

# MANAGEMENT TRANSPORTATION SYSTEM

Solution by  
**Team 15**  
**2024**



Homepage.....	2
Contribution Evaluation.....	4
Underperformance Plan.....	6
Working Agreement.....	8
Project Plan.....	11
Roles and Responsibilities.....	17
Risk Assessment Matrix.....	22
Persona & Empathy Map.....	28
Product Requirements.....	53
Entities Relationship Diagram (ERD).....	59
Team Member Profiles.....	61
Meeting Notes.....	66



## COS20031 - Computing Technology Design Project

### Description

Transportation Management System (TMS) software solution to streamline and enhance transportation and logistics operations for ITL Logistics Group

### Project Tracker

COS20031

Jira

### Recently updated content

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about 3 hours ago • contributed by [Đinh Việt Phát](#)
- [Entities Relationship Diagram \(ERD\)](#)  
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- [Risk Assessment Matrix](#)  
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- [Product Requirements](#)  
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- [Team Member Profiles](#)  
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### Contributors

This list below will automatically update each time somebody in your space creates or updates content.

[Nguyễn Hoàng Trung](#), [Toan Truong](#), [Đinh Việt Phát](#), [Phung Gia Khang](#), [Lê Nguyễn Thái Sơn](#)



## Homepage

### Welcome to Team 15

Team metrics	
Cycle Time	
Updated Sep 27, 2024	<span style="color: green;">ON TRACK</span>
Defect Density	
Updated Sep 27, 2024	<span style="color: green;">ON TRACK</span>

About	
<p>Welcome to the Homepage of the Software Development Project for the ITL Transportation Management System (TMS). This page provides concise information about our team members, each with their respective role and responsibilities. To support the process of understanding and exploring our project, a Quick Navigation is supplemented with links to corresponding pages. To keep the stakeholders updated about the progress of this project, latest contributions are updated and displayed in the homepage as soon as they are made. In summary, this homepage encapsulates our efforts in designing, developing, and implementing an effective Software Solution for ITL Corporation's TMS needs.</p>	

Meet the team		
 Nguyen Hoang Trung Kai Developer Email: 104772921@student.swin.edu.au Phone Number: +84935890195	 Toan Truong Jimmy Tester/Quality Manager Email: 104995838@student.swin.edu.au Phone Number: +84888309029	 Le Nguyen Thai Son Ray Business Analyst Email: 104991140@student.swin.edu.au Phone Number: +84909820512
 Dinh Viet Phat VeI Scrum Master/Project Coordinator Email: 104999348@student.swin.edu.au Phone Number: +84902958547	 Phung Gia Khang Andy Project Leader Email: 104993612@student.swin.edu.au Phone Number: +84906072005	

### Quick Navigation

- Team Homepage
  - Contribution Evaluation
  - Working Agreement
- Project Plan
- Roles and Responsibilities
- Risk Assessment Matrix
- Persona & Empathy Map
  - Logistic Manager
  - Supply Chain Manager
  - Warehouse Manager
  - Driver
  - Customer
- Product Requirements
- Entities Relationship Diagram (ERD)
- Appendix1: Team Member Profiles
- Appendix 2: Meeting Notes
  - 06/09/2024 - Meeting Note
  - 13/09/2024 - Meeting Note
  - 20/09/2024 - Meeting Note
  - 25/09/2024 - Meeting Note

### Resources

Restrict search to this space's space key.



Where to find us	
 Zalo Group Chat <a href="mailto:1049936162@student.swin.edu.au">1049936162@student.swin.edu.au</a>  (+84) 906072005	

Featured resources	
 <a href="#">Jira Timeline</a>  <a href="#">Request for Proposal</a>  <a href="#">ITL Corporation</a>	

Latest updates	
<b>Recent updates</b>  <a href="#">Persons &amp; Empathy Map</a> <small>about 3 hours ago • contributed by Dinh Viet Phat</small>  <a href="#">Entities Relationship Diagram (ERD)</a> <small>about 3 hours ago • contributed by Toan Truong</small>	

# Contribution Evaluation

**i** This page outlines our guidelines for making individual adjustments to team marks in the case of poorly contributing students.  
Typically, marks are adjusted after a student fails to meet the conditions of a Performance Improvement Plan (PIP).

## Contact your Facilitator if:

- Your team has an issue with a student contributing less than expected.
- You suspect you might be a poorly contributing student
- The number of contributing students in your team is less than 3

	0%	25%	50%	75%	100%
<b>Contributing to the team's work and acquiring the necessary knowledge and skills</b>	Produces no work or only extremely poor-quality outputs filled with errors and lacking basic knowledge or skills. Does not assign themselves to any tasks and consistently requires others to complete their work. Evidence includes no or incomplete Jira tasks, minimal Confluence contributions, and chat group threads showing repeated requests for help. Facilitator observations and interviews indicate a lack of required knowledge, skills, and abilities.	Produces low-quality work that frequently contains errors and shows limited understanding or skills. Rarely assigns themselves to tasks and often relies on significant help from others to complete assigned work. Evidence includes several unfinished or poorly executed Jira tasks, minimal Confluence updates, and frequent requests for assistance in chat threads.	Produces work of varying quality, with occasional errors and some gaps in knowledge or skills. Assigns themselves to tasks but often needs guidance or assistance to complete them. Evidence includes partially completed or corrected Jira tasks, moderate Confluence contributions, and multiple discussions in chat threads seeking clarification.	Produces good-quality work with few errors, demonstrating sufficient knowledge and skills. Regularly assigns themselves to tasks and requires minimal help to complete them. Evidence includes mostly accurate and complete Jira tasks, active Confluence contributions, and minimal reliance on others for help in chat threads.	Produces high-quality work that is error-free and demonstrates strong knowledge and skills. Proactively assigns themselves to tasks and completes them independently. Evidence includes well-executed Jira tasks, detailed and consistent Confluence contributions, and self-reliance with minimal need for assistance. Facilitator and team feedback show high competency and mastery of required skills and knowledge.
<b>Teamwork - keeping the team on track</b>	The individual never meets agreed work deadlines and fails to update the team on progress. They consistently come unprepared for classes and meetings, frequently	Rarely meets deadlines and seldom updates the team on progress. Occasionally unprepared for classes and meetings, with some instances of	Meets some deadlines but frequently requires reminders. Provides updates inconsistently and is sometimes unprepared for meetings. Arrives	Usually meets deadlines and regularly updates the team on work progress. Comes prepared to most classes and meetings, with only occasional tardiness	Always meets deadlines and proactively updates the team on progress. Comes fully prepared to all classes and meetings, always on time, and never

	arriving late or leaving early. Often distracted or doing unrelated tasks during meetings, they repeatedly steer discussions off topic. Evidence includes incomplete Jira tasks, meeting notes documenting absences or distractions, and negative feedback from the team and facilitator.	arriving late or leaving early. Sometimes distracted during meetings and occasionally brings up unrelated topics. Evidence includes sporadic Jira task updates, meeting notes indicating lack of focus, and minor negative observations by the facilitator.	late or leaves early on a few occasions and sometimes drifts off topic during discussions. Evidence includes several incomplete Jira tasks, meeting notes highlighting distractions, and multiple instances of being off-topic noted by the facilitator.	or early departures. Evidence includes consistently completed Jira tasks, meeting notes reflecting active participation, and mostly positive observations by the facilitator.	leaves early. Consistently stay focused and keep discussions on track. Evidence includes complete and well-managed Jira tasks, meeting notes showing strong leadership and positive observations by the facilitator and team members.
<b>Interaction with teammates and quality of work</b>	Does not attend any classes or meetings and is unresponsive to all communication. Displays consistent rude, aggressive, or discriminatory behavior, discouraging and undermining team members. Acts dishonestly and without integrity. Evidence includes meeting notes documenting absence or severe behavior, strong negative feedback from team members, and complete lack of engagement in chat groups. Intervention by facilitator or convenor is usually required.	Rarely attends classes or meetings and often ignores communication. Occasionally uses unprofessional or discriminatory language and offers little encouragement or support to the team. Minor lapses in honesty or integrity. Evidence includes minimal participation in meeting notes, some negative team feedback, and isolated problematic chat group threads.	Attends classes and meetings irregularly and responds to communication slowly. Often uses unprofessional language or makes discouraging remarks, with occasional lapses into discriminatory behavior. Shows limited support or respect towards team members, and there are some instances of dishonesty or lack of integrity. Evidence includes frequent mentions of absence or inappropriate behavior in meeting notes, multiple reports of concern from team members, and several problematic chat group threads. Ratings on relevant CATME dimensions are consistently low.	Regularly attends classes and meetings but may occasionally miss some without notice. Usually responsive to communication, with only rare delays. Generally maintains professional language and behavior, though there may be minor lapses. Shows good respect and support for team members, with overall honesty and integrity. Evidence includes consistent participation noted in meeting records, generally positive feedback from team members, and active involvement in chat group discussions. CATME ratings are mostly positive, with only a few areas needing improvement.	Always attends classes and meetings and is highly responsive communication. Consistently uses professional and encouraging language, demonstrating full respect and support for all team members. Acts with complete honesty and integrity, promoting a positive and inclusive team environment. Evidence includes detailed meeting notes highlighting full engagement, strong consensus among team members about positive behavior, and active, productive involvement in group threads. Receives high CATME ratings in areas and positive observations from facilitators or convenors.



## Underperformance Plan

### ✉ Sample email

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**From:**

**To:**

**CC:**

**Date:**

**Subject:** Performance Improvement Plan

Dear ,

The purpose of this letter is to clarify expectations regarding your role, document performance issues that are preventing you from meeting those expectations, and give you the opportunity to address those issues and raise your performance to a satisfactory level.

Starting on , you are being placed on a performance improvement plan to address the issues outlined below. Over the next days, you must constructively address these concerns and meet all expectations for performance. If you don't make adequate progress or we identify additional problems, we may terminate your employment at .

Review the information outlined below and ask me if you have any questions. I will meet with you regularly to review your progress, offer guidance, and provide feedback on your performance. For your next meeting, please prepare an action plan explaining how you plan to meet the expectations outlined below and what steps you will take during this period to improve your performance.

If you have questions about your performance improvement plan, please feel free to contact me or your HR Business Partner, , at .

---

### ☀ Performance improvement plan for

Expectation	Deficit	Examples
☀ Objective:		
Expectation	Deficit	Examples
		♦ ♦ ♦
☀ Objective:		
Expectation	Deficit	Examples

		• • •
<b>💡 Objective:</b>		

Manager signature	
Employee signature	
Date	

## Working Agreement

### Team Preferences

<b>Team Member</b>	Nguyen Hoang Trung	Dinh Viet Phat	Truong Le Minh Toan	Phung Gia Khang	Le Nguyen Thai Son
<b>Contact Information</b>	104772921@student.swin.edu.au	104999348@student.swin.edu.au	104995838@student.swin.edu.au	104993612@student.swin.edu.au	104991140@student.swin.edu.au
<b>Working location and time zone</b>	Ho Chi Minh City (GMT +7)	Ho Chi Minh City (GMT +7)	Ho Chi Minh City (GMT +7)	Ho Chi Minh City (GMT+7)	Ho Chi Minh City (GMT+7)
<b>Working hours and commitments</b>	7:00 - 23:00 Available all days.	8:00 - 17:00 18:00 - 22:00 Available all days.	8:00 - 24:00, Available all days.	8:00 - 17:00 18:00 - 24:00 Available on all days except Sunday	8:00 - 24:00 Available all days.
<b>Working environment and preferences</b>	I prefer working at home or coffee shop.	Working in the coffee shop or Swinburne library	I prefer working from home and aspiring to learn new technology.	Work from home Meet up at café	Work from home Work at Swinburne library
<b>How I like receiving feedback</b>	I would like to receive feedback immediately.	All constructively negative and positive feedback.	Constructive feedback, clearly deadline defined	I would like to receive constructive criticisms with positive attitudes.	I would like to receive immediately with positive attitudes.
<b>Context about me</b>	I love to explore new technology, and I always support Arsenal.	I am a big fan of Art, Music, Sports, and learning something new.	I have a normal childhood like other kids, growing from the environment where people support together to grow.	I am fond of reading theory-heavy contents of many kinds of topics. I am also into open world games with captivating storyline and interesting characters.	I love watching movie and playing football, and Real Madrid is the team I love.

