



Logistics Tool to Improve Faecal Sludge Management Business Model

Nonthaburi Case Study

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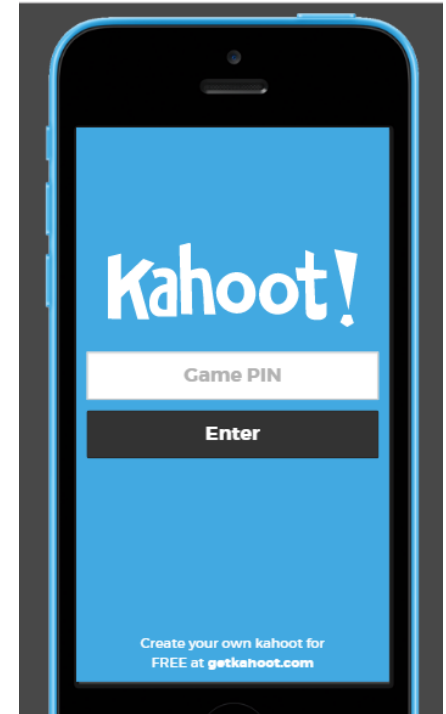
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Hands on

1. In you phone go to www.kahoot.it
2. Game PIN:
3. Answer the question:

Vote for the most recurrent problem during collection and transportation of faecal sludge?

Mechanical (vacuum trucks)



Objective

Identify FSM service aspects that can be improved by using a customized FSM logistic tool

- Pinpoint the C&T service aspects that can be improved
- What is the **FSM C&T service optimization tool**?
- Nonthaburi as a case study
- What's next?

Challenges on FSM service

Customer*

- Sanitation and dumping
- Lower price
- Clean
- Quick response
- Others

Service provider

- Cost O&M
- Monitoring:
 - Collection & disposal
 - FS generation
 - Customers

*Marketing study: 1620 households, Thailand

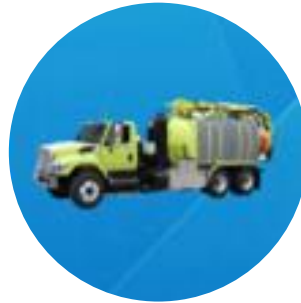


Logistics and optimization Tool For FSM by AIT



ADD CUSTOMERS

Contact data
Address (map)
DEWAT size
Availability



ADD VEHICLE

Identification
Capacity



ADD ORDER

Vehicle availability
Customers



OPTIMIZATION

Best route
and order of
customers

Optimize Order Optimize

Total Number of Route 3

Total Cost 45.45

TRIP NO	PLATE NO	START TIME	END TIME	COST	CUSTOMER
1	1212ฟ๑	08:29:00	10:02...	16.76	2
2	2343๑๗	08:29:00	10:45...	13.58	2
3	1212ฟ๑	11:02:00	12:40...	15.10	1

Display all the trips Display map Display report Finalize order



**Scheduling &
Routing**



**GPS
Location**



Report



Database



**Less fuel
consumption**

Nonthaburi FSM service

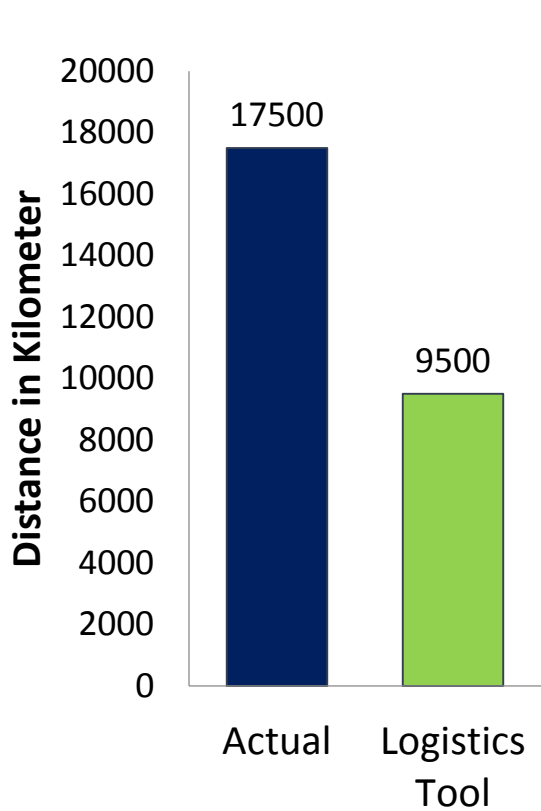
Service to 1800 people

Resources:

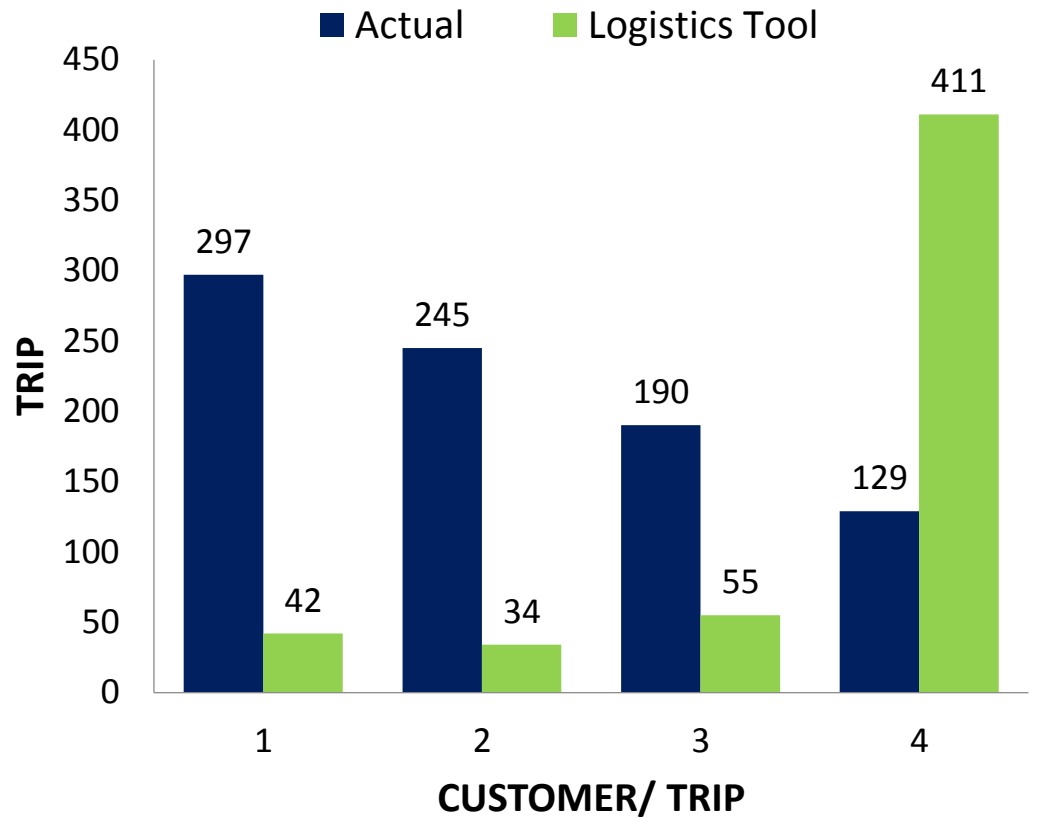
- 4 FS vaccum trucks
- treatment plant of 40m³/day



Performance Test Chart (Nonthaburi)



Total Distance Travelled in 6 months



Assigned Number of Customer/ Trip

Business model for service provider

Key activities

- Semiautomatic customer and truck designation

Key resources

- Software
- Maps
- Trained personnel
- Tracking system

Cost structure

- Setup
- Database management
- Reduction in fuel consumption

Customer relation

- Time

Value proposition

- Schedule - urgent

Key Findings

- Extra stops
- Flexibility on resources
- Data input officer vs user
- Map accuracy
- Data based – potential customers – schedule emptying
- Priority
- Reduction of distance traveled

What is next?

- Mobile application
 - Data input
 - Monitoring real time, quality control
 - FS sensor (illegal discharge)
- Updated maps
- Real time monitoring



Let's test Logistic Tool in your city!

For further information on the **FSM Toolbox** and the **Innovative Sanitation Technologies**

Visit us:

NATS Exhibition Booth



NATS

Side Event:

23rd February, 2017

Sembian Annex



Welcome to

FSM: C&T Service Optimization

Thank you



Order



Customer



Vehicle



Optimization



Job Order



Settings



Help

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