



MSc in Project Management



COURSE: PM601 **Project Management Research Paper**

Developing a representative project life cycle for car recycle industries in Cyprus. Analysis of stages and the associated risks management of each stage.

Research paper contents

1. Introduction
2. Problem Statement
3. Literature Review
4. Methodologies and Procedures used in the Research
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1. Introduction

- **Purpose of the study**

Purpose of this study is to establish a practical and complete guidebook to serve as a guide to potential entrepreneurs who are willing to develop a car recycle industries in Cyprus.



2. Problem Statement

- **Problem definition**

Cyprus is non-compliant with the European End of Life Vehicle (ELV) Directive and regulations, regarding the development of Car Recycle Industries.

- **Rationale**

E.U. regulations are very strict concerning matters of environmental and public health.

Because ELVs are a considerable source of pollution, I am willing to develop a representative project life cycle for car recycle industry, that should be used by potential entrepreneurs willing to get involved in the recycling sector. This thesis is extremely useful due to the absence of a similar representative in the market of Cyprus.

- **Objectives**

Use project management principles to establish a practical representative project life cycle.

The representative guide will contain all the stages which are necessary to the development of a car recycle industry, the associated risks management of each stage, the applicable regulations and the European ELV Directive.

3. Literature Review (1/2)

- **Project life cycle definition**

Project subdivided into several project phases in order to be better managed. Collectively these project phases are called the project life-cycle.

- **Project life cycle models**

Using a model of the project's life cycle is useful in identifying and understanding the total breadth and longevity of the project.

- **Four phase project life cycle models**

1. Cleland & Ireland (2000)

2. Burke (2003)

3. Verzuh (2005)

4. Meredith & Mantel (2006)

Common characteristics of four phase models:

- ✓ In the first phase a need or opportunity for a product, facility or service established and feasibility of proceeding with a project is evaluated in order to move to the next phase. Another important issue of this phase is a preliminary analysis of risks and the resulting impacts on a project.
- ✓ In the second phase the guidelines set by the feasibility study are used to design the product, outline the build-method and develop detailed schedules and plans for making or implementing the product, facility or service.
- ✓ In the third phase, project starting to implement as per the baseline plan developed in the previous phase.
- ✓ In the fourth phase project confirmed that it had been implemented or built to the design and terminated.

3. Literature Review (2/2)

➤ Five phase project life cycle models

1. Cleland & Ireland (2002)
2. Lewis (2005)
3. Kerzner (2006)

Common characteristics of five phase models:

Like those of four phase project life cycle models in each phase with a difference.

Difference: Transition phase between planning and implementation phase. This phase could be considered as the final testing before a project moves from planning to implementation phase.

4. Methodologies and Procedures used in the Research (1/2)

- **Description of methodology**

Academic and professional literatures provide the knowledge to decide which project life cycle is best suited to a project in respect of its requirements and specifications.

The Cyprus government web portal and other websites provide details about the exact regulations, specifications, European Directives and competent involved authorities which are necessary to be considered for the development of car recycle industry.

- **Definition of end-of-life vehicle (ELV)**

End-of-life vehicles are motor vehicles that are categorised as waste. Waste is anything discarded, intended to be discarded or is required to be discarded.

- **Legislative directive regarding the management of the ELV**

The main goals that emanate from the existing legislative guideline at a European level include:

- ✓The maximum utilization of the materials that are included in the ELV by means of repossession, re-usage or re-cycling and finally their use for energy.
- ✓The minimizing of the quantity of hazardous components that are contained in the new vehicles and therefore in the ELV.
- ✓The minimizing of the materials that are contained in the ELV and cannot be utilized.

- **Communal legislative frame**

In order to prevent waste arising from ELVs, E.U., has moved forward to decree the legislation for the management of the ELV and more specifically, it has adopted the Directive 2000/53/EC (European Council), named ELV Directive.