## 💬 Communication Channels

Channel	Purpose	Audience	Standards
Microsoft Teams	Documentation	Project Team	Follow the naming conventions for file sharing
Instagram	Daily work-related conversation	Project Team	Aim for a 24-hour response time to messages
Zalo	Connecting with the coordinator	Project Team and Coordinator	Avoid using Zalo for project-unrelated discussions

## 📅 Meetings

<b>Objective</b>	<ul style="list-style-type: none"> <li>Meeting and introducing members, voting for leaders</li> <li>Choosing topics</li> <li>Creating Jira, Confluence accounts and creating project</li> </ul>	<ul style="list-style-type: none"> <li>Complete the Team Agreement</li> <li>Complete Team Member Profiles</li> </ul>	<ul style="list-style-type: none"> <li>Complete Persona page</li> <li>Writing meeting note</li> </ul>	<ul style="list-style-type: none"> <li>Complete Project plan, ER Diagram and Empathy map</li> </ul>
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>Gia Khang is the team leader.</li> <li>The topic for the project is Transportation Management System</li> <li>Everyone created their own Jira, Confluence account.</li> </ul>	<ul style="list-style-type: none"> <li>All information in Team Agreement and Team Member Profiles have been filled</li> </ul>	<ul style="list-style-type: none"> <li>Everyone found and finished their personas.</li> <li>All meeting notes were noted.</li> </ul>	<ul style="list-style-type: none"> <li>Everyone finished their empathy maps for each persona.</li> <li>Finalizing every required resource for the Project Proposal Assignment.</li> </ul>
<b>Format</b>	<ul style="list-style-type: none"> <li>Whole team</li> <li>In class</li> </ul>	<ul style="list-style-type: none"> <li>Whole team</li> <li>Offline</li> </ul>	<ul style="list-style-type: none"> <li>Whole team</li> <li>Offline</li> </ul>	<ul style="list-style-type: none"> <li>Whole team</li> <li>Offline</li> </ul>
<b>Who</b>	<ul style="list-style-type: none"> <li>Phung Gia Khang - Team Leader</li> <li>Nguyen Hoang Trung</li> <li>Dinh Viet Phat</li> <li>Le Nguyen Thai Son</li> <li>Truong Le Minh Toan</li> </ul>	<ul style="list-style-type: none"> <li>Phung Gia Khang - Team Leader</li> <li>Nguyen Hoang Trung</li> <li>Dinh Viet Phat</li> <li>Le Nguyen Thai Son</li> <li>Truong Le Minh Toan</li> </ul>	<ul style="list-style-type: none"> <li>Phung Gia Khang - Team Leader</li> <li>Nguyen Hoang Trung</li> <li>Dinh Viet Phat</li> <li>Le Nguyen Thai Son</li> <li>Truong Le Minh Toan</li> </ul>	<ul style="list-style-type: none"> <li>Phung Gia Khang - Team Leader</li> <li>Nguyen Hoang Trung</li> <li>Dinh Viet Phat</li> <li>Le Nguyen Thai Son</li> <li>Truong Le Minh Toan</li> </ul>
<b>Resources</b>	Laptops	Laptops	Laptops	Laptops, White board

<b>How will we show up?</b>	<ul style="list-style-type: none"> <li>• Friendly</li> <li>• Respect each other</li> <li>• Willing to finish all agendas</li> </ul>	<ul style="list-style-type: none"> <li>• Friendly</li> <li>• Respect each other</li> <li>• Willing to finish all agendas</li> </ul>	<ul style="list-style-type: none"> <li>• Friendly</li> <li>• Respect each other</li> <li>• Willing to finish all agendas</li> </ul>	<ul style="list-style-type: none"> <li>• Friendly</li> <li>• Respect each other</li> <li>• Willing to finish all agendas</li> </ul>
<b>How will we manage follow up?</b>	<ul style="list-style-type: none"> <li>• Progress is checked on Jira and Confluence</li> </ul>	<ul style="list-style-type: none"> <li>• Progress is checked on Jira and Confluence</li> </ul>	<ul style="list-style-type: none"> <li>• Progress is checked on Jira and Confluence</li> <li>• Personal tasks were tracked and reminded to the team members through group chat</li> </ul>	<ul style="list-style-type: none"> <li>• Project plan was done by the whole team during a meeting</li> <li>• Empathy map and ER Diagram are divided into individual tasks which are track through Confluence</li> </ul>

## ⬆ Escalation Process

Decider	How	Transparency	Feedback Loop
For day-to-day problems, the project lead is the one our team escalate to	We will add an Issue or Task to Jira	Decision is made with clear explanations and motives shown to the whole team	The stakeholders can follow the process through the Jira pages
For strategic decisions, we will consult the supervisor - Mr. Hang Sam Nang	We either consult him during face-to-face meetings, or through Zalo group chat	Decision making process is made	Escalated decisions are reviewed and learned lessons

## 💡 Continuous Improvement

Purpose	How	Standards
Self-reflecting, peer reviewing and exchanging feedback	1 to 1 Zoom meetings, face-to-face meetings	Constructive feedback, be honest and be responsible.
Sharing lessons learned, research outcome	Face-to-face meetings, Google Meets, text messages	Knowledge is shared by means of a brief presentation
Celebrating success	Feast at restaurant, hangout at billiards club	All members are welcome, but not obliged to come



# Project Plan

<b>Driver</b>	Phung Gia Khang
<b>Approver</b>	Hang Sam Nang
<b>Contributors</b>	Dinh Viet Phat Le Nguyen Thai Son Truong Le Minh Toan Nguyen Hoang Trung Phung Gia Khang
<b>Informed</b>	Indo Trans Logistics Corporation
<b>Objective</b>	To design, develop, implement, and maintain a comprehensive Transportation Software Solution (TMS) for the ITL Logistics Group. The product of this project is planned to optimize and enhance the corporation's operation in transportation and logistics. Resources saving and cost optimization are the core of this project.
<b>Due date</b>	September 29, 2024
<b>Key outcomes</b>	<ul style="list-style-type: none"><li>• Enhance transportation network in terms of visibility, control and report capabilities</li><li>• Optimize utilization of resource and reduce operational costs</li><li>• Provide a scalable and fault-tolerance system</li><li>• Improve the corporation's employees and customers' experience during system operation</li></ul>
<b>Status</b>	IN PROGRESS

## Problem Statement

In the context of complex logistics landscape, ITL Logistics Group faces several challenges in managing its transportation and logistics operations efficiently. The company seeks for a solution to address the issues related to manage resource inefficiencies, rising operational cost, and lack of synchronization in entire operation process. These challenges are compounded by the need to optimize online managing transportation, supply chain, real-time shipment tracking, and streamline order processing.

Key pain points include:

- **Lack of real-time visibility:** Real-time tracking of shipments and inventory management during transportation limits the ITL's ability to respond quickly to delay potential storage, or route disruptions.
- **Inefficient resource utilization:** With the traditional experience of driver and transportation manager in choosing delivery route. They struggle with optimizing route choosing, as well as inefficiently managing carrier assignments, leading to higher operational costs and underutilization of resources.
- **Complex and error-prone invoicing:** Inaccurate billing, resulting from a lack of automation in handling various billing structures for different purpose, delays the invoicing process and affects financial accuracy.
- **Disjointed inventory and warehouse management:** Difficulty in monitoring and managing inventory levels in transit and across warehouses leads to potential shortages and missed fulfillment deadlines, contributing to delay in entire process.
- **Problem of reporting analytic:** ITL Logistics Group encounter difficulty in managing and visualizing statistical data related to transportation performance, costs, and KPIs results in a lack of clear insights. This harm the ability to track and optimize performance, identify trends, and make data-driven decisions, contributing to inefficiencies in the overall logistics process.

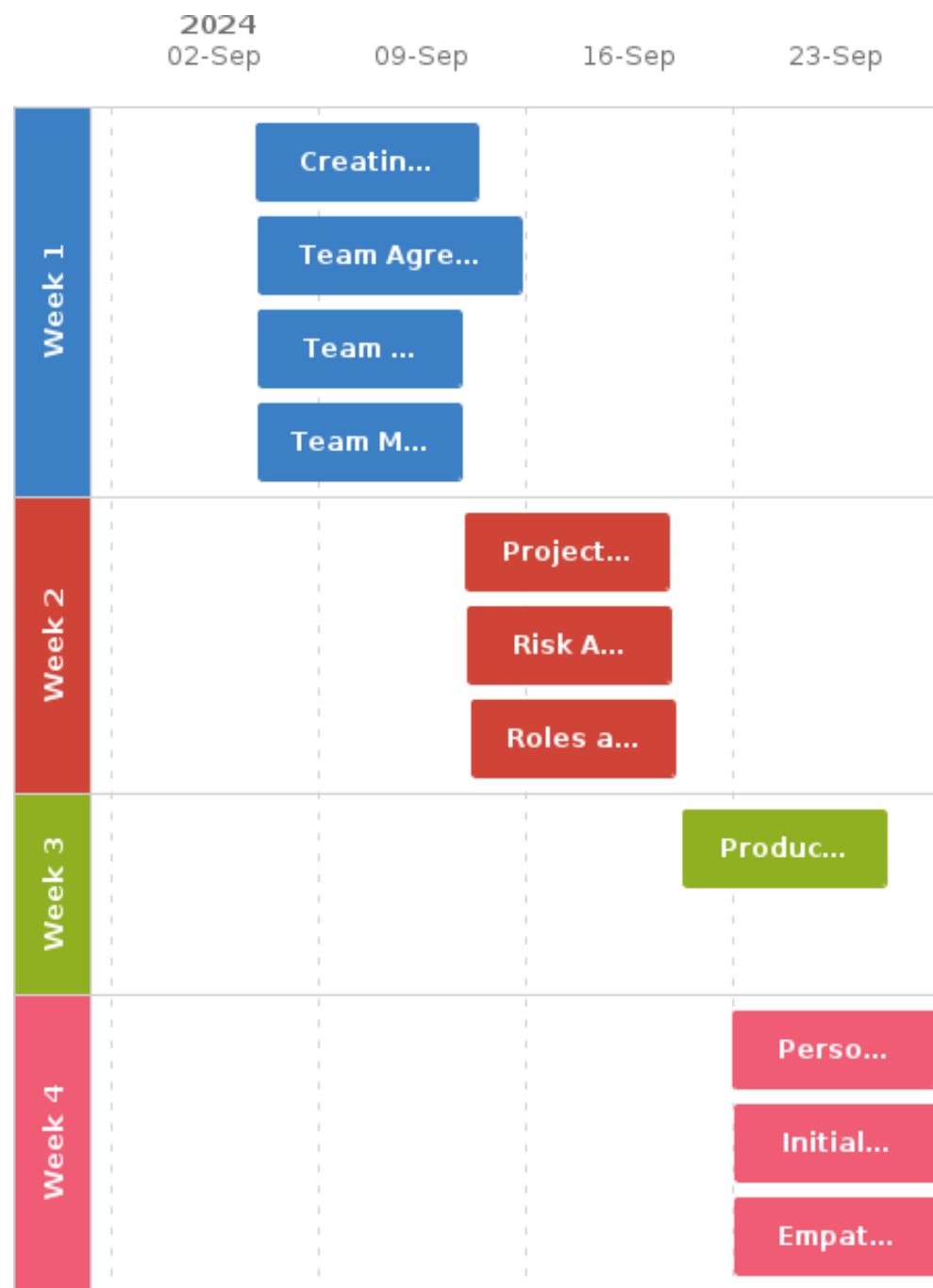
For the above challenges, successful implementation of a comprehensive Transportation Management System (TMS) at ITL Logistics Group will bring several positive results:

- **Enhanced operational efficiency:** By optimizing route planning, supply chain management, and resource utilization, the new system will reduce operational costs and ensure time effective deliveries.
- **Accurate invoicing and financial management:** Automated billing processes will help the company reduce errors, and ensure timely and precise financial reporting.
- **Optimized inventory management:** Regularly tracking of inventory levels in transit and across warehouses will help prevent shortages and missed deadlines, ensuring smoother operations.
- **Data-driven decision-making:** Advanced reporting and analytics capabilities will enable ITL to visualize transportation performance, analyze trends, and make informed decisions, improving overall transportation performance.
- **Scalability for future growth:** By utilizing online platform, allow the ITL's growing business needs. The TMS gives them a flexible solution that can adapt to the increasing in demand and expanding scale of operations.

