achieve, **why** this is important and worthy to spend resources and **how** this could be accomplished, meaning a detailed research plan of the study to be done. There is an effort in bringing together environment, technology and economy. This meta-merging, although seemingly incompatible, is expected to work effectively and create a micro-trend adequate to change current balances in recycling industry. In addition, since this effort is expected to create growth in a region it is more than ever well-timed to be investigated.

Design/Methodology/Approach – This proposal is a technical report, based in scientific resources, literature review and personal experience and research.

Findings – A study made so far, has identified a gap in current services, comparing to the proposed service as a philosophy and as a real utility. This proposal establishes a way to proceed with deeper research and intends to come up with valuable replies in the research questions.

Research limitations/implications – This proposal has been inspired by literature which is dedicated to the three investigated areas, environment-technology-economy.

Practical Implications – It is expected this proposal to consist the main introduction to the specific research. Its main purpose though is to investigate whether it is practically feasible to accomplish such an innovative service and make it real in a region.

Originality/Value – This coursework was prepared as the ninth paper to submit for the MSc in Technology, Innovation and Entrepreneurship course (University of Sheffield – CITY Liberal Studies). The relevant module for which it is submitted is “***Research Methods***”, with module director ***Dr Costas Alexanrdris***. In addition this is the first part of the course’s thesis and serves as the Dissertation Proposal. Supervisor is Dr Panagiotis Ketikidis.

Keywords – Sustainability, Recycling Stock Market, Information and Communication Technologies (ICT), Auctioning, Reverse Logistics, Recycling

Paper type – Report, Dissertation Proposal


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CHAPTER 1

1.1 Introduction

During last 10 years, the involvement in a specific number of research fields, have cultivated the conditions of start thinking “outside the box” and looking for adoption of new innovative ways that could possibly derive from a successful combination of these fields. Sometimes there is hidden value in undiscovered paths that are seemingly incompatible or appeared as irrelevant. This “meta-merging” philosophy is the inspiring tool that drives this research.



Thinking
“outside
the box”

Bringing together different sciences, is a tough task to accomplish, but challenging and creative, since the desired outcome may benefit all participating entities. “Discovering the world” is not the aim; on the contrary, it is anticipated, by giving real value in certain daily habits, to create growth for the regions while saving resources and working for the environment.

1.1.1 Background

Continuous progress in information and communication technologies (ICT), have cultivated an innovation friendly environment. Such advancements create a positive framework for more tools to be introduced, more combinations to be examined and more potentials either for incremental or radical innovations. Consequently, new technologies affect people and resources in a catalytic way, through their direct involvement.



Techn-
ology

Moreover, new trends in business telecommunications have caused the appreciation of their business value and have defined a new digital business environment. A catalytic discovery was the introduction of mobility, which is applied through the wireless communication and mobile computing.

Environment and its status as global capital is a leading issue. *Reduce; reuse and recycle*, are the new watchwords for manufacturing managers, looking to set new standards for manufacturing excellence. And just like any other improvement idea, there are benefits of being the first, and the best at implementing it. [1] So far, although serious efforts have been made for the protection of the environment, desired results are yet to come.



Environ-
-ment



Considering that, more or less same-value efforts have already been made for other targets with tangible results; it seems that new policies have to be established with more pervasive impacts in regional level. It is consoling though, that both European Union and United States, two of the most important global portals in the planet, have set the environment as their primary target for the years to come. It seems that this change of priorities and the set up of environment in the first place, will be the next challenge. Every challenge is an opportunity and every change fosters new powers and re-defines balances.

So far, it has been proved that human existence overloads the environment. Different aspects of human actions aggravate and gradually diminish raw materials. Therefore, it is necessary to find ways of minimizing human impacts and cultivate sustainable policies for the protection of it.


Although technology and environment follow opposite paths, regarding their progress, they are both parts of the economy or at least are mutually depended to it. Technological achievements and environmental resources are considered as capital, and constitute the basis of new economies. For instance, in USA a whole economy is established in the companies of new technologies (NASDAQ), and this situation has affected linked economies in the rest of the developed world.



Stock markets involve people and capitals. Despite their unsteady route, by no means they act as a development lever for any economy. Country economies are depended on them; globalization and technology have facilitated their invasion to daily economic life and as a result, a number of financial tools have been developed to increase money generation. They provide certain know-how and contribute to a region's development since these are the poles of entrepreneurship.

In contrast to the elder years, where the philosophy of auctioning and the investment in stocks, bonds and commodities were restricted to the upper social classes - who had the privilege of moving capitals - after the World War II there was an increased mobility in people and capitals, with the contribution of stock markets. This move affected people's psychological biases, shaping specific types of behaviors and directed investors in the effects of overconfidence, socialization and familiarity. [2]


This research intends to combine the three fields of: ***Economy-Environment-Technology***, through the creation of an innovative utility that is expected to create a micro-trend. Micro-trends find application in “the rule of 1%”. It is possible to create a change-effect if we manage to affect a percentage of 1% of people involved, in a manner that this will be sustainable, organized, and with vision.



The
initial
motive

The initial motive of this research is ***to find an innovative way to contribute in saving valuable resources and minimizing the catastrophes caused by human consuming***. On the other side, as the reserves of raw materials are decreasing, there could be a way nothing goes wasted. For every product there is a return path (reverse logistics).

Mass production and use of raw materials is not an endless channel. Soon, companies will be obliged, by the circumstances, to use only recyclable raw materials. This will happen for two reasons: (a) the materials will simply no exist or (b) their prices will be extremely high. However, it is positive that recycling is growing as a vital component of many business strategies. [3]




Recent
develop-
ments

On the other side, a number of mobile operators have announced new services offered to their customers relating to digital payments through their phones, replacement of credit cards, tickets, even e-commerce solutions. [4] [5] Alternative wireless technologies have been deeply spread in individuals and companies creating “cutting edge” mechanisms for people interaction. [6]

In addition, the new era has been characterized by the mobility of capitals through stock markets and “carry trade”. Globalization has created the suitable environment for the cultivation of stock market mentality among individuals.

Therefore, bringing together **Environment – Technology – Economy**, could result in a combination that would increase the effectiveness of current resources. Since late technological achievements have proven to be a serious component of the economic environment, this relationship could be an initiative to be exploited for the sake of environment.