4. Methodologies and Procedures used in the Research (2/2)

- **The Directive 2000/53/EC of the European Union – The ELV Directive**

Purpose of the directive is to determine:

- ✓The measures regarding the prevention of the venturousness of the ELV.
- ✓The minimizing of the consequences to the environment from the production and administration of the ELV.
- ✓The development of correct practices for their management with emphasis on the recovery, re-usage and re-cycling of the materials.

- **Cyprus legislative directive**

Cyprus has been harmonized with the provisions of the Directive 2000/53/EC via the Law157 (I) of 2003 on ELVs. This Act regulates the management of the ELVs and the operation of the facilities for the management of these vehicles.

- **Competent authorities**

15 Competent authorities from which directly involved are:

- ✓Environmental Service (Ministry of Agriculture and Natural Resources)
- ✓Advisory Committee of Waste Management
- ✓Electromechanical Department (Ministry of Transportation and Works)
- ✓Department of City Planning and Housing (Ministry of Interior)
- ✓Municipal/Communal Boards (Local Authorities)

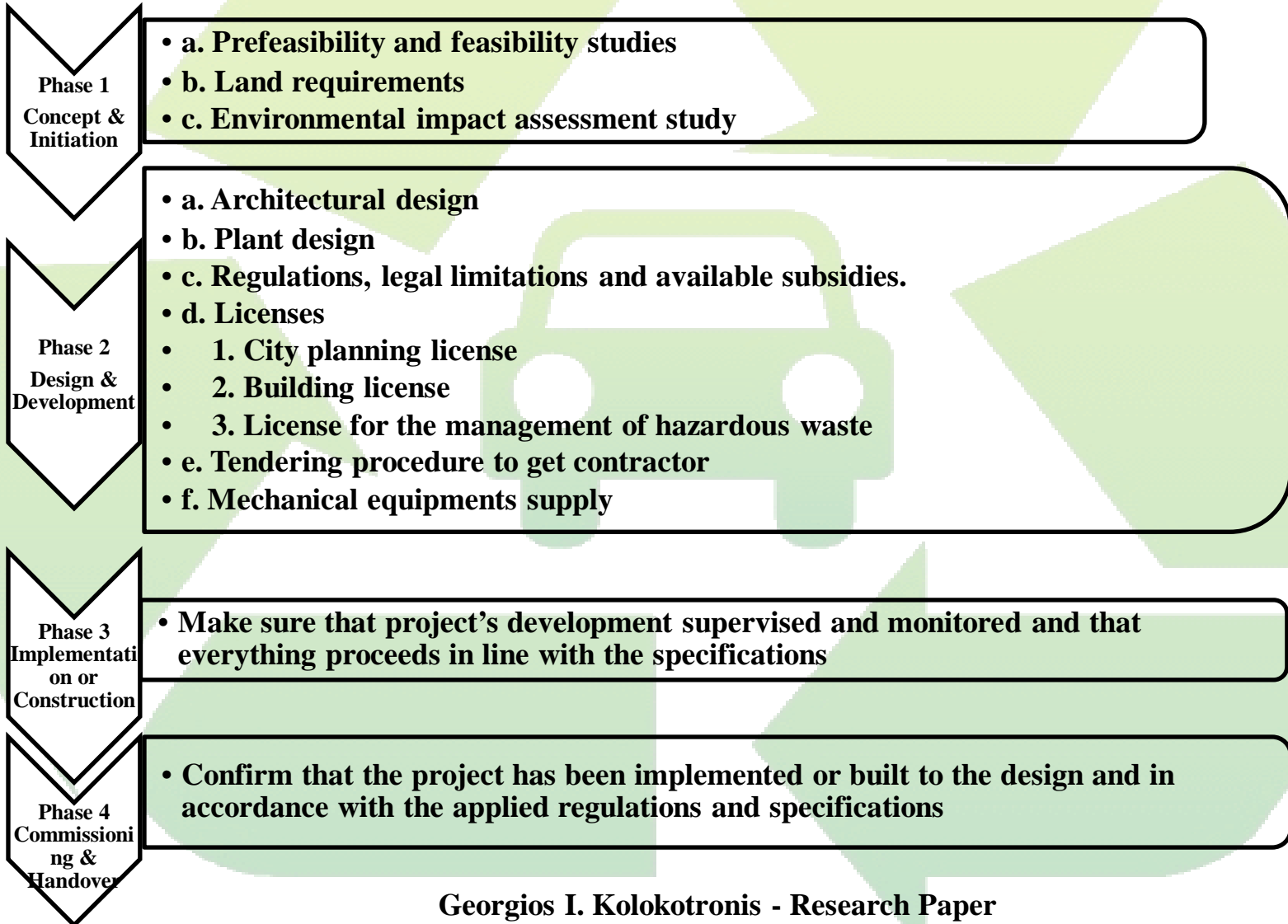
- **Selection of the most suitable project life cycle model**