## Scope

<b>Must have:</b>	<ul style="list-style-type: none"><li>• Order Management</li><li>• Carrier Management</li><li>• Inventory Management</li><li>• Route Planning and Optimization</li><li>• Design and Development</li><li>• Documentation</li><li>• Support and Maintenance</li><li>• Testing and Quality Assurance</li><li>• Training staff</li></ul>
<b>Nice to have:</b>	<ul style="list-style-type: none"><li>• Sustainability Tracking</li><li>• Blockchain for Shipment Security</li><li>• Predictive Analytics for Shipment Delays</li><li>• Customer Self-Service Portal</li></ul>
<b>Not in scope:</b>	<ul style="list-style-type: none"><li>• Human Resources Management</li><li>• Third-Party Fleet and Driver Scheduling</li><li>• Virtual Reality (VR) Training Systems</li></ul>

## 📅 Timeline



## Work Breakdown Structure (WBS)



## ▶ Milestones and deadlines

	Milestone	Owner	Deadline	Status
Project Proposal	Join Jira, Confluence, and Atlassian	Everyone	Sep 8, 2024	DONE
	Create Team Agreement	Everyone	Sep 8, 2024	DONE
	Create Team Member Profiles	Everyone	Sep 8, 2024	DONE
	Create Team Homepage	Khang, Trung	Sep 8, 2024	DONE
	Create Risk Management Matrix	Phat	Sep 15, 2024	DONE
	Create Project Plan	Everyone	Sep 15, 2024	DONE
	Create Roles and Responsibilities	Son, Toan	Sep 15, 2024	DONE
	Create Product Requirements	Everyone	Sep 22, 2024	DONE
	Create Personas	Everyone	Sep 29, 2024	DONE
	Create Empathy Map	Everyone	Sep 29, 2024	DONE
Project Progress	Create Initial ER Diagram	Everyone	Sep 29, 2024	DONE
	System Design	Everyone	Oct 13, 2024	IN PROGRESS
	Core Module Development	Khang, Son	Oct 20, 2024	IN PROGRESS
	Frontend Development	Trung, Phat	Oct 20, 2024	IN PROGRESS
Final Report	Testing Quality Assurance	Toan	Nov 10, 2024	IN PROGRESS
	Deployment and User Training	Everyone	Nov 23, 2024	IN PROGRESS
	Updating	Everyone	Nov 30, 2024	IN PROGRESS

## 🔗 Reference materials

- [Empathy Map vs Persona: What's the Difference and Why You Need Both](#) ([userpilot.com](#))
- [FlexTrade Revolutionizes Digital Trading with AWS | Amazon Web Services](#) ([youtube.com](#))
- [Data Flow Diagrams \(DFDs\)](#) ([youtube.com](#))
- [Product Lifecycle vs. Project Lifecycle | Firebrand Learn](#)



## Roles and Responsibilities

### 📋 Overview

Identify and discuss team responsibilities by following the instructions for the [Roles and Responsibilities Play](#).

<b>Team</b>	Team 15
<b>Team members</b>	Nguyen Hoang Trung, Dinh Viet Phat, Truong Le Minh Toan, Phung Gia Khang, Le Nguyen Thai Son
<b>Date</b>	Sep 13, 2024
<b>Team mission</b>	Our team's mission is to create a project for the COS20031 course, aiming to improve the efficiency and effectiveness of transportation and logistics operations in a business.

### 📘 Roles and responsibilities

Name	Roles	Responsibilities	Characteristics (make you suitable for the role)	Skills (that you have)
Phùng Gia Khang	Project Manager, Team Leader	<ul style="list-style-type: none"> <li>• Keep track of the schedules and maintain project plans</li> <li>• Representing the needs of many stakeholders in the Product Backlog</li> <li>• Maximizing the value of the product from the work of all team</li> <li>• Conducting and coordinating project meetings and team's discussion</li> <li>• Managing the Product Backlogs (including creating, ordering, ensuring transparent, visible and understood)</li> <li>• Developing the Product Goal and making it clear to</li> </ul>	<ul style="list-style-type: none"> <li>• Responsible: represent the whole team, and take responsibility for any mistake the team has</li> <li>• Patient and tolerant: able to take criticisms and complaints from stakeholders and customers</li> <li>• Empathetic: build trust and strong relationships to motivate team members</li> <li>• Optimistic and positive: remain calm in harsh situations and motivate the team</li> </ul>	<ul style="list-style-type: none"> <li>• Technical knowledge: understanding of SDLC, programming skills, and project management tools like Jira, Confluence, Bitbucket</li> <li>• Backlog prioritization, to managing task and assign to members</li> <li>• Time management and organization</li> </ul>

		team members	<ul style="list-style-type: none"> <li>• Visionary and decisive: make well-informed, long-term decisions on behalf of the team</li> </ul>	<ul style="list-style-type: none"> <li>• Problem solving and decision making</li> <li>• Ability to handle stresses and pressures</li> <li>• Skilled in negotiating and conflict solving</li> <li>• Risk management</li> </ul>
Đinh Việt Phát	Scrum Master, Project Coordinator	<ul style="list-style-type: none"> <li>• Leading and training team for adopting Scrum framework</li> <li>• Maintain relationship between stakeholders and team</li> <li>• Helping team with managing Product Backlog items, Product Goal definition, achieving Definition of Done</li> <li>• Advising implementations of Scrum for the team to solve the problem</li> <li>• Coaching members about self-management and cross-functionality</li> <li>• Ensuring the Scrum events follow the timebox</li> </ul>	<ul style="list-style-type: none"> <li>• Neutral and objective: encourage the team to progress without taking sides in discussion</li> <li>• Transparency: make sure the everything related to the project is visible to the stakeholders</li> <li>• Patient and enthusiastic: Patience when convincing the supplier and partner</li> <li>• Detail-oriented: make sure all tasks are complete, all risks are managed and nothing is overlooked</li> <li>• Assertive: Confidently expresses needs and expectations, ensuring that team objectives are met without being overly aggressive</li> </ul>	<ul style="list-style-type: none"> <li>• LinkedIn certificate in Planning and Releasing software with Jira</li> <li>• LinkedIn certificate in Agile Software Development: Scrum for Developers</li> <li>• Mastering project management tools</li> <li>• Real-life experience in coaching and tutoring</li> <li>• Managing and understanding Scrum Project, Agile methodologies in Jira and Confluence, Bitbucket</li> <li>• Fluency in communication and solving conflicts</li> <li>• Professional time management, skilled at setting milestones and handling time-critical issues</li> </ul>

Nguyễn Hoàng Trung	Developer	<ul style="list-style-type: none"> <li>• Developing the software solutions and system architects for the problem</li> <li>• Develop clean, efficient, and maintainable code.</li> <li>• Reviewing code and provide constructive feedback to other members</li> <li>• Researching for innovative approach and best practice for solving problem</li> <li>• Following the Definition of Done, to adapt with the Sprint Goal</li> <li>• Creating plan for completing Sprint Backlog</li> </ul>	<ul style="list-style-type: none"> <li>• Responsible: Holding each other accountable as professionals.</li> <li>• Time management: Ability to manage several projects and tasks, adhere to deadlines.</li> <li>• Adopting new technologies: optimizing the system by using advanced technologies</li> <li>• Attention to detail: avoiding making mistake and developing from the basis of things</li> <li>• Adaptable: adapting with different kind of available approaches for choosing the optimize ones.</li> </ul>	<ul style="list-style-type: none"> <li>• Mastering PHP, Python, JavaScript coding</li> <li>• Mastering building the cloud architecture (using AWS, Azure, and Google Cloud)</li> <li>• Experience with SQL and NoSQL databases, as well as knowledge of database design and optimization.</li> <li>• Mastering of applying software design pattern (singleton, factory, observer, facade...)</li> <li>• Strong understanding of data structures (e.g., arrays, lists, trees, graphs....) and algorithms for optimizing code suiting for project requirements.</li> <li>• Proficient in a wide range of coding paradigms (OOP, functional, procedural...)</li> <li>• Version control application (Github, bitbucket)</li> </ul>
Trương Lê	Quality Manager,	<ul style="list-style-type: none"> <li>• Designing and executing test plans to ensure product</li> </ul>	<ul style="list-style-type: none"> <li>• Visionary Thinking: See the bigger</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to lead and motivate a</li> </ul>

Minh Toàn	Tester	<p>quality</p> <ul style="list-style-type: none"> <li>• Conducting functional, non-functional, and regression testing</li> <li>• Reporting bugs and collaborating with the development team to fix issues</li> <li>• Verifying that features meet the Definition of Done and adhere to product requirements</li> <li>• Maintaining testing documentation and providing feedback for continuous improvement</li> <li>• Participating in Sprint planning and retrospective meetings to address quality concerns</li> </ul>	<p>picture and align quality processes with the company's long-term goals.</p> <ul style="list-style-type: none"> <li>• Problem Solver: Quickly identify issues, evaluate options, and implement effective solutions that improve quality processes.</li> <li>• Organized and Systematic: Manage multiple tasks effectively, from audits to implementing quality improvements, ensuring nothing falls through the cracks.</li> <li>• Good Written Communication: Clearly document test cases, bugs, and reports in a way that developers and other stakeholders can easily understand.</li> <li>• Analytical Mindset: Approach testing with a problem-solving attitude, able to break down complex systems to find issues.</li> </ul>	<p>team to ensure quality goals are met.</p> <ul style="list-style-type: none"> <li>• Proficiency in executing both manual tests and developing automated testing scripts.</li> <li>• Automation tools (e.g., Selenium, JIRA, or TestRail) and bug-tracking software.</li> <li>• Analytical skills to resolve quality issues and implement corrective actions.</li> <li>• Mastering of unit testing (JUnit or PyTest,...) and performance testing.</li> <li>• Strong understanding of Agile and Scrum methodologies to work efficiently within sprint cycles.</li> </ul>
Lê Nguyễn Thái Sơn	Business Analysis	<ul style="list-style-type: none"> <li>• Gathering and documenting business requirements from stakeholders</li> <li>• Identifying stakeholders, sketching persona</li> <li>• Analyzing and translating business needs into technical specifications</li> <li>• Conducting market research and feasibility studies to support project decisions</li> <li>• Collaborating with the development team to</li> </ul>	<ul style="list-style-type: none"> <li>• Good communication: communicate with the stakeholders and team members</li> <li>• A problem solver: Solving the problem of the business with optimize solutions.</li> <li>• Critical thinking: Identifying stakeholders, translating business requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Market research for searching to different aspects of business, the product and the customers</li> <li>• Proficiency in analyzing data sets, trends, and metrics to support business decisions (using Excel, SQL, or data</li> </ul>

	<ul style="list-style-type: none"> <li>• ensure business requirements are met</li> <li>• Providing insights and recommendations to improve and avoiding risk of business processes</li> <li>• Facilitating communication between stakeholders and the development team</li> </ul>	<ul style="list-style-type: none"> <li>• Decision-making: making decision for fulfill the problem of business</li> </ul>	<ul style="list-style-type: none"> <li>• visualization tools).</li> <li>• Ability to negotiate requirements, priorities, and deadlines between stakeholders and development teams.</li> <li>• Basic understanding of system architecture, software development lifecycle (SDLC), and database management to bridge the gap between business and technical teams.</li> <li>• Strong technical writing skills to produce clear and comprehensive documentation, such as functional specifications, user stories, or business case reports.</li> </ul>
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## Risk Assessment Matrix

- i** The Risk Management page acts as the detailed information book of risks in this system to comprehend and alleviate possible obstacles within the project. Besides, this page pinpoints and classifies each risk, assigning them a rating according to their potential consequences and likelihood. Moreover, it delineates the project's background and emphasizes the importance of proficient risk management. Finally, it furnishes an action plan to actively deal with and resolve identified risks, guaranteeing seamless project advancement with minimal interruptions.

### Background

In the scope of ITL Corporation's endeavor to implement a comprehensive Transportation Management System (TMS), conducting a thorough risk assessment stands as a crucial factor for the project's success. The TMS is designed to oversee various logistics facets, including order tracking, carrier management, route optimization, and real-time shipment monitoring. It is imperative that this system seamlessly integrates with ITL's existing ERP and CRM systems, all while upholding scalability, security, and compliance with transportation regulations.

Potential risks encompass challenges related to system integration, scalability limitations, and external threats like regulatory modifications or dependencies on GPS and traffic data from third parties. Furthermore, ITL must address financial risks such as cost overruns, along with operational risks like stakeholder misinterpretation and data inaccuracies. Effectively managing these risks is paramount in bolstering ITL's logistical efficiency and ensuring that the project stays aligned with its long-term strategic objectives.

### Risks management

Identify and prioritize risks based on their probability and severity. Then define what further actions you need to take to control the risks, and who needs to carry out these actions.

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## Risk list

This is a list of all risks in Transportation Management System (TMS) solution for ITL Corporation company.

