PORTFOLIO

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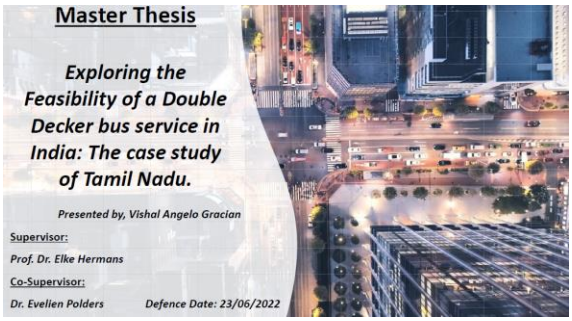
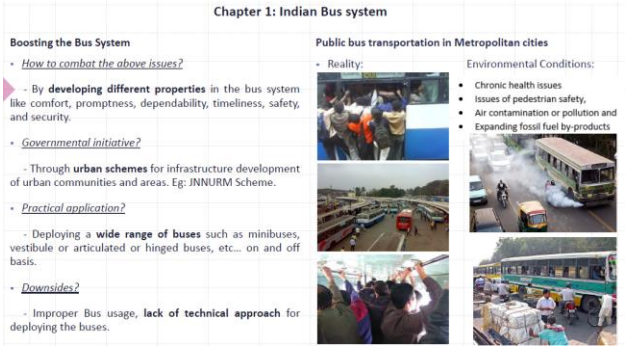
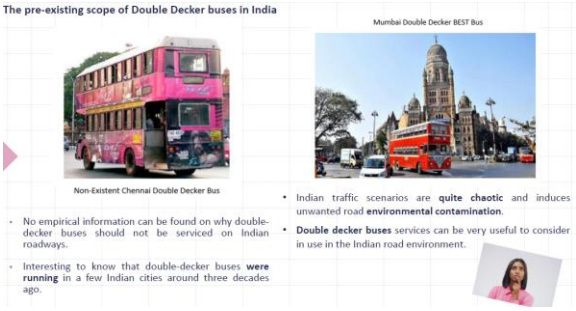
Thesis Dissertation

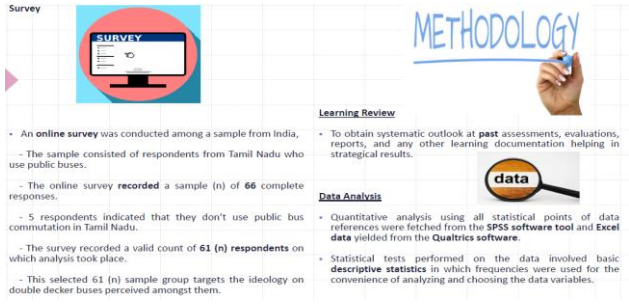
Synopsis:

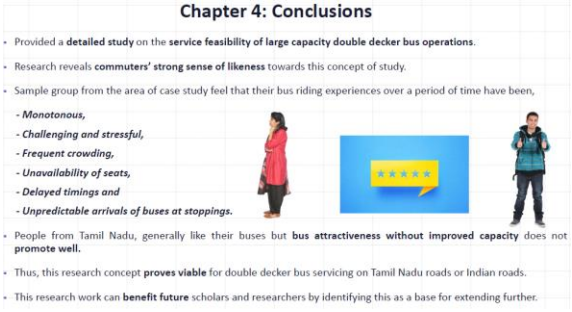
- The improvement of productivity in the operation of buses is fundamental in expanding the support of buses and furthermore ensures the environment by shifting the mobility from customized vehicles to buses.
- Currently the fleet versatility plan on the existing bus system seems to be outdated when it comes to handling high capacity of passengers in the expanding suburban areas.
- Bus Technology in the last few years across the world has shown many significant achievements and with respect to the evolution of double-decker buses, they have become nicer, more sophisticated, and more adequate than ever before.
- Also, fuel administered buses are on the urge for better transformation, thereby enabling this research study to investigate the feasibility of double decker bus services for handling large passenger capacity operation.











Findings:

- As a growing nation, the transportation sector of India has a lot of potential to offer to its citizens. Because of this new availability of competitive features, these double-decker buses can promise efficiency.
- Since modern technology has granted the vision to experiment beyond boundaries, it is certainly interesting to having found out the feasibility conditions to consider these double decker buses for their generous operation capacity which could function their services for long distance Intercity travelling and/or short distance intracity travelling

Outcome:

- Thus, by bearing in mind the futuristic growth of bus development and by imbibing technologies that are flexible and adaptable, this research concept proves viable for servicing on Tamil Nadu roads or Indian roads.

Civic Challenge

Synopsis:

- The transition to Battery Electric Buses (BEB) is a costly and involved endeavor that requires the bus operator to consider the charging infrastructure, maintenance of the system and acquiring the buses.
- To achieve a successful transition, bus operators can consider several available options for both technology and financing.
- Based on interviews with BEB researchers and experts, it is recommended to conduct a phased transition beginning with a pilot project where a few BEBs are in operation and over time electrifying the whole fleet.
- Conducting the transition in this way has the benefit of building experience and learnings from the pilot and as technology improves additional buses can take advantage of the latest systems.

