

Project Title

Re-creating sustainable last mile solutions through optimizing resources for a greener value chain

Project Lead and Members

Andy Lee, Stanley Lee, Tan Saik Chye, Sangeetha, Dennis Oen, Tan Wei Ling, Michael Sim, Darren Li, Nicholas Lee, Juliyana Bte Yusop

Organisation(s) Involved

Thye Hua Kwan Moral Charities Ltd: THK Elderly & Home Care Services

Healthcare Family Group(s) Involved in this Project

Healthcare Administration

Applicable Specialty or Discipline

Elderly & Home Care

Aims

- Develop a Lean Model approach to augment current manpower resources
- Optimise efficiency of operations to shorten delivery time
- Increase capabilities of our staff to increase capacity of programme
- Build operational resilience among our services to ensure continuity of care
- Develop shared responsibility across services

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

The purpose for our project was to ensure that we transform our operations into something more sustainable. As most countries are adopting more sustainable approaches to managing their economies, climate change is a pertinent concern which affects all of us. We will continue to reduce our carbon footprint and try to achieve net zero carbon emissions expeditiously. This project has been a good first step towards global citizenry.

Conclusion

See poster appended/ below

Additional Information

Productivity Improvement Gold Awardee at Community Care Excellence Awards (CCEA) 2022 by the Agency for Integrated Care (AIC)

Project Category

Care & Process Redesign

Quality Improvement, Lean Methodology, Operation Management

Keywords

Meals on Wheels , Delivery Time, Manpower Resourcing, Fleet Management, Cross Functional, Change Management, Sustainability

Name and Email of Project Contact Person(s)

Name: Andy Lee

Email: andylee@thkmc.org.sg

BACKGROUND



Meals on Wheels (MOW) delivery was functioning in silos and care of seniors was slow and labour intensive.

OBJECTIVES

- Develop a **Lean Model** approach to augment current manpower resources.
- Optimize efficiency of operations** to shorten delivery time.
- Increase **capabilities of our staff** to increase capacity of programme.
- Build operational resilience** among our services to ensure continuity of care.
- Develop **shared responsibility** across all services.

PROBLEM ANALYSIS

- Large Service Boundaries**
Operations had long delivery routes.
- Time Consuming**
Longer time taken for meal deliveries.
- Nearing Maximum Capacity**
Increase in demand of meals with limited manpower resources.
- Manpower Intensive**
Stretched manpower resources due to an increase in COVID-19 infections; staff were overworked to meet the increasing demand for meals.

After conducting root cause analysis, we have to re-engineer our work process in MOW operation.

IMPLEMENTATION PLAN

CHANGE MANAGEMENT

- Streamlining of work processes** to eliminate waste.
- Re-allocation of MOW clients** in nearby THK centres.
- Redefining MOW staff roles** to focus on specific areas.

PRIMARY INTERVENTION

- Job Redesign in THK Centres**
- Cross Training & Deployment**
- Establish Workflow Processes**

Primary Intervention focused on breaking down silo operations and ensuring our staff become cross-functional throughout all services.

SECONDARY INTERVENTION



Secondary Intervention focused on the ease to deliver services by using alternative approaches like resource analysis and allocation to provide better services for internal and external stakeholders.