	<b>Risk</b>	<b>Risk description</b>	<b>Risk Categories</b>
1	<b>System Integration Issues</b>	High risks when integrating the TMS with existing ERP and CRM because of different data structures and formats, data synchronization,.....	<b>Technical Risks</b>
2	<b>Scalability Concerns</b>	If the TSM can not scale efficiently as the high volume of transactions and data because of growing demands, this will lead to slower processing, system crashes, or longer response times,....	
3	<b>Data Loss or Corruption</b>	When the system error, some important transactions or data of shipment, inventory, routes,.. can be lost or corrupted. This may occur due to software bugs or hardware failures,....	
4	<b>Security Vulnerabilities</b>	The hacker can exploit vulnerabilities and expose sensitive customer or logistics data. This will result in financial and legal consequences.	
5	<b>Unoptimized System Performance</b>	An unoptimized logistics system poses risks such as delays in order processing, route planning, and tracking, ultimately leading to decreased efficiency and customer satisfaction.	
6	<b>Time Management</b>	Team members can not manage the time of deadline, this causes the delay in the project	<b>Project Management Risks</b>
7	<b>Lack of Resource</b>	Lack of critical human resources such as developers, analysts, or hardware can lead to a delay of the project	
8	<b>Lack of Participation</b>	Team members have not shared their ideas to contribute to the project, resulting in a lack of utilization of good ideas and potentially missing out on valuable insights.	
9	<b>Unequal Distribution of Work</b>	Unequal distribution of tasks within a team can create a situation where some members feel overwhelmed, while others may not be contributing adequately. This imbalance can compromise the overall quality and efficiency of the project.	

10	<b>Stakeholder misunderstanding</b>	Misunderstandings among stakeholders about the project can cause low or misguided decisions.	
11	<b>Scope Creep</b>	The features and functions of the project keep expanding beyond the original plan. This may result in overspending, missing deadlines,....	
12	<b>System Downtime</b>	System crashes can disrupt logistics operations, transactions, and cause revenue loss,....	<b>Operational Risks</b>
13	<b>Data Inaccuracy</b>	The employees can input incorrect or incomplete data into the system that lead to operational inefficiencies of route planning,....	
14	<b>Bad User Interface and Experience</b>	This risk can arise from inadequately designed or unintuitive user interfaces, resulting in inefficiencies during application use and operational delays,....	
15	<b>Cost overruns</b>	This risk is the result from unanticipated technical issues or extended project timelines. Besides, Inaccurate budget planning can also increase costs	<b>Financial Risks</b>
16	<b>Law enforcement</b>	Changing the law of transportation could lead to additional compliance requirements,....	<b>External Risks</b>
17	<b>Financial movements</b>	Inflation, fluctuations in currency exchange rates, and other relevant factors necessitate the update of data in the TSM model.	

## Risk rating

LOW	MEDIUM	HIGH	EXTREME
<ul style="list-style-type: none"> <li>• Acceptable</li> <li>• Ok to proceed</li> </ul>	<ul style="list-style-type: none"> <li>• As low as reasonably practicable</li> <li>• Take mitigation efforts</li> </ul>	<ul style="list-style-type: none"> <li>• Generally unacceptable</li> <li>• Seek support</li> </ul>	<ul style="list-style-type: none"> <li>• Intolerable</li> <li>• Place event on hold</li> </ul>

LIKELIHOOD	SEVERITY			
	ACCEPTABLE <i>Little to no effect on event</i>	TOLERABLE <i>Effects are felt, but not critical to outcome</i>	UNDESIRABLE <i>Serious impact to the course of action and outcome</i>	INTOLERABLE <i>Could result in disaster</i>
<b>IMPROBABLE</b> <i>Risk is unlikely to occur</i>		<ul style="list-style-type: none"> <li>• Data Loss or Corruption</li> </ul>		<ul style="list-style-type: none"> <li>• System Downtime</li> <li>• Scalability Concerns</li> <li>• Financial movements</li> <li>• Law enforcement</li> </ul>
<b>POSSIBLE</b> <i>Risk will likely occur</i>	<ul style="list-style-type: none"> <li>• Lack of Resource</li> </ul>	<ul style="list-style-type: none"> <li>• Time Management</li> </ul>	<ul style="list-style-type: none"> <li>• Unoptimized System Performance</li> <li>• Unequal Distribution of Work</li> </ul>	<ul style="list-style-type: none"> <li>• Scope Creep</li> <li>• Cost overruns</li> </ul>
<b>PROBABLE</b> <i>Risk will occur</i>	<ul style="list-style-type: none"> <li>• Bad User Interface and Experience</li> <li>• Lack of Participation</li> </ul>	<ul style="list-style-type: none"> <li>• Data Inaccuracy</li> </ul>	<ul style="list-style-type: none"> <li>• Stakeholder misunderstanding</li> </ul>	<ul style="list-style-type: none"> <li>• System Integration Issues</li> </ul>

## Action items

After risks rating, we formulated a series of strategies aimed at effectively managing and reducing all risks to the greatest extent possible.

### **1: System Integration Issues:**

- Conduct a thorough analysis of existing ERP and CRM data structures
- Implementing robust data mapping strategies is essential
- Using API solutions to facilitate data synchronization

### **2: Scalability Concerns:**

- Implementing a cloud-based infrastructure is crucial for enabling scalability such as AWS, Google Cloud, AZURE
- Regularly testing load performance for preparing the increased demand
- Plan for updating and expanding the system to accommodate future growth

### **3: Data Loss or Corruption:**

- Creating a backup data storage system.
- Implementing automated backups at regular intervals.
- Regularly conducting system audits is crucial for early detection of potential issues.

### **4: Security Vulnerabilities**

- Implementing end-to-end encryption for all sensitive data
- Installing intrusion detection systems and firewalls.
- Regularly conducting security audits and vulnerability assessments is important.

### **5: Unoptimized System Performance**

- Implementing load balancing and resource (pictures, video, transactions,...) allocation optimization.
- Optimizing algorithms for route planning and inventory management.
- Regularly monitor system performance on key features of logistics and identify bottlenecks.

### **6: Time Management**

- Tasks are not completed on time, causing project delays.
- Additional tasks added without timeline adjustment.
- Too many high-priority tasks cause delays.

### **7: Lack of Resource**

- Not having enough team members to handle workload.
- Not enough or outdated equipment to perform tasks effectively.
- Resources are not allocated effectively across tasks or projects.

### **8: Lack of Participation**

- Fostering a friendly and supported project environment where every opinion is valued.
- Encouraging team members to share ideas through meetings or collaboration tools.
- Establishing a well-defined deadline plan to ensure everyone stays on course with their assigned tasks and responsibilities.

### **9: Unequal Distribution of Work**

- Ensuring clear role descriptions
- Assigning tasks based on individual skills and managing the tasks on project management tools such as Confluence, Jira,...
- Promoting collaboration and teamwork to ensure that all team members contribute equally

### **10: Stakeholder misunderstanding**

- Development of features that do not meet stakeholder needs.
- Confusion about project goals and deliverables.

- Lack of feedback can lead to unresolved misunderstandings.

#### **11: Scope Creep**

- Defining a clear scope and project requirements at the start of the project and carefully analyze any revisions that may arise during the project lifecycle.
- Stick to the project plan or proposal and avoid adding non-critical features.
- Regularly review the scope and requirements with the team member and stakeholders.

#### **12: System Downtime**

- Immediate shutdown of systems and potential data loss.
- Mistakes during system updates or configurations causing downtime.
- Dependence on third-party services leading to unplanned downtime.

#### **13: Data Inaccuracy**

- Implementing data validation rules and automated data entry checks enhances the accuracy and reliability of data inputs.
- Regularly conducting audits and maintenance on the database to pinpoint and rectify any inaccuracies present.
- Utilizing machine learning algorithms to identify and address data anomalies promptly.

#### **14: Bad User Interface and Experience**

- Conducting user experience (UX) testing during the development phase.
- Offering training, resources, and a comprehensive guide to help users gain a better understanding of the system.
- Updating the system's new versions based on user feedback to enhance the interface.

#### **15: Cost overruns**

- Developing a comprehensive project budget is essential for effective financial planning and ensuring to include precise cost estimates for every phase of the project.
- Utilizing a change management process to assess the cost implications of any new requests.
- Creating backup funds to handle unexpected expenses effectively.

#### **16: Law enforcement**

- Stay informed about the latest transportation and logistics regulations.
- Regular legal reviews and compliance audits should be conducted consistently.
- Collaborating with legal experts to ensure the timely implementation of necessary system changes.

#### **17: Financial movements**

- Regularly monitor inflation rates, currency fluctuations, and financial markets to stay informed and make informed decisions.
- Employing financial forecasting tools for anticipating and alleviating the repercussions of economic fluctuations.
- Preparing the backup plan to lessen the effect of economic fluctuations.



## Persona & Empathy Map

### Persona - Logistic Manager

Persona name	Tran Tuan Anh (Ben Anh)
Persona role	Logistic Manager
Job description	Mr. Ben Anh is responsible for leading the department of logistics and supply chain. In addition, his key tasks include identifying and implementing ways to optimize the strategic planning of transportation route development, building long-lasting relationships with both international and domestic third-party logistics companies, conducting contract negotiations, and optimizing the routine depending on costs and the logistics ecosystem. Furthermore, Ben must make decisions to address external crisis situations like supply chain distribution disruptions and regulatory changes, all while focusing on enhancing sustainability and profitability. Lastly, he also focuses on implementing new technology techniques to optimize profits and keep up with global trends in this industry.

### 🏢 Company

Company name	Indo Trans Logistics Corporation
Company size	201-1500 employees
Industry	Logistics Management, Supply Chain Management (SCM), and Storage

### 👤 Demographic information

Age	52
Gender	Male
Income	from \$1500 to \$2000 per month / around \$20,000 per year
Education level	Master of logistics and supply chain management from IU university
Residential environment	Metropolitan

### ✍️ Personal quote

“Creating value for the Logistics industry is ITL goal” - Ben Anh

## Biography

Mr. Ben Anh, born into an educated family in Ho Chi Minh City, had easy access to abundant resources for his education and knowledge acquisition. After he graduated with a master's degree in Logistics and Supply Chain Management from IU University, he had an internship at ITL Corporation, where he took on the role of demand-supply planning. Through his hard work, dedication, and passion for this industry, he has now attained the position of Logistic Manager at the company with the dream of driving Vietnam's logistics industry forward and making the ITL Corporation the country's first billion-dollar logistics firm by 2029.

Professional goals	Motivators
<ul style="list-style-type: none"><li>• Strengthening ITL's position as the leader in Vietnam's fragmented logistics market</li><li>• Building new logistics infrastructure and ecosystem related to aviation, warehousing, cold chain,...</li><li>• Apply new and innovative technologies ideas or solutions for logistic management such as automated warehousing, real-time tracking,....</li></ul>	<ul style="list-style-type: none"><li>• Making the ITL Corporation one of the best logistics companies in Vietnam</li><li>• Passion for jobs in the logistics and supply chain industry</li><li>• Having high social status and being respected by family, colleagues and friends</li><li>• Having a high income for a comfortable life</li></ul>
Challenges	Sources of information
<ul style="list-style-type: none"><li>• Managing the high logistic cost to optimize the profit and increase the competitiveness in the global marketplace.</li><li>• Lack of human resources having knowledge and skills of this industry.</li><li>• Intense competition from both local and international firms.</li><li>• The increasing demand of customers such as flexibility, agility and optimal service from logistics companies.</li></ul>	<ul style="list-style-type: none"><li>• LinkedIn posts from ITL Corporation provide insights of the logistics sector in the company.</li><li>• Ben regularly reviews logistics reports from McKinsey, DHL, and <i>Vietnam Logistics Review</i> to stay updated on trends and innovations.</li><li>• He attends events like the <i>Vietnam Logistics Forum</i> to connect with industry leaders and keep up with advancements.</li><li>• Ben analyzes ITL's logistics performance metrics to guide strategy and improve efficiency.</li></ul>

## Customer Interview - Logistic Manager

Date of interview	Sep 20, 2024
Interviewers	Dinh Viet Phat
Customer name	Tran Tuan Anh (Ben Anh)
Customer contact info	(84-8) 3948 6888
Company name	Indo Trans Logistics Corporation



### Top takeaways

- Cost Management & Profit Optimization with route optimization and strategic partnerships
- Exciting Technologies in TMS model: He is particularly excited about integrating **AI-driven route planning, shipment tracking, and predictive analytics**

- Key Performance Metrics: On-time delivery, cost per shipment, and inventory turnover are the most valuable metrics for assessing logistics performance and ensuring customer satisfaction and profitability.