Four phase project life cycle model by Burke:

- ✓Concept and Initiation Phase
- ✓Design and Development Phase
- ✓Implementation or Construction Phase
- ✓Commissioning and Handover Phase

5. Results(1/2)

- **Recommended representative project life cycle for the development of car recycle industry.**



5. Results(2/2)

- **Summary proceeding**



6. Conclusions and Recommendations (1/3)

- **Conclusions**

The purpose and objectives of the study are accomplished. All the aforementioned findings create the guidebook. This guidebook is extremely useful due to the absence of a similar representative in the market of Cyprus.

Benefits from the development of car recycle industries:

- ✓Financial benefits: Industrial sector expanded and the recycled products are exported as raw materials.
- ✓Environmental and public health benefits resulting from the management of ELVs which are considerable sources of pollution.
- ✓Guidebook will contribute to the compliance of Cyprus Republic with the European ELV Directive.

- **Recommendations**

Special attention to:

- ✓Currently applied national regulations: Regulations do change dramatically since the environmental issues are very important. Check whether it is more feasible to finish the project before or after a forthcoming amendment of a regulation.
- ✓Legal limitations: Several legislations restrict the project's operations. These should be taken into account and integrated into the project's deliberation. In many times projects have to be complied and constructed in line with legislations/ restrictions.
- ✓Available subsidies. The entrepreneur shall take into account all the available subsidies provided for such project by the Government. These subsidies will be included into the economic and financial analysis of the project.

6. Conclusions and Recommendations (2/3)

- **Risks management**

- Phase 1: Concept and Initiation

- ✓1st Risk: Feasibility studies do not include all the requirements and specifications set by the Environment Service, European Union Directive and Local Authorities.

- ✓2nd Risk: Environmental studies do not consider all the requirements and specification in order to be valid.

- ✓3rd Risk: Local Authorities delay the approval of the Plant design and the construction license.

- Phase 2: Design and Development

- ✓1st Risk: Plant designers have not considered the applied regulations, legal limitation and Environment Service regulations and specifications.

- ✓2nd Risk: Miscommunication and lack of cooperation among the designers, engineers and the contractor.

- ✓3rd Risk: Incomplete documentation of bid package.

6. Conclusions and Recommendations (3/3)

- **Risks management**

- Phase 3: Implementation or Construction

- ✓1st Risk: Accident during the construction.

- ✓2nd Risk: Adverse Weather Conditions.

- ✓3rd Risk: Construction is not performed in accordance with the applicable regulations and specifications.

- ✓4th Risk: Contractor cannot update the construction procedures when a significant change has occurred in the project scope.

- ✓5th Risk: Equipment supplier is not responding to the mechanical equipment supply needs.

- ✓6th Risk: Unsuitable equipment or defective equipment or delay of the supply or inappropriate site of equipment.

- Phase 4: Commissioning and Handover

- ✓1st Risk: Environment Service delays the final inspection and approval of the Plant.

- ✓2nd Risk: Bad documentation of the expenses cause bad estimation and smaller amount of subsidize by the government.



THANK YOU