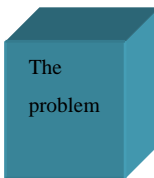
The
combin-
ation

1.1.2 Problem description

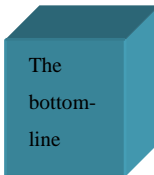
The problem of low-recycling has global characteristics. Although there are regions with fairly high rates of recycling (almost 50% achieved in some recyclables), this is not an adequate percentage comparing to the given potentials and expectations should be higher. Since there are already available the technological means and the knowledge, it is more than a necessity to start immediate action. Mostly this problem has been identified due to the low correlation between attitude and behavior of individuals.

The problem begins from the individual-consumer and ends to the environment and the economy. Moreover, the participants in the supply chain seem that has no established attitude and orientation in the recycling process although recycling saves precious natural resources, energy, time and money.

There is a distance among attitude and behavior on most individuals. Although advertising and campaigns affect people's beliefs, who accept the need for saving the environment, they follow a different practice. This is usually due to the contrast among what we perceive and what we actually do as well as the difference among "noesis" and reality. [7] Moreover as Socrates, the ancient philosopher implied, people prefer to earn money, living in their undisturbed routine.



We expect, through this research and effort to interfere in this gap, trying to create the conditions to affect individuals by creating a micro-trend.



1.1.3 What is the proposed innovative service?

It is intended to create a company which will administer recyclable products (aluminum, glass, paper and plastic) incorporating the philosophy of auctioning, using the know-how of stock markets and investing, in order to create a micro-trend and make people recycling. To achieve this, information and communication technologies will be exploited assisting in this effort.

In the proposed service the participants will be: people as end-consumers, the company which will administer the service, the companies as traders and sellers since they sell the products, the recycling industry, the environmentalists, the governments.

The vision is to create a European region-based prototype cell, which will be supported by the regional authorities and professional associations, will be funded partially or even fully at its start from European Union funds, aiming to create value in the region, contribute in achieving growth through the exploit of current resources and guarantee sustainability.

Based on the literature review which is described later on, we have identified that there is a gap and no similar idea exists in terms of environment and doing innovative things to sustain its value.

1.1.4 How the innovative service will operate (a brief description)

- People buy products to consume;
- Most of these products could be recycled (aluminum, glass, paper and plastic);
- These recyclables will be collected in quantities from certain collection points;
- Consumers in return get a receipt, as a proof for what they have recycled each time;
- Recyclables will be driven in a warehouse;
- A set of procedures will be applied on the recyclables according to specific standards (cleaning, disassembling, unpacking, sorting, counting of quantities etc).
- Quantities of the available recyclables are placed in a private on-line web auction system (like eBay);
- In this system, access has all interesting parts (recycling industry, companies, liaisons etc);
- Everything works in clarity and there is always information of what is available and in which price like the stock market tables;
- Interesting parts place their bids in the specific available quantities. The auctions have specific period of time. Also they may be of free-starting price or with a fixed starting price, according to the international prices of the specific recyclable (e.g. aluminum);
- The highest price at a given period wins and takes the quantity;
- Everything is done digitally;
- The company receives the payment;
- Shipment of the winning recyclables is sent to the winner;

- There may be more than one auctions within a working day and different auctions that could run in parallel for different recyclables (e.g. aluminum cans and glass bottles);
- This is the standard process;
- Moreover, the company will keep the right to directly negotiate with specific big companies (industries) for the return of their used products (reverse logistics) at a given price, since these recyclables are collected in huge quantities (e.g glass milk bottles of a specific brand directly to the company, coca-cola glass bottles directly to The Coca Cola company etc.);

So far, we have explained the process that covers the inter-companies network. On the other side there is the end-consumer. Consumers keep a receipt of the recyclables that have recycled, and they are registered to the company's central system (information database) as well as the quantities they have given. Since they are considered as the main contributors to this effort, they will be rewarded under the following scheme:

- In the end of each auction and calculating the final price of quantities have been sold to the winner, each recyclable will get a price, just like the stocks which take prices or change prices according to demand and offer scheme;
- A certain number of recyclables will form a share (for example 4 glass bottles equals to one share);
- The value of each share depends on the current prices of the specific recyclable (e.g glass) and may vary from day to day or from hour to hour;
- Assuming that a share has a price at a given time and knowing what products each end-consumer has recycled he/she will be appointed a number of shares;
- These shares have a value;
- Consumer will be informed in his mobile phone or through other more traditional ways about the number of his/her shares and their current value;
- He can keep the shares as an investment and wait, expecting their value to increase, or he may exchange their value to purchase consuming goods;
- These shares will be valid to super markets and other participating companies and in exchange of a price;

- Consumers will have the opportunity to purchase products through the use of their shares and pay part or a whole of specific products. These products will be the products of the companies that will participate in the whole concept;
- In addition, the company may approach companies that are interested in participating in the whole concept of recycling, through their Corporate Social Responsibility programmes and are willing direct funds to our auction system;
- In return they will gain access to the network of consumers and secure their brand awareness as well as advertisements on offers on their products;

1.1.5 Rationale

We can destroy ourselves and our planet quite easily with a combination of ignorant selfishness and lethal technology. [8]

But one could also say that on the other hand, we can bring people and technology together to support the “anthropic principle” and demonstrate that the universe was specifically structured to allow human life to evolve successfully. Late capitalism is going to have to find a better balance between economic development and the hunger for profits and environmental needs. [9]

This innovative service intends to contribute in finding this balance. This model incorporates people actively in an effort that, although operates as an investing game it shapes behaviors and confronts with the recycling avert. Furthermore, through merging different modern tools, is trying to exploit capabilities, knowledge and willingness for achieving the utmost of current environmental resources rather than destroying for making new ones.

Thereby, the idea is ***to make people recycling by getting in return some kind of reward, using information and communication technologies.*** In order to make people recycling, there should give them a strong motive. This motive originates from *the sense of reward*, which is related to the meaning of adding value to a practice, and remunerating an achievement. [10]

As discussed at the beginning of this proposal, the initial motive is *to contribute in saving the planet and minimize the catastrophes caused by human consuming*. Thereby, the concluded idea is to establish this smart way of making people recycle and get in return some kind of reward. There is a belief that, people are primarily utility maximizers, motivated by costs and benefits. This belief is exploited. Therefore, two key parameters comprise the base of this service:

- (i) *the possibility to earn something; and*
- (ii) *the feeling of participating in a game;*

Besides that, the aim is not to simply offer a new product or service but instead a ***real utility*** to people and planet. [11]

Whether this could be achieved through such a service will be the objective of this research.

1.1.6 Research Questions

Since this effort will involve a number of certain entities, it is intended to map in a sense, their initial evaluation regarding this proposed service. Although individuals as end-consumers are considered as the key point of the recycling process, it is crucial to approach and investigate the willingness of others to participate and support the introduction of the micro-trend.