## Background

### ▼ Interview questions and answers

- Q1: What are the biggest challenges you face when managing the high logistics costs while optimizing profit?
  - Mr. Ben Anh's answer: "One of the major challenges in effectively managing high logistics costs while maximizing profits involves striking a balance between efficiency and cost control. For example, factors such as escalating fuel prices, lack of human resources, and unpredictable demand frequently drive up operational costs, posing a challenge to optimize profitability. Moreover, guaranteeing prompt deliveries while minimizing transportation expenses necessitates meticulous route optimization and real-time tracking systems. So, we believe your transportation management system solution will help us solve this problem. Moreover, we also have a plan to forge strategic partnerships to reduce carrier expenses. Finally, maintaining a seamless inventory management system to prevent stockouts or excess inventory introduces another layer of complexity."
- Q2: What new technologies are you excited about in the TMS model, and how do you plan to implement them at ITL?
  - Mr. Ben Anh's answer: "For the TMS model, I am enthusiastic about the integration of AI-powered route optimization, real-time IoT-based shipment tracking, and predictive analytics. AI will improve route planning by taking into account real-time data such as traffic and weather, optimizing for cost-efficiency and delivery speed. Moreover, some technologies like GPS and RFID will enable real-time tracking, so we can make immediate operational adjustments if the driver has problems. Besides, predictive analytics will aid in forecasting demand and optimizing resource utilization to prevent inefficiencies. Our strategy involves a phased implementation of these technologies, commencing with AI and tracking technologies trials, followed by a gradual expansion across ITL's complete logistics network."
- Q3: What performance metrics do you find most valuable in assessing ITL's logistics operations?
  - Mr. Ben Anh's answer: "Some of the important metrics that are central to the appraisal of the logistics operations of ITL include the delivery rate, on-time performance data, cost per shipment, and return on inventory ratio. The delivery rate enables us to check how many orders within a given period and to ascertain how effective the delivery routes through the customer satisfaction index. Moreover, on-time delivery data holds significant importance in ensuring customer satisfaction, as delays can signal operational shortcomings. Besides, on the cost analysis per shipment, we will understand the profitability of a business, ensuring that every shipment is worth more than the total costs incurred in the process. Finally, I focus on the return on inventory ratio and carrier metrics to optimize inventory levels and enhance carrier relationships for better service quality and efficiency at lower costs."

## Use cases

With our product, the logistic manager (Mr Ben anh) and his logistic team can have some benefits:

- Route Planning and Optimization: A dispatcher uses the TMS to generate the most efficient delivery route for a fleet of trucks, factoring in current traffic conditions and estimated delivery times.
- Shipment Tracking: A customer service representative accesses the TMS to provide a customer with the current location and estimated arrival time of their shipment.
- Reporting and Analytics: The logistics manager reviews monthly reports from the TMS to assess transportation costs, identify trends, and make informed decisions about future operations

## Observations

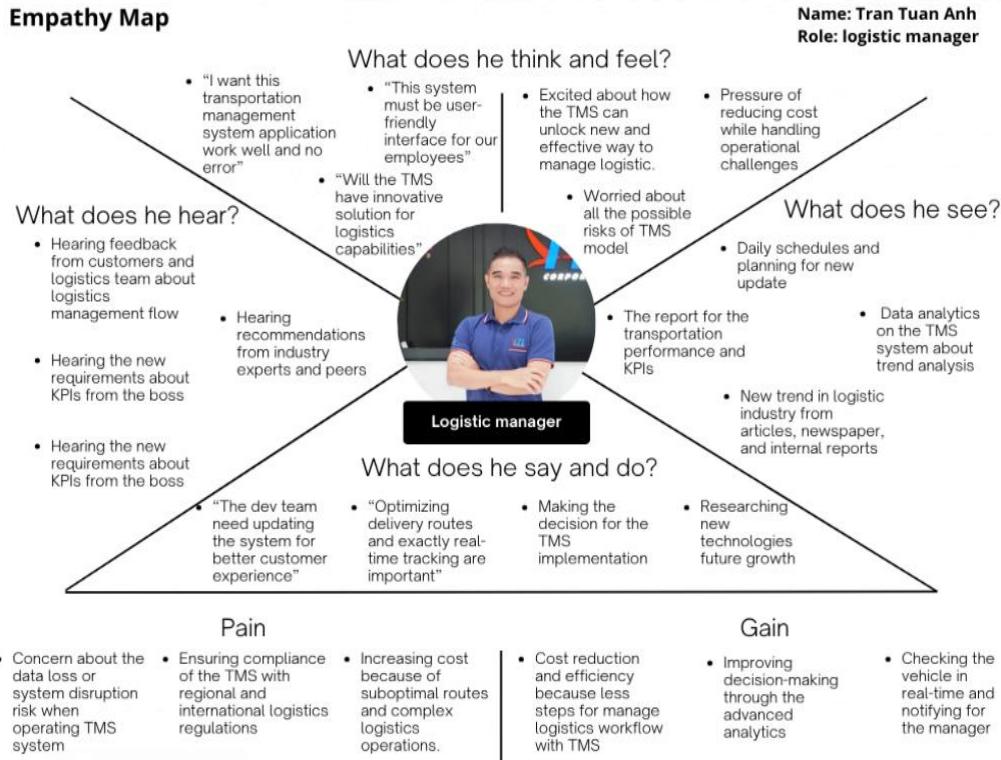
**Problem:** Logistics Management with a Transportation Management System (TMS) model that incorporates innovative technologies to reduce cost and optimize profitability.

<b>Takeaway:</b>	Mr. Ben Anh faces significant challenges in controlling logistics costs without compromising on efficiency. Emphasizing the need for strategic partnerships and advanced technology to optimize profitability.
<b>Opportunities:</b>	The implementation of AI for routes, Tracking technology, and data analytics within the Transportation Management System (TMS) presents a substantial opportunity for ITL to enhance operational efficiency and responsiveness to market demands.
<b>Tickets:</b>	Performance measures like delivery rate and on-time performance are crucial for evaluating logistics operations. It is essential to consistently monitor these metrics to uphold customer satisfaction and operational efficiency.

**Problem:** Operational efficiency and team performance of logistics in the new TMS model.

<b>Takeaway:</b>	The apply of the new Transportation Management System (TMS) promotes improved teamwork among colleagues, resulting in more efficient logistics processes and enhanced communication.
<b>Opportunities:</b>	The TMS offers sophisticated analytics and reporting tools that empower teams to make data-driven decisions. This capability allows the team to quickly pinpoint and resolve operational inefficiencies.
<b>Tickets:</b>	Enhanced accountability is achieved by implementing task tracking in the TMS, enabling team leaders to closely monitor performance metrics. This capability ensures prompt interventions and boosts operational efficiency.

# Empathy map - Logistic Manager



## Persona - Supply Chain Manager

Persona name	Bui Quang Lien
Persona role	Supply Chain Manager
Job description	Mr. Bui Quang Lien oversees departmental supervisors and daily operations, ensuring efficient supply chain processes. Key responsibilities include maintaining inventories, optimizing production, establishing performance metrics, and negotiating with suppliers. The manager collaborates across departments to enhance efficiency, monitors supplier performance, and participates in product development discussions.

### Company

Company name	Indo Trans Logistics Corporation
Company size	201-1500 employees
Industry	Transportation, logistics, supply chain, and storage

### Demographic information

Age	49
Gender	Male
Income	High income, around \$160,000 annually
Education level	Master of Business Administration
Residential environment	Metropolitan

### Personal quote

*"Effective supply chain management is not just about moving products; it's about creating value through collaboration and innovation." – A loyal client who appreciates Mr. Lien's dedication to efficiency.*

### Biography

Bui Quang Lien, 49 years old, growing in a poor farming family in rural Vietnam, where he learned the fundamentals of supply chain management through managing water, fertilizer, and seeds on his family's farm. Determined to create a better life, he worked hard in school and eventually earned a Bachelor of Science in Operations Management. Mr. Lien moved to Ho Chi Minh City to pursue his career and started as an intern at Indo Trans Logistics Corporation. Through hard work and dedication, sometimes, he often traveling hundreds of kilometers to oversee supply chain operations. After all, he rose to the position of Supply Chain Manager, fulfilling his dream of a successful career, being respected by many people while supporting his family.

Professional goals	Motivators
<ul style="list-style-type: none"> <li>• Enhance operational efficiency across the supply chain.</li> <li>• Implement innovative solutions that reduce costs.</li> <li>• Improve service delivery to exceed customer expectations.</li> <li>• Foster a culture of continuous improvement within the team.</li> </ul>	<ul style="list-style-type: none"> <li>• Desire for professional recognition and respect within the industry.</li> <li>• Passion for sustainable supply chain practices and reducing environmental impact.</li> <li>• Drive to mentor and develop the skills of his team members.</li> </ul>
Challenges	Sources of information
<ul style="list-style-type: none"> <li>• Managing supply chain disruptions caused by global events (e.g., pandemics, trade disputes).</li> <li>• Balancing cost efficiency with the need for high-quality products and services.</li> <li>• Keeping pace with rapidly changing technology and integrating it into existing systems.</li> </ul>	<ul style="list-style-type: none"> <li>• Industry publications such as Supply Chain Management Review and Logistics Management.</li> <li>• Participation in Council of Supply Chain Management Professionals (CSCMP).</li> <li>• Online courses and webinars on emerging technologies in supply chain management.</li> <li>• Networking with peers and industry experts through LinkedIn and professional forums.</li> </ul>

## Customer Interview - Supply Chain Manager

Date of interview	Sep 20, 2024
Interviewers	Truong Le Minh Toan
Customer name	Bui Quang Lien
Customer contact info	Facebook account: <a href="#">Facebook Link (Lien David)</a> LinkedIn profile: <a href="#">LinkedIn Link (David Lien)</a>
Company name	Indo Trans Logistics Corporation



## Top takeaways

- Vision for applying technology in managing supply chain of ITL Corporation
- Challenges to current supply chain managing methods
- Management and leadership style of Mr. Lien

## Background

### ▼ Interview questions and answers

- Q1: What do you feel and think about the current landscape of the logistics field and the supply chain industry in particular?
  - Mr. Lien's answer: "The logistics and supply chain industry is rapidly growth, and I constantly thinking about how to optimize our operations to reduce costs without sacrificing quality. There's a delicate balance between efficiency and innovation, especially as customer expectations rise and the competitive landscape shifts. I feel a strong responsibility to stay ahead of these changes, but I'm also aware of the challenges, particularly the disruptions caused by global events like pandemics or economic crises can change the market situation at any time. These events highlight the vulnerabilities in supply chains and make it clear that we need to be more resilient. At the same time, I see opportunities to leverage advanced technologies, for automation, to enhance operational efficiency and develop our business."
- Q2: Which kind of solutions would you like to see ITL Corporation integrate to drive the development of its supply chain operations?
  - Mr. Lien's answer: "I believe ITL Corporation needs to focus on integrating innovative technologies into our supply chain processes. We've already heard a lot about how AI, automation, and data analytics can optimize operations, and I've spoken to the board about making these investments. Technologies like online managing platform can enhance the productivity, while predictive analytics can help us avoid disruptions and adjust accordingly. It's not just about cost-saving; it's about positioning ourselves as leaders in an industry that's changing rapidly. By implementing these solutions, we can not only meet rising customer expectations but also improve supplier relationships and gain better control over pricing fluctuations."
- Q3: Can you share the difficulties you encounter when managing the operations of the supply chain department?
  - Mr. Lien's answer: "Managing the operations of the supply chain department is not easy, especially when it comes to balancing the internal harmony of the team with external challenges. One of the main difficulties is ensuring that my team consistently performs at a high level, avoiding delays and inefficiencies, while adapting to the evolving demands of the industry. Each team member has unique strengths, and it's part of my responsibility to mentor and develop those skills to create a efficient workforce. I communicate regularly with my team, focusing on clear objectives and fostering a culture of continuous improvement. However, external factors, such as fluctuating supplier prices and market disruptions, make my workload more heavy. Negotiating with suppliers to ensure timely deliveries while maintaining cost efficiency can be a challenging task. Despite these difficulties, I take pride in seeing my team succeed, and I believe that by keep track of their growth, we can achieve operational excellence across the supply chain."

## Use cases

- With our product, the supply chain manager, and his department will benefit from having a system including:
  - **Inventory Management:** Real-time data about inventory levels in warehouse, and during transportation
  - **Supplier Management:** Having a database of approved supplier, their capabilities, and performance history.
  - **Reporting and Analytics:** generating comprehensive report for tracking performance, KPIs, billing,...

## Observations

**Problem:** Supplier Management and Integration of Technology

Managing supplier and ensure timely delivery has become the complex problem due to different aspects including fluctuating price, disruption caused by global event, and changing logistics trend.