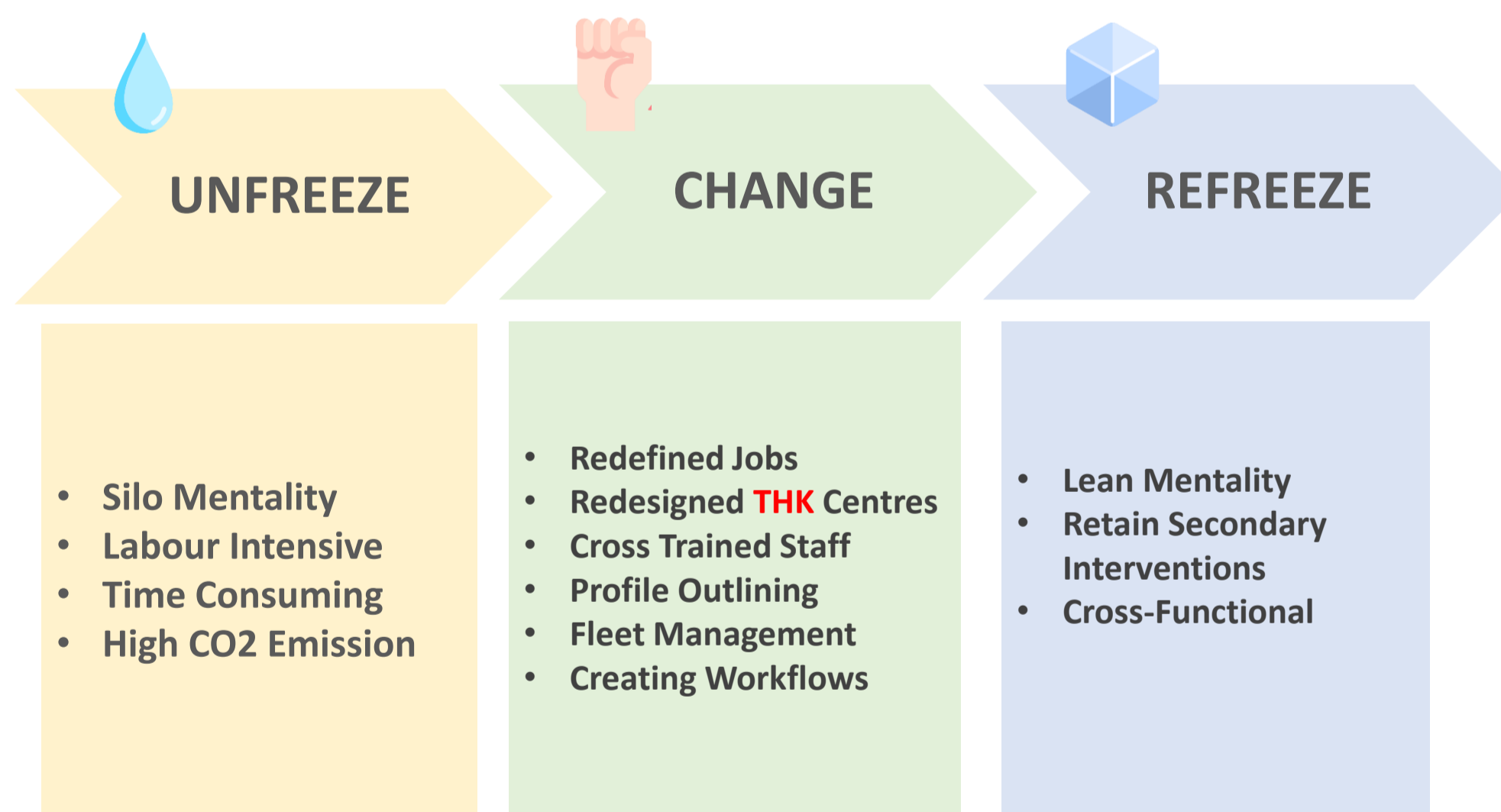
INTERVENTION STRATEGIES

3 KEY THRUSTS

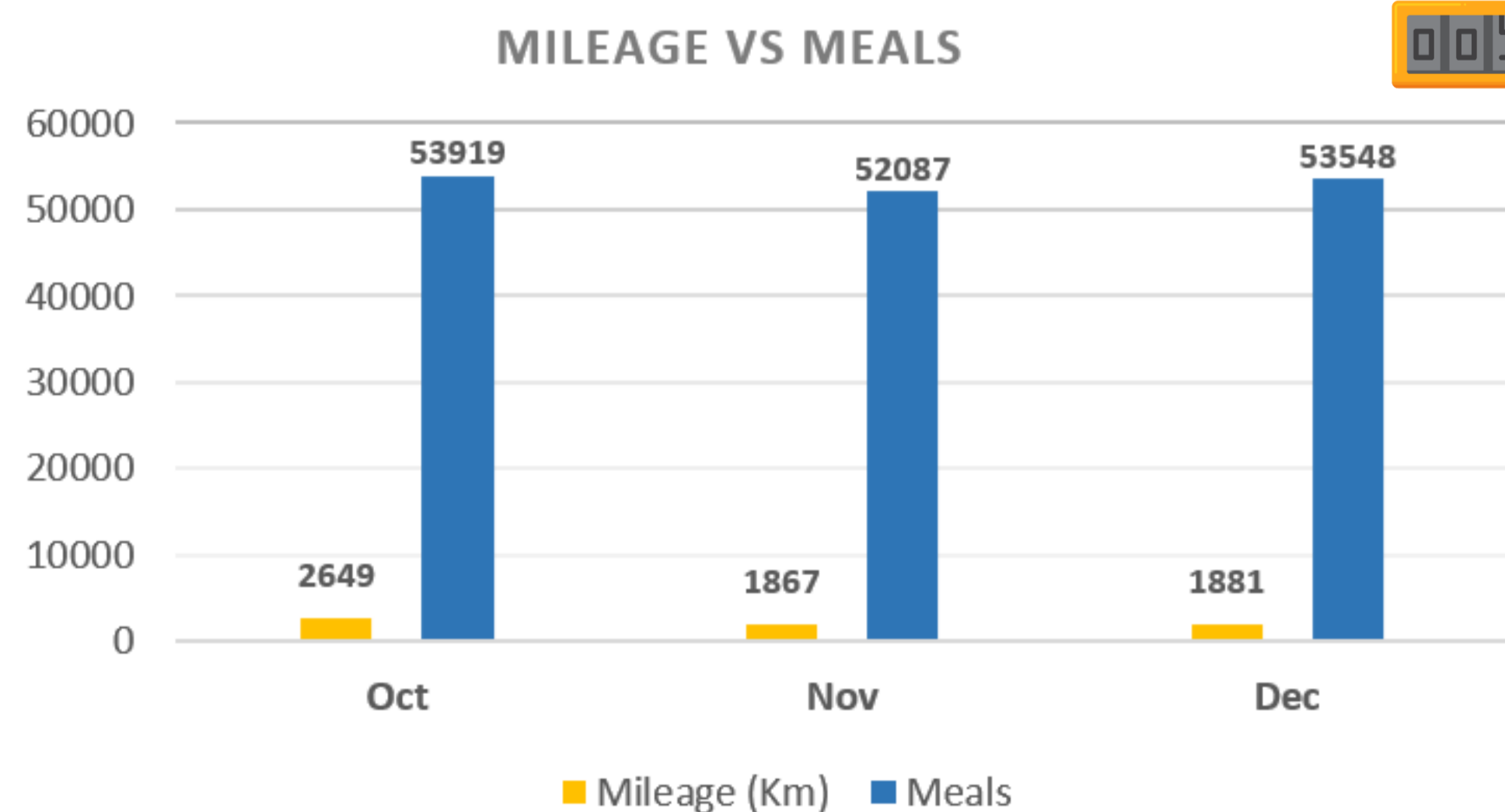
- Performance & Talent Management**
Track KPI to monitor progress and performance of logistics and operations.
- Business Intelligence**
Influence and drive business decisions to target performance and revenue.
- Technology**
Fleet Management System reduces overall operating cost and improves planning and transport efficiency.