Consequently, research questions are designed to focus in a three-pronged strategy, which is expected to come up with important results.

A. Get feedback on how this service is evaluated (PRIMARY EVALUATION)

- How individuals as end-consumers would evaluate such a service?
- How companies as the producers of the recyclables would participate in such an effort? Are they willing to contribute through their Corporate Responsibility Programmes or similar actions?
- What is the opinion of the environmentalists and the relevant associations?
- What is the opinion of such an effort within the academic community?

B. Get information on the potential value of this idea (VALUE and SUSTAINABILITY)

- Would the new service create value in the region?
- Would this be a high-quality sustainable investment for the region and its citizens?
- Would this effort add value compared with any existed mechanisms?
- Would it be possible for its results to reach immediately the households and affect their living standards?

C. Get information on potential obstacles (BARRIERS, OBSTACLES and ENEMIES)

- What obstacles may be raised in this service or possible enemies due to the new status that this will create in the recycling industry?

Since this research tends to measure attitudes and opinions it gets the characteristics of a descriptive study. It is considered crucial to approach the entities mentioned above and elicit their inner thoughts and reserves.

1.2 Aims and Objectives

There is one primary aim. *This is to investigate whether such an innovative service could contribute in creating an adequately strong micro-trend in a region in order to change the general aversion of consumers in recycling.* This is a small scale investment for region-led development.

There are three secondary objectives, which support the primary one and these are:

- a. to make people recycling and in result minimize the catastrophes caused by human consuming;*
- b. to re-establish the value of the environment; and*
- c. to create growth for the region that will adopt this model (region-based focus);*

Moreover, it is important to investigate the financial sustainability of this service according to the income tunnels that will be analyzed through this research.

CHAPTER 2

2.1 Literature Review

So far, a significant number of literature sources have been found while an adequate number of them has already been studied and analyzed in order to investigate their contribution to current thesis. For the literature review to be made, it is followed the literature taxonomy technique, since this method is more structured, organized and brings meanings and results in a more effective way both for the researcher and the evaluators.

Literature taxonomy is based in three axes according to the level of contribution to the inspiration and research of the initial idea.

The first includes important resources that inspired and supported the original idea and they are considered as principals. The second gathers a number of supportive and relevant literatures, remarkable studies that are dedicated to details connected to the primary idea.

The third is a list of information and policies mostly from the European Commission as well as other international organizations.

In the Appendix section of the proposal (*Appendix A*), it is given the literature taxonomy, including the resources that have been studied so far. Actually, this is a one meaning literature demonstration where each source is presented in a table with few words and its contribution to current research. The outcome is to administer the taxonomy as a “puzzle of meanings” that could help the researcher in an improved and effective way to approach the subject.

CHAPTER 3

3.1 Methodology

It is necessary to map the methodology of how it is intended to achieve the objectives of this study.

Both quantitative and qualitative methods is planned to be followed. It is intended to acquire data through quantitative surveys and qualitative research in order to get information and answers in the research questions in a balanced, broaden and effective attitude.

3.1.1 Qualitative Research

Qualitative research is subjective and it generates mainly text, because the researcher does not use numbers but instead tries to analyze arguments, words and expressions. Current research is primarily related to human's behavior as it intends to find ways of creating a micro-trend. Consequently, the adoption of this kind of research is almost mandatory. It is intended a combination of a number of qualitative research methods to be followed, which are described below.

Ethno-methodology versus Ethnography

Although ethnography is considered a suitable qualitative observational research for this study, it will not be followed since time is limited. Ethnography is a long term investigation of a group, often a culture, which is based on immersion and optimally participation on that group. Ethnography provides a detailed exploration of group activity and may include literature about the group. It is an approach which employs multiple methodologies to arrive at a theoretically comprehensive understanding of a group or culture. The issue for the observer is how the particulars in a given situation are interrelated. In other words, ethnography attempts to explain the Web of interdependence of group behaviors and interactions. [12]

Instead, the method of ethno-methodology will be applied in two areas: (a) individuals and (b) companies. Ethno-methodology is the empirical study of methods that individuals use to give sense to and to accomplish their daily actions: communicating, making decisions,

and reasoning. This approach is actually a form of ethnography, which specifically studies activities of group members to see how they make sense of their surroundings. [13]

It is intended to observe how individuals and companies as entities react and behave in relation to the research questions.

Narrative Inquiry

Moreover, it is intended the narrative inquiry to be used, which is the process of gathering information for the purpose of research through storytelling. The researcher then writes a narrative of the experience. [14] This will be derived from the combination of interviews and observation which will be done in a restricted sample, mostly from executives that will be picked up as experts.

Short term observations

Finally, it is considered that short term unstructured observations, in definite study groups is a key aspect of qualitative research. Therefore, a short term observational studies will be performed in order to present findings based on recorded observation. Short term observational studies differ from ethnographies in that they focus more narrowly on specified categories of group behaviors. [15] Such observations are planned to be done in individuals in their domestic environment, in their professional environment as well as in groups of people within consuming environments.

Interviews

It is expected to pump useful information from the respondents, regarding attitudes, behaviors and beliefs. Interviews will be performed in a very restricted number of individuals. It is targeted to be opinion leaders, academicians, or industry experts. These will be one-to-one unstructured interviews. The purpose is for the researcher to have minimum control of the discussion while giving to the interviewee the opportunity to guide the interview through brainstorming events, behaviors, beliefs and attitudes.

3.1.2 Quantitative Research

A major contributing method in this research should be the implementation of a cross sectional survey. For this reason, it will be adopted the questionnaire research tool. The time limit of this survey will not exceed two weeks, and bottom line should be to measure attitudes and opinions. Quantitative surveys are descriptive in nature, their findings are

descriptive as well and with the suitable process of software tools (such as SPSS) can provide information that can be generalized.

Data collection and how this will be done is an essential parameter for the whole study. Considering that the distribution, filling and gathering of the questionnaires is an issue of top importance, and in order to accomplish effectiveness, there will be a different design and approach in the idea of it. Since the researcher owns a personal web-page, this will be a web survey taking into account that such method guarantees accessibility, time efficiency, money saving and gives in the respondents the convenience to study more on the given subject. In parallel the on-line questionnaire is intended to be more interactive and impressive.