Findings:

- It takes much more to shift to Battery Electric Buses than purchasing new buses.
- The whole bus system requires rethinking to electrify the bus fleet. From procurement to charging, maintenance and driver training.
- In-depth feasibility studies of available technology and financing options are recommended to kick-off a pilot project with the introduction of buses and infrastructure upgrades.
- Thereby, to continue performance analysis to ensure a smooth and affordable transition and ensuring that deployment process steps are affirmed.

Figure 1: Ten Deployment Phases

Outcome:

This manual was intended to provide BEB companies with information necessary to achieve the maximum benefit out of their E-Bus deployment and mitigate potential risks. Every deployment has been guided by the bus company's specific needs and priorities.

Strategic Project Analysis

Scope

The project aims to ensure that the recommendations put forth are adopted by the concerned partners and based on the sustainable development goals of WHO.

Project Name

Inclusive Public Transportation Systems and Infrastructure for India

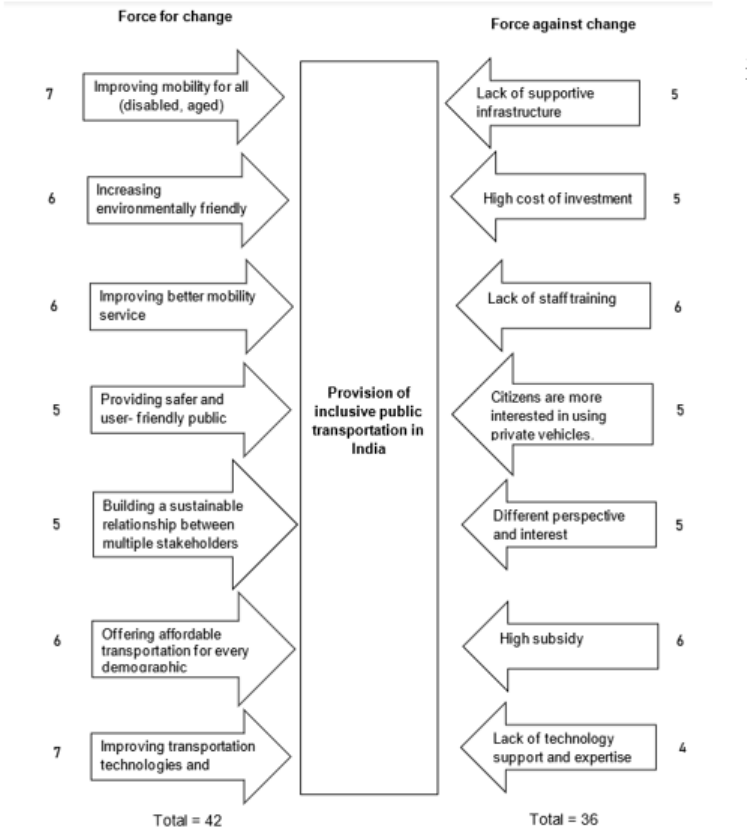
SUSTAINABLE DEVELOPMENT GOALS

Outcome:

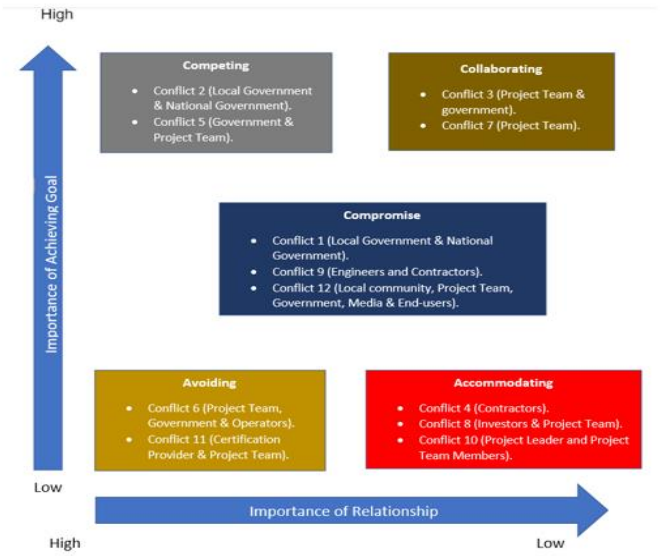
The project picked up from the planning stage by complying with necessary tools that are devised to meet the challenges focusing for India.

Tool 7: Power Ranking

Tool 4: Force Field Analysis



Thomas-Kilmann Conflict Mode Instrument



Erasmus Intern

Outcome:

Implemented data literacy skills through Systematic Literature Review methodology to setup a base research work by which the outcome has been used as an Analysis setup for scientific researchers working on Gap Acceptance, thereby on the proposal for journal publication.

RESEARCH

Behavioral Models of Drivers in Developing Countries with an Agent-based Perspective: A Systematic Literature Review

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Abstract

The traffic in developing countries presents its own specificity, notably due to the heterogeneous traffic and a weak-lane discipline. It leads to differences in the driver behaviors between these countries and first world countries. Knowing that the analysis of the drivers from first world countries lead the design of the majority of driver models, it is not surprising that the simulations performed using these models do not match the field data of the developing countries. This article presents a systematic review of the literature on modeling driving behaviors in the context of developing countries. The study focuses on the microsimulation approaches, and specifically on the multi-agent paradigm, that are considered as suitable for reproducing driving behaviors with accuracy. Major contributions from recent literature are analyzed. Three major scientific challenges and related minor research directions are described.

Keywords: Driver Behavior; Developing Country; Microsimulation; Multi-agent Systems; Systematic Literature Review Method