RESULTS

Lean Model Approach with increasing Staff's Capabilities & Shared Responsibility

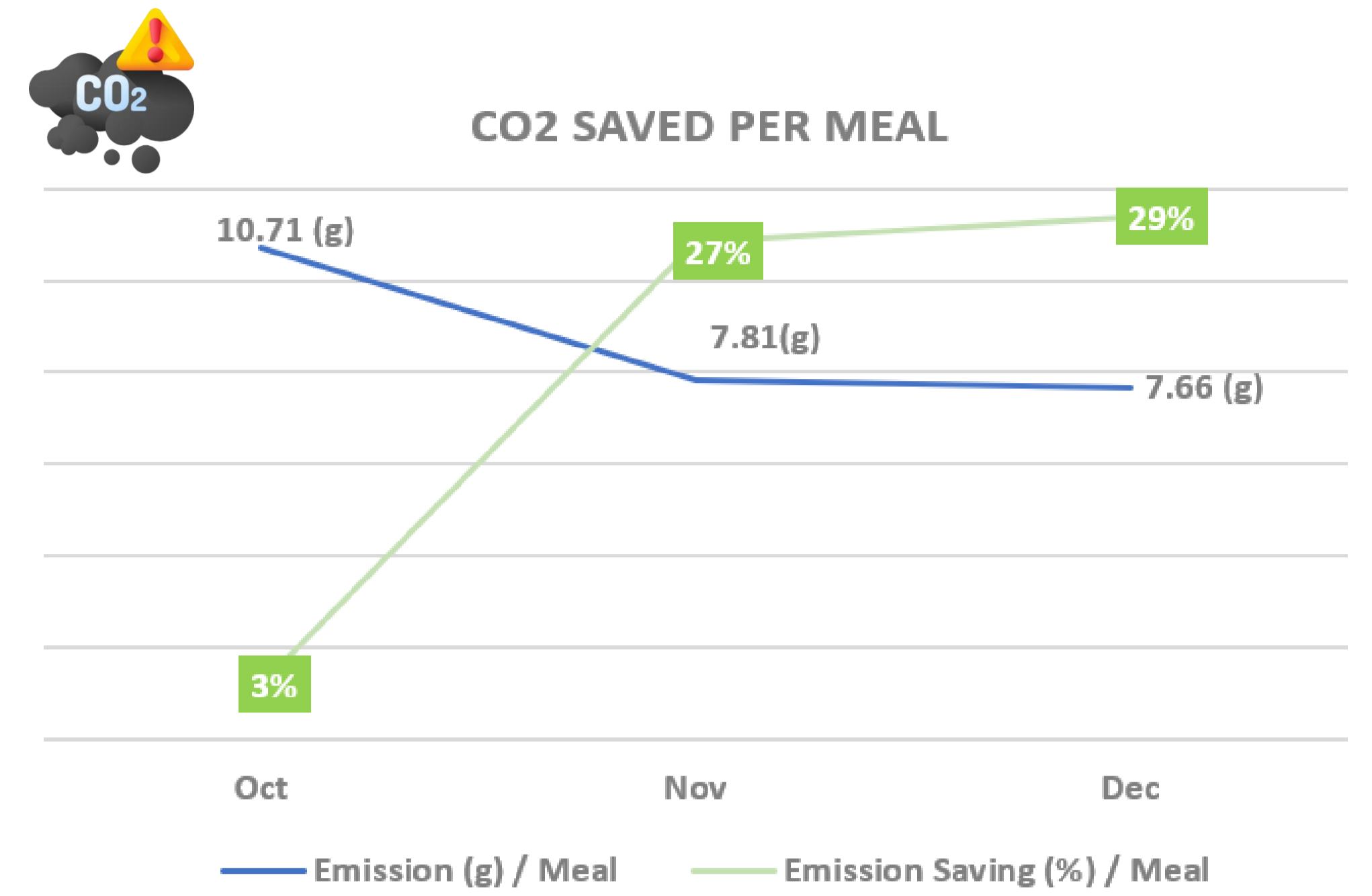


LEWIN'S CHANGE MANAGEMENT MODEL



Up till Oct 2021, MOW services were operating on a higher mileage count due to the lack of resource optimization.

The impact of primary and secondary interventions in the following months has resulted in a **29% decrease in mileage**. We have reduced our mileage travelled by 768km while ensuring that we can cater to the demand of meals across the regions.