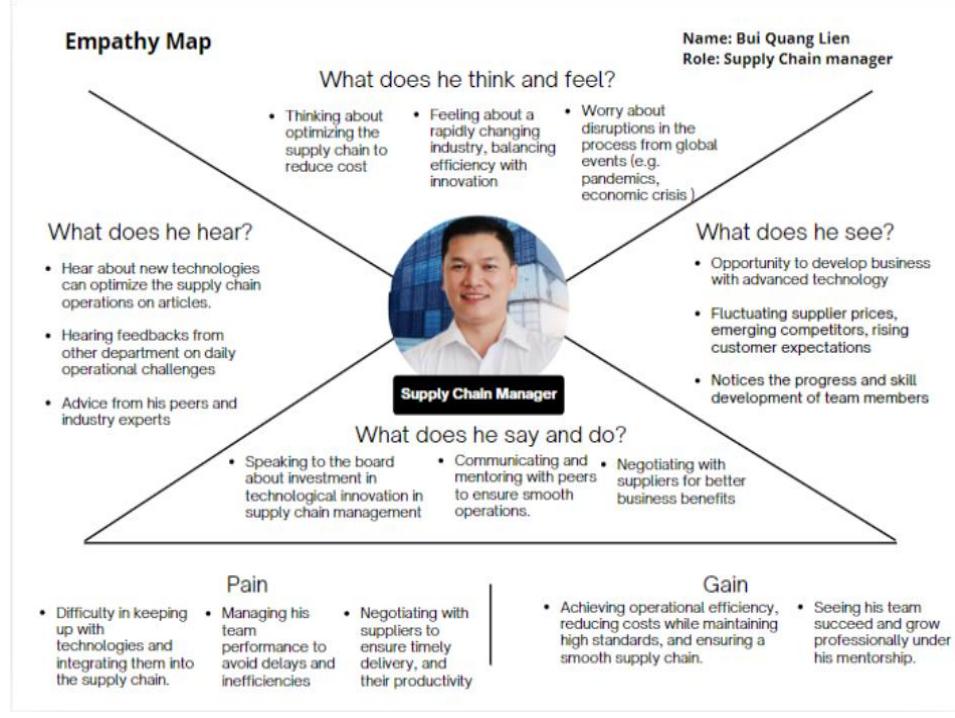
<b>Takeaway:</b>	The supply chain department faces challenges in both external and internal forces including the market volatility, supplier performance, need for technological upgrades. Mr. Lien focused on increasing efficiency but needs support with technology integration.
<b>Opportunities:</b>	Software function to access and query the database of approved supplier will be needed to manage and ensure the performance of supplier. Moreover the needs of implementing inventory management platform to optimize the product management.
<b>Tickets:</b>	<ul style="list-style-type: none"><li>• Implement function to track the inventory in the application</li><li>• Implement management tools and database for keeping track of supplier</li></ul>

**Problem:** Team Performance and Operational Efficiency

Managing the team's performance, ensuring that each member contributes effectively to avoid delays, and mentoring them while keeping track of operational demands is current challenges.

<b>Takeaway:</b>	Mr. Lien has made great effort in adapting different kind of improvement, his team could benefit from better collaboration tools and clearer performance metrics to optimize their contributions.
<b>Opportunities:</b>	Introducing the function in managing software for tracking the performance and monitoring deadlines for staff. Offer training programs to ensure that all team members are equipped with the latest skills in supply chain management and using technology.
<b>Tickets:</b>	<ul style="list-style-type: none"><li>• Implement a performance management tool to track team KPIs.</li><li>• Conduct workshops or training sessions on new supply chain technologies for the team.</li></ul>

# Empathy Map - Supply Chain Manager



## Persona - Warehouse Manager

<b>Persona name</b>	<b>Ho Vo Thanh Binh</b>
<b>Persona role</b>	Warehouse Manager
<b>Job description</b>	Mr. Binh is responsible for overseeing the daily operations of the warehouse, ensuring the efficient and effective management of goods in accordance with company standards and regulatory requirements. This role involves coordinating staff activities, maintaining inventory accuracy, optimizing storage solutions, and ensuring a safe working environment.

### Company

<b>Company name</b>	Indo Trans Logistics Corporation
<b>Company size</b>	201-1500 employees
<b>Industry</b>	Transportation, logistics, supply chain, and storage

### Demographic information

<b>Age</b>	47
<b>Gender</b>	Male
<b>Income</b>	Around \$100,000 per year
<b>Education level</b>	Certified Warehouse Logistics Professional
<b>Residential environment</b>	Metropolitan

### Personal quote

*"Efficient operations and a dedicated team are the backbone of our success. A well-organized warehouse doesn't just store goods; it drives our business forward." – A satisfied customer of Indo-Trans Logistics Corporation*

### Biography

Ho Vo Thanh Binh is 47 years old, born in Can Tho and is currently a warehouse manager at Indo Trans Logistics Corporation. Since childhood, his parents taught him to work hard to get him a good job, so he studied hard and got a Bachelor of Science in Operations Management. He decided to go to Ho Chi Minh City to easily get a good job. And he has fulfilled his dream with a good job and can help his family.

Professional goals	Motivators
<ul style="list-style-type: none"> <li>Move into higher-level roles like Operations Manager or Regional Logistics Manager, overseeing larger teams and more complex operations.</li> <li>Implement systems to improve inventory accuracy, reducing stock shortages and excesses.</li> <li>Reduce environmental impact by implementing green practices like waste reduction and energy-efficient systems.</li> </ul>	<ul style="list-style-type: none"> <li>Delivering on-time shipments and high-quality service for clients.</li> <li>Motivated by building and leading a high-performing team.</li> <li>Seeing a well-run warehouse operate smoothly and achieving business goals.</li> <li>Logistics and warehousing are essential industries, often providing long-term career opportunities.</li> </ul>
Challenges	Sources of information
<ul style="list-style-type: none"> <li>Balancing employee satisfaction with productivity demands and reducing turnover.</li> <li>Managing unexpected disruptions like delays from suppliers, transportation issues, or equipment failures.</li> <li>Adopting new systems while ensuring staff training and minimizing disruption.</li> </ul>	<ul style="list-style-type: none"> <li>Connecting through professional forums and LinkedIn with colleagues and industry experts.</li> <li>Industry websites and associations such as Warehousing Education and Research Council (WERC)</li> </ul>

## Customer Interview - Warehouse Manager

Date of interview	Sep 20, 2024
Interviewers	Le Nguyen Thai Son
Customer name	Ho Vo Thanh Binh
Customer contact info	Mail: <a href="mailto:hvthanhbinh78@gmail.com">hvthanhbinh78@gmail.com</a> Phone Number: +84767579961
Company name	Indo Trans Logistics Corporation



### Top takeaways

- Challenges in balancing team satisfaction with productivity and managing unexpected disruptions.
- Aim to improve inventory accuracy and move into higher logistics roles.
- Prioritizes operational efficiency, team leadership, and sustainability.

## Background

### ▼ Interview questions and answers

- Q1: What inspired you to pursue a career in logistics and warehouse management?
  - Mr. Binh's answer: "Logistics has always fascinated me because of the impact it has on every business. From an early age, I wanted to be in a field that's essential and constantly evolving. My education in Operations Management gave me the foundation to understand how businesses run, and moving into logistics felt like a natural step. It's both challenging and rewarding."
- Q2: What's your primary focus in your current role at Indo Trans Logistics Corporation?
  - Mr. Binh's answer: "Right now, my focus is on ensuring that our warehouse operates as efficiently as possible. I oversee daily operations to make sure our team is working effectively, and that inventory levels are accurate. I'm also paying close attention to how we can reduce waste and improve energy efficiency to support the company's environmental goals. Keeping our team motivated and productive is another priority."
- Q2: What are the main challenges you face on a day-to-day basis?
  - Mr. Binh's answer: "One of the biggest challenges is finding the right balance between pushing for high productivity and maintaining a positive work environment. I want my team to feel valued and not overworked, but we still need to hit our targets. Another challenge is handling unexpected disruptions, like delays from suppliers or equipment breakdowns. These can slow us down, so we need to act quickly and find solutions that don't disrupt operations too much."

## Use cases

- Warehouse Management Optimization: Systems that improve inventory tracking, prevent shortages, and reduce excess stock.
- Team Productivity Tools: Keep his team motivated while maintaining high productivity.
- Sustainability Practices: Make warehouse operations more environmentally friendly by reducing energy consumption and waste.

## Observations

### **Problem:** Inventory Management and Sustainability Initiatives

Facing challenges in maintaining accurate inventory levels, leading to shortages or excess inventory. At the same time, find ways to incorporate more environmentally friendly practices into warehouse operations.

<b>Takeaway:</b>	Despite his efforts to optimize inventory processes, there is room for improvement in accuracy. Implementing more advanced tracking systems and green technologies could help Mr. Binh achieve his goals of operational efficiency and sustainability.
<b>Opportunities:</b>	Implement automated inventory management tools that reduce human error and track stock levels in real-time. Introduce eco-friendly solutions like energy-efficient lighting and solar power systems, aligning with Mr. Binh's commitment to reducing the warehouse's environmental impact.
<b>Tickets:</b>	<ul style="list-style-type: none"><li>• Deploy a modern inventory management solution to track stock automatically and provide real-time updates on inventory levels.</li></ul>

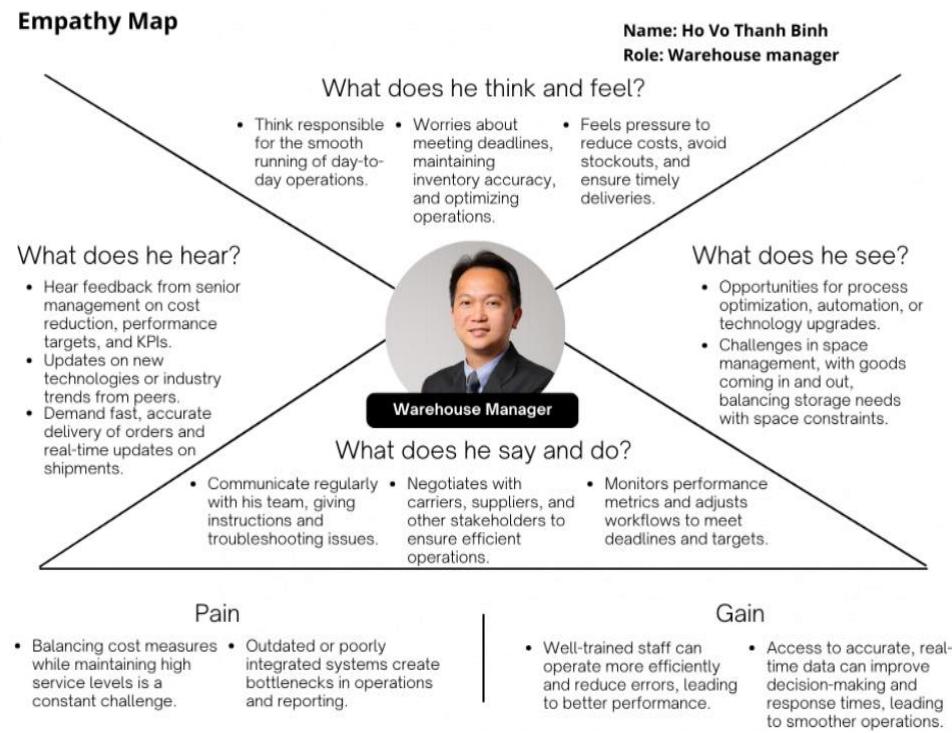
- Integrate green technologies such as renewable energy systems and energy-saving warehouse solutions.

**Problem:** Adapting to new technologies

Facing challenges in adopting and integrating new technology within his warehouse. While he recognizes the importance of digital transformation, ensuring smooth adoption and adequate staff training has been difficult, leading to inefficiencies.

<b>Takeaway:</b>	Mr. Binh has shown interest in modernizing his operations but could benefit from more structured implementation strategies and comprehensive staff training programs to ensure technology adoption aligns with operational goals.
<b>Opportunities:</b>	Develop a phased technology integration plan to introduce new systems gradually. Provide tailored training programs to help staff adapt to new technologies such as warehouse automation, digital inventory systems, and performance analytics tools.
<b>Tickets:</b>	<ul style="list-style-type: none"> <li>• Implement a step-by-step plan for rolling out new technologies, with clear timelines and goals.</li> <li>• Arrange technology-focused training workshops to ensure all team members are comfortable using the new systems.</li> <li>• Regularly evaluate and optimize the use of newly integrated technologies to ensure they deliver value.</li> </ul>

# Empathy Map - Warehouse Manager



## Persona - Driver

Persona name	Do Huu Di
Persona role	Driver
Job description	Mr. Di's responsible for operating a light truck for the distribution of goods within Ho Chi Minh City and surrounding provinces.

### 🏢 Company

Company name	Indo Trans Logistics Corporation
Company size	201-1500 employees
Industry	Transportation, logistics, supply chain, and storage

### 👤 Demographic information

Age	39
Gender	Male
Income	3750\$ - 6250\$ annually, based on route.
Education level	High School, Vocational Training, Professional Driver's License (Class C)
Residential environment	Metropolitan

### ✍ Personal quote

"If everything seems under control, you're just not going fast enough." - This is his personal quote that he gains through many years of driving.