Regarding the population and sampling, according to the parameters of interest and the research questions explained earlier, it is selected the non-probability sampling. Since questionnaires will be addressed only to individuals, it is considered as right to give equal chance to everybody in the population of being included. Followed by the fact that this is a web survey, the number of expected participants is expected to be more than 50 and will be from different regions of the world. The researcher intends to process as many questionnaires as will be received in a specific period of time which will be predetermined and known.

3.2 Ethics

Since the introduction of the service is expected to create a new operational scheme for the region, it is considered essential to engraft it with a certain framework of ethics. Issues such as information security and privacy will be incorporated and placed above the framework which is described right below. [16]

This framework is planned to be based in a three-pronged strategy:

- a) ***Ethics that derived from the inside*** of the company, which means principles that will be followed and guide the whole effort and will be part of the strategic plan;
- b) ***Social and Anthro-centric ethics (human-centered ethics)***, a template of minimum requirements which will ensure a balance between the needs of the

individual and the region which will be based on the principle that individuals are above all, social beings, and not simply producers, servicers and consumers;

- c) ***Environmental ethics***, a new contract that will re-define the relationship of people with their natural environment. This relationship will start from people's effort of finding ways to live more "lightly" on the planet and reducing its presence implications, first by increasing the efficiency of available resources and second by learning to live more with its natural income rather than depleting the natural capital;

CHAPTER 4

4.1 Expected Outcomes

It is aimed to justify effectively the idea, the service, the potential of the micro-trend and whether this could be feasible in a global environment. By the end of the dissertation process, *this study will be able to answer in the research questions and evaluate the status of the whole project*. In addition, there will exist the credentials to decide whether this project could be implemented or not in any region.




Out-
come I

It will be attempted to produce a research, clear and understandable in a matter that could be easily later upgraded with a business plan in order to be applied in the real world. Not research for a research but research for immediate action.



Out-
come II

Further outcomes should be to educate regions and its citizens in the philosophy of manipulating used goods (waste management) through their trading, acquire gradually a different approach in similar things and change their attitudes and behaviors. It is well-accepted that such an effort will not survive if it will not be accepted by opinion leaders, global organizations and experts.



Further
out-
comes

4.2 Implications of the study

Such service is expected to create change effects in a chain of people and industries. Initially it is expected to face barriers in short-term from existed recycling industry, although in the long-run this may turn to positive progress. It is identified that the more important initiative will be to establish a good network of relationships with the companies that are planned to be invited in participating in this service.

Moreover, there will be possible side-effects in networks that operate parallel to recycling industry and will be affected from the introduction of the “Recycling Stock Market”.

This research will derive possible enemies and obstacles that will be captured through interviews and observations and it is intended alternative strategies to be developed in order to overcome at least initial reactions of the affected parts.

There will be positive implications as well. Consumers will have the opportunity to be active members in their regions, will gradually be affected and guided to a different behavior more effective and environmentally-oriented. Companies, as retailers and producers of consuming goods, will get access to a network of informed citizens with certain attitude and care for a sustainable future. A different approach to them could be built and a different awareness of their products will be cultivated.

4.3 Timescale of the Research (Time Planning)

It is crucial to clarify that primary elements of the proposed service before concluding in the original idea, were captured throughout the implementation of a coursework that was related to the introduction of a new telecommunication service.

In *Appendix B* it is given a realistic timetable - action plan of the dissertation, which intends to demonstrate the planned work and the timing of the research. This is to provide a feedback on the supervisor about the time awareness and the tasks that have to be completed during the process of this study.

Actually the timeline covers the period since the original capture of the idea and describes the steps followed so far, as well as the next steps to be taken till the completion of this study.

CONCLUSIONS

The intention of this proposal is to establish a clear understanding of what has been selected as the subject of this thesis, why it has been selected and how this is expected to be performed.

Moreover, a first approach and study which already has been made to a significant portion of literature has already given some results and guides the orientation of the research. There has been identified a gap both in the academic literature and in the practice in terms of the new service, in the way it is introduced. Nothing so far has related the investing philosophy with the recycling attitude and the possible impacts that could have in a region both economically and socially.

It is of primary importance to accomplish a study as real and updated as possible, since this could be further investigated in the near future under business perspectives and with the strong potential to be implemented in any region within the European Union as a pilot-programme.

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Appendices

Appendix A

Literature Taxonomy

Author (S)	Roseland Mark
Title	Toward Sustainable Communities: Resources for Citizens and their Governments
Publication Type	Book
Publication Name	New Society Publishers
Pages	239
Date/Year	2005
Thematic Topic	Building a context for sustainable communities involving actively, people and governments. A framework of tools and initiatives.
Concept/Theory	<p>During recent decades there has been developed two movements which focus the attention directly on the state, form and management of human communities. These are the "sustainable communities" and the "Eco-cities" movements.</p> <p>These movements share the perspective that the most direct and effective means to protect the environment is to redevelop, retrofit and redesign our own communities.</p>
Methodology	A book which was written based on an on-going research project made by the author the last 16 years. It is a conceptual framework of tested practical suggestions, helpful contacts and essential references to use in setting community planning and development on a sustainable course.
Issue/Challenge	Create the future sustainable communities.
Country	Vancouver, Canada
Contribution	A set of essential information on how to maintain communities and make them focused in a sustainable future through a certain mentality which inspires both people and government. Communities may be regions, countries or even bigger blocks of habitation.
Impact	A strong argument for redesign and reform communities and regions that would like to succeed in a sustainable future following a different path and re-evaluating their willingness to step forward. "Staying in business is undoubtedly necessary but it is no longer enough".
Shortfall	No shortfalls identified in such an on-going research

Future Direction	Do development differently and see the challenge ahead by learning to live on our natural income rather than depleting our natural capital; finding ways to live more lightly on the planet and reducing our "presence" consequences; strengthening our community or region capital; fostering our trust, imagination, courage and commitment for bettering our economic and social well-being.
Contribution thoughts in the current study	Whenever it is necessary we should not be afraid to mandate changes. The key to a sustainable future lies not in making us more competitive, but rather in making us more perceptive; more able to realize what we have, what we need and what are the long term consequences of our short term choices.
	Sustainability can mean less as well as more. Nothing is sustainable if it is not here next year. Do development differently.