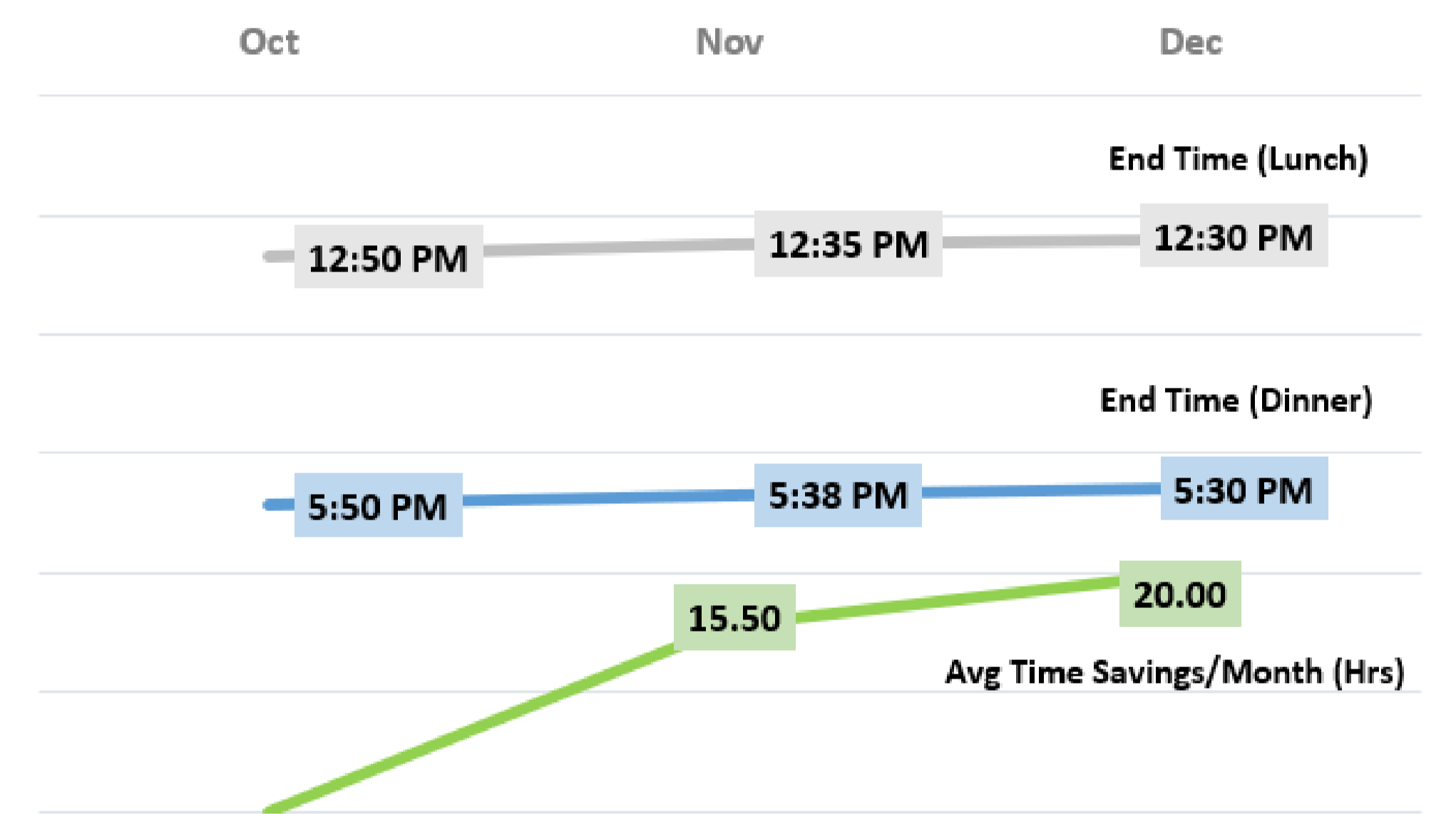


The reduction of mileage across the 3 months has contributed to a **savings of 7.66g of CO2 per meal**. As a result, we have reduced 29% in carbon emissions.

Optimize Operations Efficiency & Build Operational Resilience

The duration of our meal deliveries reported **20 hours of total time saved** per vehicle over 3 months. As a result, our clients received quality meals at a faster speed.

TIME SAVED PER VEHICLE
(VEHICLE # PC2154X)



PERIOD OF 100 DAYS



SUSTAINABILITY & REFLECTIONS

A Greener Value Chain has improved the overall efficiency of the programme through Lean Model approach. At every stage of implementation, our interventions have focused on the elimination of non value-added components, re-engineering of processes and building a cross-functional workforce into the value chain. As a result, we have achieved higher productivity and became more environmentally sustainable.