### 📜 Biography

Do Huu Di is a 39-year-old professional driver working for Indo Trans Logistics Corporation. He comes from Tay Ninh Province, where living standards are not as high as in Hồ Chí Minh City. As a result, his dream is to explore more places in Vietnam one day. Despite facing various challenges, he worked hard to complete high school. However, due to financial difficulties, he realized that university was not the right path for him. Instead, he chose to follow his family's tradition of becoming a truck driver, which also allows him to pursue his dream. He moved to Ho Chi Minh City to obtain his truck driving license. Now, he is content in his job, as it provides him with a stable and consistent income to support his family.

Professional goals	Motivators
<ul style="list-style-type: none"> <li>To continue improving his driving skills and maintain an impeccable delivery record.</li> <li>To ensure financial stability and provide for his family through consistent and reliable driving work.</li> </ul>	<ul style="list-style-type: none"> <li>Achieving timely deliveries and meeting company goals.</li> <li>Earning based on performance, with a direct link between efficiency and income.</li> </ul>
Challenges	Sources of information
<ul style="list-style-type: none"> <li>Managing long work hours and physical fatigue associated with long driving hours.</li> <li>Navigating through traffic-heavy urban areas and dealing with unpredictable road conditions.</li> <li>Balancing time management between different delivery routes while meeting deadlines.</li> </ul>	<ul style="list-style-type: none"> <li>Online forums and communities of professional drivers.</li> <li>Company updates and industry news from Indo Trans Logistics Corporation.</li> </ul>

## Customer Interview - Driver

Date of interview	Sep 20, 2024
Interviewers	Nguyen Hoang Trung
Customer name	Do Huu Di
Customer contact info	Phone number: +84935890195 Social platform: Facebook, LinkedIn
Company name	Indo Trans Logistic Corporation



### Top takeaways

- Key Challenges Faced
- Future Goals and Aspirations
- Improvement Opportunities

## Background

### ▼ Interview questions and answers

- ◆ Q1: "What are the most difficult situations you've faced while delivering goods for logistics customers in urban and rural areas, and how did you adapt to overcome them to meet customer expectations?"
  - A1: "One of the biggest challenges I've faced is dealing with heavy congestion in Ho Chi Minh City, especially during peak hours. I used to manually plan my routes, but without real-time updates, it wasn't effective. I then started using a navigation app that provides real-time traffic conditions, allowing me to adjust my route on the go. I keep dispatchers and customers informed and always look for the fastest, safest alternative route when delays occur. This way, I ensure deliveries remain on schedule, despite the traffic. And I believe that the application can still be more advanced to include predictive traffic patterns, allowing drivers to anticipate congestion and optimize routes even more effectively."
- ◆ Q2: "What are your long-term career goals as a professional driver in the logistics and supply chain industry, and how do you see this role at ITL Corporation helping you achieve them?"
  - A2: "My long-term career goal is to continue growing within the logistics and supply chain industry by taking on more complex, or shorter routes and potentially mentoring new drivers. My aim is to expand my skills in route optimization and fleet management. I see this role at ITL Corp as an opportunity to learn from a well-established company with strong operational standards. I'm confident that working here will help me to best practices in logistics, delivering and help me develop the skills necessary in the future."
- ◆ Q3: "If you could suggest one improvement to logistics operations that would enhance customer satisfaction or reduce delivery times, what would it be and why?"
  - A3: "One improvement I'd suggest is implementing a more robust vehicle tracking system that allows both the company and customers to have real-time visibility of delivery progress. This transparency would help customers anticipate delivery times more accurately and reduce the number of status inquiries we receive, which can slow down communication. It would also help us drivers plan for unexpected delays, thereby improving overall efficiency and customer satisfaction."

## Use cases

For drivers, there will be many use cases for our product or service:

- Fuel Consumption and Vehicle Health Monitoring
- Route Planning and Optimization
- Performance Analytics and Incentives

## Observations

Indo Trans Logistics Corporation has been experiencing challenges in managing delivery routes and optimizing fuel consumption, particularly in high-traffic areas within Ho Chi Minh City. Ensuring efficient deliveries while maintaining vehicle health and driver performance is critical for the company. Drivers like Mr. Đỗ Hữu Di, who operate light trucks for goods distribution, face difficulties in managing long work hours and navigating unpredictable traffic conditions.

### **Problem:** Managing Delivery Routes and Vehicle Efficiency

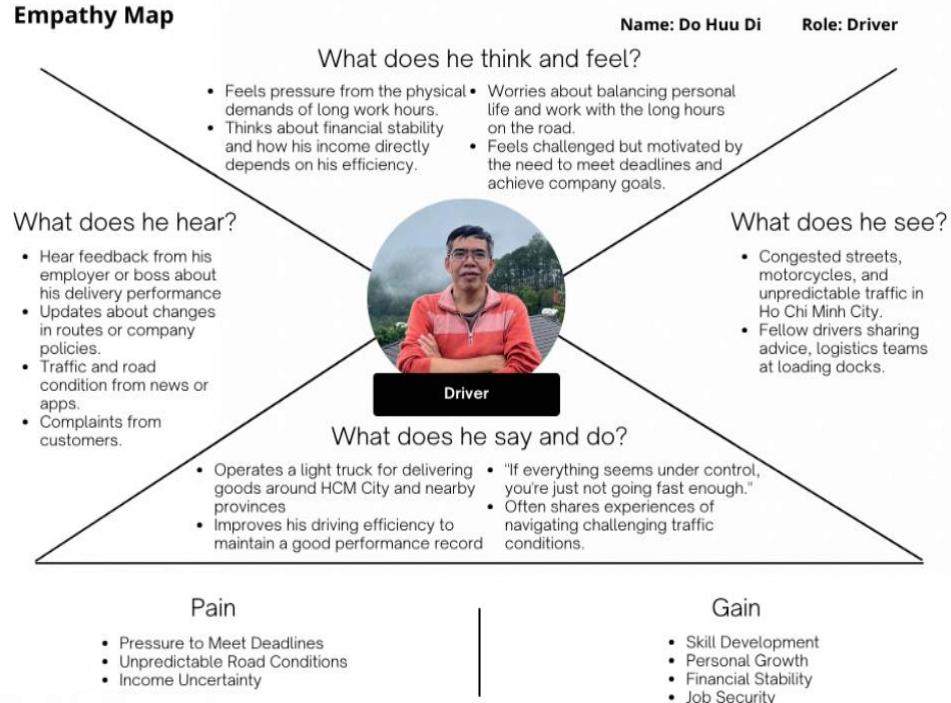
<b>Takeaway:</b>	Mr. Di recognizes the importance of having tools that can support more efficient route planning and fuel management. Digital solutions that provide real-time traffic updates and fuel consumption analytics are crucial to reducing delivery times and costs, thereby improving overall efficiency.
<b>Opportunities:</b>	Developing a platform that offers real-time route optimization and vehicle health monitoring would help drivers like Mr. Di make data-driven decisions to avoid traffic congestion and manage fuel consumption more effectively. Additionally, integrating predictive analytics for traffic patterns and vehicle maintenance schedules could enhance driver performance and reduce vehicle downtime.

<b>Tickets:</b>	<ul style="list-style-type: none"> <li>• Implement a real-time route optimization system that offers drivers live traffic updates and alternative route suggestions based on current road conditions.</li> <li>• Create a fuel consumption monitoring tool that tracks and analyzes fuel efficiency based on driver behavior and road conditions, allowing drivers to optimize fuel use.</li> <li>• Develop a vehicle health monitoring feature that provides alerts on maintenance needs, reducing the risk of breakdowns and ensuring vehicle longevity.</li> </ul>
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**Problem:** Lack of Advanced Navigation and Driver Performance Tools

<b>Takeaway:</b>	A comprehensive driver management system that tracks performance and integrates with vehicle navigation would allow drivers like Mr. Di to better plan their routes, manage delivery times, and achieve performance goals. This would also improve communication between drivers and dispatchers, ensuring smoother coordination during complex delivery schedules.
<b>Opportunities:</b>	Implementing a driver management system that integrates with the company's logistics operations could streamline communication and support route planning based on delivery priorities and driver schedules. Moreover, incorporating a performance tracking feature could help motivate drivers by linking performance metrics to incentives, encouraging consistent quality and efficiency.
<b>Tickets:</b>	<ul style="list-style-type: none"> <li>• Integrate a driver management system that provides detailed performance metrics, including driving speed, fuel consumption, and delivery punctuality.</li> <li>• Create a communication platform that connects drivers with dispatchers for quick updates and route changes, ensuring smoother logistics coordination.</li> <li>• Implement a reward system based on performance metrics to recognize and incentivize drivers for achieving efficiency and safety goals.</li> </ul>

## Empathy Map - Driver



## Persona - Customer

Persona name	Kim Vy Ha
Persona role	Supply Chain Manager
Job description	Ms. Kim Vy Ha is responsible for Ricoh's entire supply chain process, from forecasting and purchasing to delivery. Her duty varies from ensuring shipments, warehousing, cost managing to overseeing delivery for distributors and end-users. Ms. Ha is experienced in cost managing, third party logistics management, and Information and Technology solution.

## Company

Company name	Ricoh Vietnam
Company size	51-200 employees
Industry	Office automation and digital services industry

## Demographic information

Age	37
Gender	Female
Income	\$25,000 - \$30,000 annually
Education level	Bachelor's Degree in Supply Chain Management - University of Economics HCMC
Residential environment	Ho Chi Minh City

## Personal quote

"Without logistics the world stops." ~Dave Waters.

## Biography

Ms. Ha Kim Vy is a supply chain manager at Ricoh Vietnam, a mid-sized company specialized in office automation and office digitalization solution. After graduating from the University of Economics HCMC, she started her career as a Sales Executive at Vinatrans. During her 6 years at Vinatrans, she gained a great deal of knowledge and experience in the fields of Transportation, Freight, Customs clearance, and Warehousing. She was also awarded "Good employee of the year". When opportunity arose, she took her chance to become an Assistant Manager at Ricoh Vietnam. After 7 years of hard work and outstanding contribution, she was promoted to the Supply Chain Manager position. Until now, her concern is the guarantee of shipment and delivery, making sure her customers receive the best service they deserve. Currently, she is most interested in finding a reliable, high-quality LCL (less than container load) shipment solution to transport Ricoh's digital devices internationally.

Professional goals	Motivators
<ul style="list-style-type: none"> <li>• Strengthen third-party Logistics relationship and find reliable shipment service providers</li> <li>• Expand Ricoh's Regional Supply Chain Network</li> <li>• Establish a guaranteed, flexible and scalable supply network</li> </ul>	<ul style="list-style-type: none"> <li>• Ms. Ha Kim Vy wants to learn new skills and advance her career and earn herself some remarkable achievements</li> <li>• She also wants to meet and make acquaintance with like-minded people, who can be both good friends and trust-worthy business partners</li> </ul>
Challenges	Sources of information
<ul style="list-style-type: none"> <li>• Achieve a balance in work life and personal life</li> <li>• Actively keep herself up to date about international economic factors (e.g. Market fluctuations, global economic conditions)</li> <li>• Cost-effective, reliable LCL solution</li> </ul>	<ul style="list-style-type: none"> <li>• Economics publications</li> <li>• Company database and ERP (Enterprise Resource Planning) system</li> <li>• Professional social media (e.g. LinkedIn, Facebook, YouTube)</li> </ul>

## Customer Interview - Customer

Date of interview	Sep 20, 2024
Interviewers	Phung Gia Khang
Customer name	Ha Kim Vy
Customer contact info	Phone number: (+84) 906072005 Gmail: <a href="mailto:HakimvyRicoh@gmail.com">HakimvyRicoh@gmail.com</a> Social media: Facebook, LinkedIn
Company name	Ricoh Vietnam



### Top takeaways

- Aim at applying newest technology into managing and maintaining supply chain management and logistics system to expand Ricoh Vietnam's influence on the marketplace
- Challenges Ms.Ha faces when managing logistics and third-party suppliers
- Ms.Ha's concern for effective shipment solution and long-term third-party partnership

## Background

### ▼ Interview questions and answers

- ◆ Q1: How has the logistics landscape evolved recently, and what trends are most influencing your role?
  - A1: "The logistics world has seen significant changes recently, especially during the emergence of global e-commerce and digitalization. At Ricoh, there is an increasing focus on speed and flexibility. We need to adapt to market fluctuations quickly. We are constantly finding ways to optimize resource utilization and save costs in our processes. The new digitalization trend has pushed us to apply newest solutions that make use of cutting-edge technology. These tools are becoming more and more important in helping us forecasting potential issues and keep track of complicated logistics challenges."
- ◆ Q2: What specific tools or systems do you think would most improve Ricoh's supply chain processes?
  - A2: "We are searching for services that enhance accessibility and control over the supply chain. An important area for improvement is our LCL (less than container load) shipping, helping us transport digital devices to all corners of the world. A software that displays real-time information from shipping providers, tracks transport route, and helps us predict delays. I believe a solution that allows us to follow the transportation of our goods., as well as their conditions would be helpful for the employees and our customers. Moreover, predictions about delays or changes in shipping fee would help us make more informed decisions in a timely manner."
- ◆ Q3: What are the main challenges you face in managing international logistics, and how do you approach them?
  - A3: There are many challenges I face when maintaining the safe and timely delivery of our goods. Since our product are mainly digital devices for offices, they are often quite costly. Another challenge is that there are so many variables, for example changes in shipping routes, unexpected faulty goods, or fluctuations in freight rate. Those factors make it difficult to provide consistent service to our customers. In response to this hardship, I find keeping a strong partnership with our third party providers especially helpful. By working tightly with them, I can keep myself and my team up to date about the goods condition, and act accordingly as soon as the problems arise.