Author (S)	Blumberg F. Donald
Title	Introduction to Management of Reverse Logistics and Closed Loop Supply Chain Processes
Publication Type	Book
Publication Name	CRC Press
Pages	240
Date/Year	2005
Thematic Topic	The concept and analytical framework, technology and processes for managing closed loop supply chain and reverse logistics service in industry and other sectors.
Concept/Theory	<p>The environmental concerns as well as the economic value in terms of extending the product life, have both created new and emerging business opportunities. The focus on reducing waste and other residues of consuming have contributed in the marriage of the environment and economy through Reverse Logistics.</p> <p>"Green laws" although have focused purely on the part of the environment, further to an extensive research, investigation and study they have incorporated and took into account reverse logistics and closed loop supply chain practices, accepting in this way their significance for their positive environmental contribution and impact.</p>
Methodology	A book based on over 35 years of practical industry experience in the development and implementation of productive and efficient reverse logistics and closed loop supply chains.
Issue/Challenge	Focus in reverse logistics practices.
Country	USA
Contribution	An important framework of practices derived from industrial experience. An introduction of a model which grabs the growing business opportunities created by the adoption of the "Green Laws".
Impact	A complete set of techniques on the Closed Loop Supply Chain model as a broaden approach for a product or service, incorporating reverse logistics as its subset or stand alone process.
Future Direction	Adopt certain techniques of reverse logistics and get advantage of the emerging markets that are created by the "green" mentality. Every change creates new opportunities for those who see "outside the box".

Contribution thoughts in the current study	This book proves that there is knowledge, information and tools that could be further developed for protecting the environment and create growth to local regions and clusters.
	It helps us to clearly understand the whole loop of a product or service including: (*) forward logistics, (*) the direct supply chain management, (*) reverse logistics, (*) the disposal, (*) the repair, (*) the recycling of unwanted products and trash.
	This book helped us to capture and perceive the importance of getting back and putting into process useless products, transforming them in that way to priceful pieces.
	Anything could somehow get a price if we apply innovative tools on it and give value to its existence.

Author (S)	OECD - Organization for Economic Co-operation and Development
Title	Improving Recycling Markets
Publication Type	Report on project' s results
Publication Name	OECD Publications
Volume (No)	
Pages	186
Date/Year	2006
Thematic Topic	Analysis of non-environmental market failures in markets for secondary materials (wastepaper, plastic bottles, metal scrap etc.)
Concept/Theory	<p>Many OECD governments have introduced targeted policies to encourage recycling. Nevertheless results are not optimistic since there are market failures in recyclable material markets as well as a discouragement in substitution of primary materials for recycling materials.</p> <p>Targeted policies will not work since further support is not established to change current attitude and perception about recyclables.</p>
Methodology	A publication based in 5 different papers that have been prepared to contribute in the specific project about the current conditions in recycling markets.
Issue/Challenge	Recycling markets should be reformed and adapted to new techniques that will improve their status and effectiveness.
Country	OECD is a global organization with many member countries all over the world including the Commission of the European Union.
Contribution	There is much feedback in current recycling markets' weaknesses and discrepancies especially considering their primary mission. Reformation is necessary since markets for many recyclable products are still growing offering healthy opportunities for parts involved.
Impact	Focus in the nature and operation of the growing recycling markets trying to make them more efficient and evaluate their real contribution to the original idea of recycling.
Future Direction	There should be strong dedication in redesign these markets and develop them, over passing technical weaknesses, information failures and barriers that would restrain their progress.

Contribution thoughts in the current study	Environmental policies should cooperate with industrial and market policies and all these 3 forces could be combined to make strategic alliances and adopt specific targeted policies in each region.
	Markets for many recyclable materials are growing; however market failures and barriers are constraining some markets. Such failures may be information failures, market power that affect prices of the recyclable materials, technological externalities, market barriers such as search and transaction costs. All these undermine the market.
	Initial perceptions and misperceptions concerning the quality of the products that are made from recycled materials can be a problem.
	Search and transaction costs can make it difficult for buyers and sellers to find each other and conclude in a "fair" transaction.
	Power in markets for supporting primary material products may restrict the penetration of recyclable material products in many cases.
	Traditional recycling policies should be enriched with more effective policies that take advantage of information and communication technologies.

Author (S)	Nofsinger R. John
Title	The Psychology of Investing
Publication Type	Book
Publication Name	Prentice Hall - Second Edition
Pages	116
Date/Year	2005
Thematic Topic	<p>People investment decisions are not always rational and unbiased although financial sector has developed a number of useful totally logical and statistically accepted investing tools.</p> <p>This is because psychology affects their decisions more than financial theory does.</p>
Concept/Theory	<p>Decisions are done through mental shortcuts and emotional filters. These are mostly known as psychological biases. Biases affect people's daily lives.</p> <p>Although there are logical paths each time to follow or reject people continue to be based in their emotions, especially when serious decisions have to be taken.</p>
Methodology	The book is made on research studies that have been made to show how the bias affects real people. Also this second edition is expanded with new evidences and ideas.
Issue/Challenge	Investing has entered in our social culture and is part of the markets.
Country	USA
Contribution	<p>Clearly understand that traditional financial theories are the lifejacket for the investing. Psychological biases and external affects should be monitored and overcome when investing decisions have to be made.</p> <p>This book helps us to identify the existence and the nature of such biases and build strategies to face them and protect our decisions.</p>
Impact	The role of emotions and mood in the decisions-making process place serious obstacles and difficulties in maintaining a rational self-control.
Future Direction	Well-built planning, incentives and rules of thumb are helpful in avoiding common problems caused by the stick to biases.
Contribution thoughts in the current study	<p>Fear, greed and psychological biases are the leverages of stock market and investors. Overconfidence and avoidance of learning through repetitive mistakes have a dramatic impact in decision making.</p> <p>Investing incorporates a philosophy with social characteristics. Learning to invest is a life-long course which could support local communities if</p>

their members are willing to participate in such a course.

Learning to avoid overconfidence, overestimation of their knowledge, underestimation of risks and exaggeration of personal abilities would probably lead to bettering the region's members and it will be a course of action against poor policies in certain targets, such as recycling ratios.

Investing leads people to start thinking by developing mental accounting, mental budgeting and matching costs to benefits. Also learn to develop risk perception in the real world, building behavioral portfolios, increase social interaction and develop a social dynamic.

Such techniques improve financial behavior of individuals and in extent drain these characteristics to other sectors of life.

Through the Recycling Stock Market, people will learn to develop investing behaviors while in parallel contribute in recycling and waste management.

As a result, the region will acquire value through its members' status and development which could be externalized in other professional and social activities.

It is possible through this process to develop self-control and decision-making mentalities that will help them in other sectors and would establish a framework for further progresses.

Exploiting psychological biases and using them for good is a challenge.

Author (S)	Rawlings B. Laura, Sherburne-Benz Lynne and Van Domelen Julie (World Bank)
Title	Evaluating Social Funds: A Cross-Country Analysis of Community Investments
Publication Type	Research Report
Publication Name	World Bank - Regional & Sectoral Studies
Pages	1-208
Date/Year	2004
Thematic Topic	Assessment of the targeting, impact, sustainability and efficiency of six social funds in areas of poverty.
Concept/Theory	It is necessary to attend and evaluate such mechanisms (Social Funds) in order to identify their strengths and weaknesses throughout long term development. Impacts and sustainability of such regions in countries with high levels of poverty are crucial parameters to evaluate success and measure results.
Methodology	A Cross-Country study based in sectorial surveys.
Country	USA - Washington D.C.
Contribution	This report consist a guidebook on how to evaluate and measure funding addressed to regions for special purposes.
Future Direction	Exploration of community/region dynamics is a significant factor that may affect the impact and sustainability of investments.
Contribution thoughts in the current study	We have found in this study similar characteristics to our proposed model. Although Social Funds are addressed to issues such as poverty and basic needs coverage, they propose the strategy of small-scale investment for region-led development.
	Each region has its own scalable needs.
	In the way that Social Funds are an innovative, community-based tool, in the same way Recycling Stock Market could be an innovative micro-trend for sustainable regions.
	Do Recycling Stock Market reach regions and their households? Does Recycling Stock Market deliver high quality sustainable results? Does Recycling Stock Market affect living standards of citizens? How cost efficient is the Recycling Stock Market comparing to other alternative mechanisms of recycling?
	We target to the household end consumers. We try to create a performance-oriented utility which will give to people access to the recycling process.

Some strategies for cost efficiency are: (a) we transfer the responsibility for managing this recycling effort to local level and especially to households, (b) we intend to give direct participation to end-consumers, (c) we require counterpart contributions from the regions, (d) we try to control cost escalation during the whole process of Recycling Stock Market, (e) we require greater input and participation from the regions in a way that can improve the impact and sustainability of this effort and investment.

We are looking to provide real tangible contribution to the last link of the supply chain (the end-consumer) and make him the first link of a reverse green network.

Author (S)	Morgan W. Fred and Hughes V. Margaret
Title	Understanding Recycling Behavior in Kentucky: Who Recycles and Why
Publication Type	Journal Article
Publication Name	JOM
Pages	32-35
Date/Year	Aug-06
Methodology	A sample study made through the collaboration of 3 institutes
Country	USA
Shortfall	Small sample; very restricted to a county only (Fayette County of Kentucky);
Future Direction	4 future aims have been established: (a) the recycling programme will be expanded in other states, (b) the demographic attributes that affect the recycling behavior will be established, (c) it must be ascertained whether the economical or the environmental benefits or messages have the most impact on each demographic set, (d) measures of success must be set
Contribution thoughts in the current study	It is identified that economical benefits may be a significant factor that affect the recycling behavior

Author (S)	Eichner Thomas
Title	Imperfect Competition in the Recycling Industry
Publication Type	Journal Article
Publication Name	Journal of Metroeconomica
Volume (No)	56:1
Pages	1-24
Date/Year	2005
Thematic Topic	Market allocation in an economy where recyclables are used as raw materials and where a recycling firm has market power.
Concept/Theory	Market failures exist in such special markets therefore different policy schemes should be adopted to overcome them.
Methodology	Development of a model on recycling standards related to product design and solid waste processing. Experiment study which incorporates the relation between the product design and the imperfect competition.
Contribution	Investigation on imperfect competition in a recycling economy and evaluation of efficiency performance of relative recycling standards.
Shortfall	A general approach not based in specific examples but rather in more broaden manner.
Future Direction	Further should be made to identify the appropriate set of policies to be applied in order to result in a good allocation of the market of recyclables.
Contribution thoughts in the current study	Market failures: the product design may affect the recycling market especially where the competition is imperfect.
	An efficient product design may help especially where recycling services are inefficiently low due to imperfect competition.
	Product design is independent of the market structure although there should exist a number of recycling firms.

Author (S)	Tanigaki Kazunori
Title	Recycling and International Trade Theory
Publication Type	Journal Article
Publication Name	Review of Development Economics
Volume (No)	11:1
Pages	1-12
Date/Year	2007
Thematic Topic	Recycling and production of secondary materials. Effects of recycling on comparative advantage, trade and welfare.
Concept/Theory	Survey on the relationship between recycling and international trade theory. The recycling sector contributes in a number of parameters that define the region's/country's economy.
Methodology	The author examines whether a specific theorem is valid in the recycling sector. Examine price effects; examine how a recycling subsidy may change the production structure and comparative advantage.
Contribution	Recycling ratio leverages price effects, welfare effects, and may alter the economy of a country/region.
Future Direction	This survey should include an environmental model in the future, since at the moment there was no such reference. A more integrated model of the environment could be investigated.
Contribution thoughts in the current study	Subsidies in the recycling sector could be a direct policy in order to strengthen local economy and change its direction to a higher recycling ratio.
	The waste costs are strictly related to the optimal welfare rates for the economy of a region.
	Comparative advantage can be changed by a subsidy to the recycling sector especially in a globalised environment or even in a closed economy.
	The concept of a recycling tax should not be investigated, since it may create negative impact to end-consumers.

Author (S)	Dalmijn W.L. and De Jong T.P.R
Title	The Development of Vehicle Recycling in Europe: Sorting, Shredding and Separation
Publication Type	Journal Article
Publication Name	JOM
Pages	52-56
Date/Year	2007
Thematic Topic	Recycling of end-life-vehicles and how this contributed to the global economy.
Concept/Theory	The fast growing consumption of metals in China, has created an emerging market of recycling metals which boosted affected both USA and European Union.
Methodology	Survey
Contribution	This article gives technical information on the resource cycle and explains differences on recycling process among European Union and USA. In addition it makes some suggestions for improvements.
Shortfall	Narrowed to vehicles.
Future Direction	European Union should become more competitive in the recycling processes and should adopt more innovative developments.
Contribution thoughts in the current study	<p>Recycling sector could become a significant factor for a region and its economy since it is strictly connected with emerging markets.</p> <p>Adoption of simple and effective recycling procedures in combination with minimum obstacles from legislation and paperwork could create competitive advantage.</p> <p>Recyclables may contribute to the regions' GDP since there is an established supply chain and there is interest from huge markets such as China, India and Pakistan.</p>

Author (S)	Chung Shan-Shan, Miu Monica and Leung Yin
Title	The Value-Action Gap in Waste Recycling: The Case of Undergraduates in Hong-Kong
Publication Type	Journal Article
Publication Name	Journal of Environmental Management
Volume (No)	40
Pages	603-612
Date/Year	2007
Thematic Topic	The discrepancy between verbal and actual commitment in waste recycling and environmental behavior.
Concept/Theory	There has been identified a value-action gap in the behavior regarding environmental issues, therefore the researchers introduce a methodology to measure this gap and try to explain this behavior.
Methodology	Study which introduces a methodology to identify the discrepancies among verbal commitment and actual behavior in terms of waste recycling. It measures this gap and tries to give explanations on an observed group of people.
Contribution	It gives some ideas but is based in one sample. It is interesting that is applied in University students which are considered the future active citizens and decision makers. However this survey does not provide any solutions.
Shortfall	Restricted to a specific group of students at the Hong Kong Baptist University with the hope that the results could be generalized to a wider context (one-sample survey).
Contribution thoughts in the current study	<p>Young people are a good sample to start and to involve in any new recycling policy that intends to attract participation.</p> <p>To develop awareness it is necessary to reverse former states of typical action to a new change format.</p>

Author (S)	Commission of the European Communities
Title	Handbook on Community State Aid Rules for SMEs (Including Temporary State Aid Measures to support access to finance in the current financial and economic crisis)
Publication Type	Study Report (part of a Commission's Proposal for the European Economy Recovery Plan).
Publication Name	European Community publication http://ec.europa.eu/competition/state_aid/studies_reports/sme_handbook.pdf
Pages	1-42
Date/Year	Jan-09
Thematic Topic	State Aid for SMEs - A Framework for effective access to appropriate finance in EU SMEs.
Concept/Theory	A complete proposal for financing the growth and the development of envisaged investments. This proposal is a part of a bigger Recovery Plan which aims to enhance access to financing for SMEs, promote their cash flows and help more people to become entrepreneurs.
Methodology	This is a study report further to the "Small Business Act for Europe" adopted by the Commission in June 2008.
Issue/Challenge	This is a challenge and an answer to the current crisis aiming to strengthen the backbone of the EU's economy, SMEs.
Country Contribution	European Community / Europe "Think Small First"
Supporting	The Small and Medium sized Enterprises (SMEs) are the backbone of Europe's economy.
Future Direction	Transform this proposal to more simplified packages in order to delegate Member States grant certain kinds of aid to SMEs in their regions of authority. Access should be easy without bureaucracy or legislation barriers. This proposal should cooperate with other EU programmes such as "The Competitiveness and Innovation Programme", "The Research Framework Programme".
Contribution thoughts in the current study	In this proposal there is a whole chapter for the "Aid for environmental protection", where there is included a section regarding the aid for waste management describing activities for re-utilization, recycling and recovery. Going beyond Community's standards.

Author (S)	Commission of the European Communities
Title	Notices from European Union Institution and Bodies: Community Guidelines on State Aid for Environmental Protection
Publication Type	Community Quidelines
Publication Name	Official Journal of the European Union
	http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:082:0001:0033:EN:PDF
Volume (No)	2008/C 82/01
Pages	1-33
Date/Year	Apr-08
Thematic Topic	Guidelines for ensuring a sustainable integrated European climate and energy policy.
Concept/Theory	Three objectives: (a) increasing security of supply, (b) ensuring the competitiveness of European economies and the availability of affordable energy, (c) promoting environmental sustainability and combating climate change.
Methodology	Notices and guidelines for Member States derived from their recommendations
Issue/Challenge	Apply policies in sectors that are strictly connected to the environment and its protection.
Country Supporting	European Community / Brussels Climate, energy and economy are interrelated and mutually affected. Sustainability may be achieved only through their protection. Negative externalities should be close monitored and faced effectively.
Future Direction	Ensure the higher level of environmental protection
Contribution thoughts in the current study	Waste prevention and management is one of the four top priorities for the Community according to "The Sixth Environment Protection Programme"

Author (S)	Maastricht Economic and Social Research and Training Center on Innovation and Technology
Title	European Innovation Scoreboard 2008: Comparative Analysis of Innovation Performance
Publication Type	Thematic Reports
Publication Name	InnoMetrics http://www.proinno-europe.eu/EIS2008/website/docs/EIS_2008_Final_report.pdf
Pages	1-58
Date/Year	Jan-09
Thematic Topic	A study on the comparative assessment of the innovation performance of EU Member States for 2008.
Concept/Theory	The European Innovation Scoreboard tracks and benchmarks the relative innovation performance of EU member states according to a specific methodology which includes a number of dimensions.
Methodology	Report on comparisons based in data retrieved from (a) the Joint Research Institute of the European Commission, (b) the Global Innovation Scoreboard and (c) publications by the Centre for Science and Technology Studies- CWTS.
Issue/Challenge	Identify the status of innovation in each member state, as well as comparison on EU-USA-Japan.
Country	Europe / Maastricht
Supporting	The understanding of current situation of innovation, approached by different dimensions and in details for each member state. Benchmarking for reviewing recent developments and attend the balance assessment of the innovation performance.
Future Direction	Identify and analyze the long-term mechanisms that are the root of the innovation performance, analyze and study the relevance and nature of the innovation activities, outcomes and performance at a sectorial level over a long-term period. Inno-barometer 2009 will survey how companies' innovation activities have changed and if they have changed their strategies according to future trends, investments and activities.

Contribution thoughts in the current study	EU is still behind USA and Japan although late years the gap is shorten.
	Less than half of the EU member states (11 from 27) are above the EU27 mean in 2008 Innovation Score-Board.
	New analysis in this report confirms the importance of non-R&D innovation. R&D is not the only method of innovating.
	Other methods include technology adoption, incremental changes, imitation and combining existing knowledge in new ways.
	R&D is not the only way for doing innovation. Sometimes the "neglected innovators" who seem to have lower innovative capabilities than R&D firms tend to produce more creative activities combining creativity and innovation.
	A good creative climate may lead to strong overall innovation performance.
	This dissertation aims to suggest such a model of combining existing knowledge and trying to bring imitation of three different sectors to daily life for achieving a target.
	Recycling Stock Market may trigger EU's innovative thought and stimulate local regions to adopt this model to gain benefits and be the first globally in such an initiative.
	First -movers' advantage for the EU will be taking the leading position in innovation and defining future.

Author (S)	Commission of the European Communities
Title	Cohesion Policy: investing in the real economy
Publication Type	Communication from the Commission to the European Parliament
Publication Name	European Community Publication http://ec.europa.eu/regional_policy/funds/recovery/doc/16122008_comm_en.doc
Volume (No)	COM(2008) 876/3
Pages	1-12
Date/Year	2008
Thematic Topic	A Cohesion Policy which aims to contribute in the European Economic Recovery Plan. Cohesion Policy is a plan which will invest EUR 347 billion to strengthen growth and contribute to economic and social cohesion.
Concept/Theory	Cohesion Policy is providing an important input to the real economy through delivery of the EU's growth and jobs and sustainable development agendas. Significant financial investment and decentralized management is focusing on improving public policy making, accountability and control. Intends to provide vital support for growth and jobs at local and regional level.
Methodology	Communication
Issue/Challenge	Emphasizing in the value of investments made in the real economy and how the Cohesion Policy investments will contribute in the current economic situation.
Country	European Community / Brussels
Contribution	A plan helping EU to overcome current crisis through development and change.
Supporting	A complete framework on funding smart investing and broaden EU's potentials for growth throughout current financial crisis.
Contribution thoughts in the current study	One of the most important recommendations included in this Communication is the "Directing action to smart investments". For example investing in energy efficiency, clean technologies, environmental services etc.

Author (S) Organization for Economic Co-operation and Development (OECD)	
Title	Informal Seminar on Sustainability and the Role of Innovation Policies in the Current Financial Crisis
Publication Type	Summary and Conclusions of the Seminar
Publication Name	OECD informal publication http://www.oecd.org/dataoecd/31/34/42230480.pdf
Pages	1-4
Date/Year	Feb-09
Thematic Topic	Development of policies to strengthen growth in the medium and long-term.
Concept/Theory	Innovation policies play a significant role in the economic development and sustainability of OECD countries. Especially in sectors such as: entrepreneurship, research, investments in infrastructure, ICT, human capital and green technologies.
Methodology	Seminar
Issue/Challenge	Innovation policies and how these could be exploited by the regions in order to face current crisis.
Country	France / Paris
Contribution	Useful findings and key messages regarding the importance of innovation as a development tool.
Contribution thoughts in the current study	In this seminar was discussed that short-term stimulus packages can help strengthen innovation and long-term growth. Developing new comparative advantages is an answer to crisis, since this may lead to long-term sustainable growth.

Appendix B

Timescale of the Research (given in 2 different formats)

ID	Task Name	Duration	Start	Finish	Predecessors
1	DISSERTATION - Thesis action plan	354 days	Fri 20/06/08	Fri 23/10/09	
2					
3					
4	Attendance of the module "Internetworked Business Enterprises"	2 days	Fri 20/06/08	Sun 22/06/08	
5					
6	Assumption of a coursework to introduce a new telecommunication service or product	82 days	Mon 23/06/08	Fri 10/10/08 4	
7	<i>First thoughts and literature review</i>	12 days	Mon 23/06/08	Tue 08/07/08	
8	<i>Capture of the idea from a technological perspective</i>	5 days	Mon 07/07/08	Sun 13/07/08	
9	<i>Writing of an interim report</i>	4 days	Mon 14/07/08	Thu 17/07/08 8,7	
10	<i>Submission of an Interim Report about the new proposed service</i>	1 day	Fri 18/07/08	Fri 18/07/08 9	
11					
12	<i>Literature Review and investigation of both academic literature and practices</i>	30 days	Sat 19/07/08	Wed 27/08/08 10	
13	<i>Discussion of the Interim Report with experts in the field of Technology</i>	2 days	Sat 19/07/08	Mon 21/07/08	
14	<i>Travel to Malaga-Spain, Majorca-Spain, Milano-Italy and Rome-Italy for getting ideas and making a brief investigation of recycling issue in</i>	15 days	Mon 04/08/08	Thu 21/08/08	
15	<i>Further thoughts and investigation</i>	30 days	Sat 19/07/08	Wed 27/08/08 10	
16	<i>Preparation of the coursework about the new telecommunication service</i>	31 days	Thu 28/08/08	Thu 09/10/08 15	
17	<i>Submission of the coursework</i>	1 day	Fri 10/10/08	Fri 10/10/08 16	
18					
19	Get feedback from lecturer	30 days	Mon 13/10/08	Fri 21/11/08 17	
20					
21	Expansion of the idea and initial research of further potentials	10 days	Mon 24/11/08	Fri 05/12/08 19	
22	Literature review, survey on existed bibliography and practices	70 days	Mon 13/10/08	Fri 16/01/09 17	
23	Prepare a Research Description	31 days	Mon 08/12/08	Mon 19/01/09 21	
24	Submission of Research Description to the potential supervisor	1 day	Tue 20/01/09	Tue 20/01/09 23	
25	Get feedback and approval to proceed	5 days	Wed 21/01/09	Tue 27/01/09 24	
26					
27	Literature review, survey continues	30 days	Wed 28/01/09	Tue 10/03/09 25	
28	Writing of the Research Proposal	31 days	Wed 28/01/09	Wed 11/03/09 25	
29	Submission of the Research Proposal	1 day	Thu 12/03/09	Thu 12/03/09 28	
30					
31	Literature review	40 days	Wed 11/03/09	Tue 05/05/09 27	
32	Implementation of web survey - questionnaires	70 days	Fri 13/03/09	Thu 18/06/09 29	
33	Implementation of Observations	70 days	Fri 13/03/09	Thu 18/06/09 29	
34					
35	Preparation of Dissertation Interim Report	17 days	Wed 06/05/09	Thu 28/05/09 29,31	
36	Submission of Dissertation Interim Report	1 day	Fri 29/05/09	Fri 29/05/09 35	
37					
38	Process of the results	30 days	Fri 19/06/09	Thu 30/07/09 32,33	
39	Analysis of the outcomes	30 days	Fri 31/07/09	Thu 10/09/09 38	
40	Comparisons and evaluation in relation to practices and existed bibliography	60 days	Fri 19/06/09	Thu 10/09/09 32,33	
41					
42	Writing of dissertation	120 days	Fri 13/03/09	Thu 27/08/09 29	
43	Cross checks and feedback - Re-evaluation of the thesis outcomes and research questions	25 days	Fri 28/08/09	Thu 01/10/09 42	
44					
45	Submit the final draft to the Supervisor	1 day	Fri 02/10/09	Fri 02/10/09 43	
46					
47	Corrections and last chance amendments	14 days	Mon 05/10/09	Thu 22/10/09 45	
48					
49	Submission of the dissertation	1 day	Fri 23/10/09	Fri 23/10/09 47	