## Use cases

- Transportation Navigation and Shipment Tracking
- Supplier and Logistics Partner Management
- Predictive Analytics and Decision Making

## Observations

Ricoh Vietnam struggles with managing LCL shipments efficiently, especially with international partners. Maintaining strong relationships with third-party logistics providers is essential, but fluctuating costs and unpredictable delays make consistent service challenging.

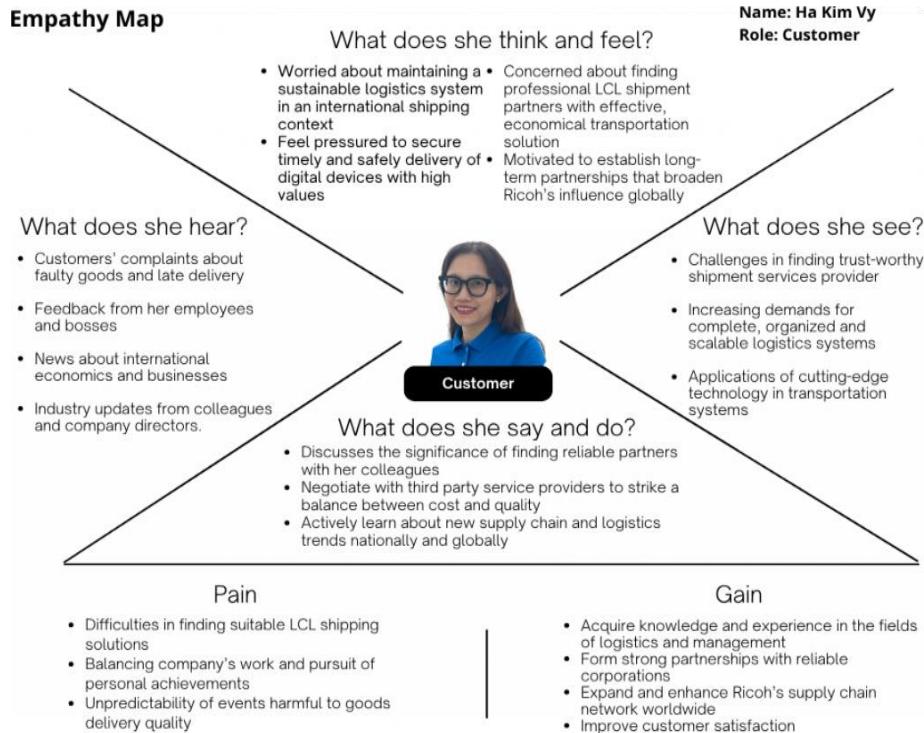
**Problem:** Managing LCL Shipments and Supplier Relationships

<b>Takeaway:</b>	Ms. Ha is keen on finding tools that can streamline the management of LCL shipping and enhance communication with suppliers. Digital solutions that offer real-time tracking and performance analytics are crucial for improving visibility and control.
<b>Opportunities:</b>	Developing a platform that consolidates shipment information and supplier performance metrics would help Ms. Ha make data-driven decisions. Additionally, tools that provide predictive analytics could assist her in forecasting disruptions and minimizing delays.
<b>Tickets:</b>	Implement a supplier performance tracking system that provides detailed reports on logistics partners.

**Problem:** Lack of Centralized Transport Management System (TMS)

<b>Takeaway:</b>	A centralized TMS would allow Ms. Ha and her team to manage transportation more effectively by consolidating all shipping data into one platform. This would provide a clear overview of shipment statuses, carrier performance, and delivery timelines, enabling faster and more informed decision-making.
<b>Opportunities:</b>	Implementing a TMS that integrates with Ricoh's existing ERP system and third-party logistics providers could streamline transportation operations. The system would enable automated route optimization, real-time tracking of shipments, and cost analysis, helping Ms. Ha manage both international and domestic shipments more efficiently. Moreover, a TMS with predictive analytics could assist in proactively addressing potential delays.
<b>Tickets:</b>	<ul style="list-style-type: none"> <li>• Deploy a TMS system that supports multi-carrier management, real-time tracking, and automatic updates on shipment status.</li> <li>• Develop a module within the TMS for optimizing shipment routes and selecting the most cost-efficient transportation options.</li> </ul>

## Empathy Map - Customer





# Product Requirements

Target release	24/11/2025
Document status	IN PROGRESS
Document owner	Team 15 - Akatsuki
Designer	Dinh Viet Phat, Nguyen Hoang Trung
Tech Leader	Phung Gia Khang
Technical writers	Le Nguyen Thai Son
QA	Truong Le Minh Toan

## 🎯 Objective

- Design, develop and create a cost-effective, high quality Transportation Management System Software solution
- Enhance logistics operations in terms of convenience, ease of use, and effectiveness
- Optimize utility of resources and budgets
- Maintain a database to manage warehouse inventory with records of carriers, their capacity, and shipment history with high scalability
- Support effortless reporting and analytics, enhance precision in billing and invoicing
- Provide smooth user experience
- Apply protective and security measures to defend unauthorized access into the system
- Develop a highly scalable supply chain management software with data backup and recovery

## 📊 Success metrics

Goal	Metric
Having a database system to streamlines order processing and inventory management.	Optimizing order processing time, minimize number of order fulfillment errors. Measuring stock-out frequency.
A database which compatibility with third-party logistics provider and carriers to access and query the supplier data.	Number of successful integrations with third-party systems. Ensure data exchange accuracy between different systems. Optimize the query response time from external providers' database.
Implementing optimal algorithm for route planning, which fit for different kind of transportation	Route optimization success rate. Integrating GPS for having the real-time location, and using AI-based algorithms to find optimal route for transportation. Alerts for shipment delays.
Real-time shipment tracking	Accuracy of GPS tracking transportation. Manage a large of shipments in real-time and alerts, send notification when there are delays or exceptions.

Tracking KPIs, cost, performance and generate comprehensive Reporting and Analytics	Generating number of KPIs and performance of staff being tracked. The usage rate of analytics for decision-making.
System for generating billing and invoicing, which ensure the accuracy and support different kind of billing structure.	Invoice and billing must be generated accurately, limit time to generate billing and supporting different billing structures.
Implementing strict security measures to safeguard user data, payment, and billing.	Reduce the number of security incidents, time taking for encryption data for safety. User data protection against unauthorized access
User friendly interface	Ensuring 100% user can proficiently interact with the software with less than 1 months training.
Having a backup database for storing important data which is used for recovery data when disruption and collapse	Always having backup data for the emergency situation. Optimizing speed of recovering to optimize the generated profit
User training and support for ITL staff	Ensure the entire ITL corporation, can integrate, and operate smoothly with the support of TMS application.

## 🤔 Assumptions

### **Enhanced Customer Experience:**

A focus on improving customer interactions through timely communication, transparent tracking systems, and responsive support channels is critical for maintaining strong relationships and satisfaction.

### **Optimized Route Planning:**

The logistics management system should include advanced algorithms for route optimization to enhance efficiency and reduce transportation costs. This will ensure timely deliveries and better resource allocation.

### **Data-Driven Decision Making:**

The platform should leverage analytics and reporting tools to provide insights into transportation trends and operational performance. This data will enable informed decision-making and strategic planning.

### **Sustainability Initiatives:**

As part of the commitment to enhancing sustainability, the logistics system should incorporate features that support green practices, such as optimizing fuel consumption and reducing carbon emissions in transport operations.

### **Regulatory Compliance:**

The system must ensure compliance with local and international transport regulations. This includes adhering to customs procedures, safety standards, and environmental regulations, which are crucial for maintaining operational integrity.

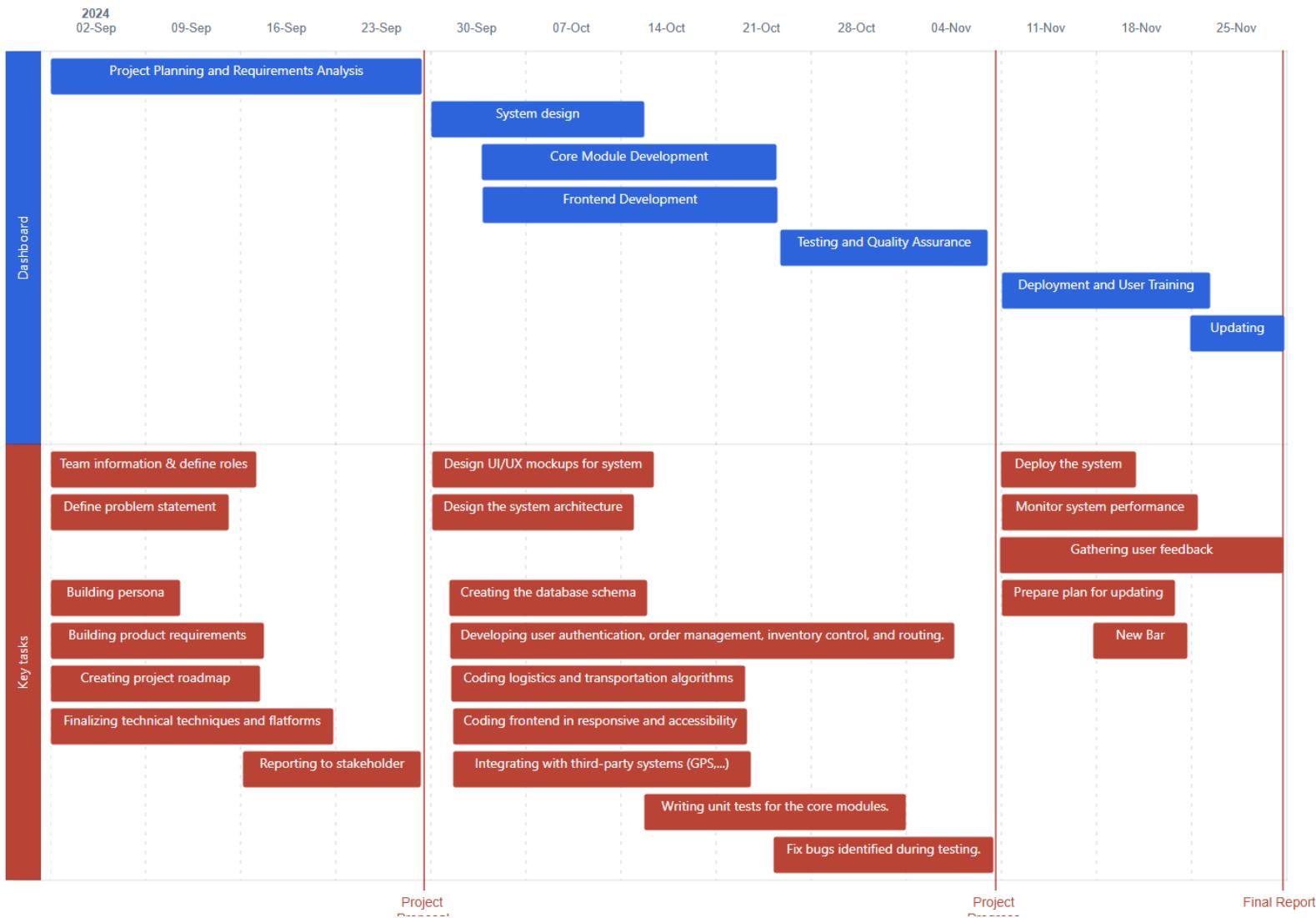
### **Scalability and Flexibility:**

The logistics platform must be designed to scale with the growth of the business. It should accommodate fluctuating demand and allow for the quick onboarding of new clients and logistics partners without significant system overhauls.

### **Collaboration with Clients:**

Clients expect seamless communication channels to track their shipments in real-time. The system should provide clients with updates on shipment status and delivery timelines, fostering transparency and trust.

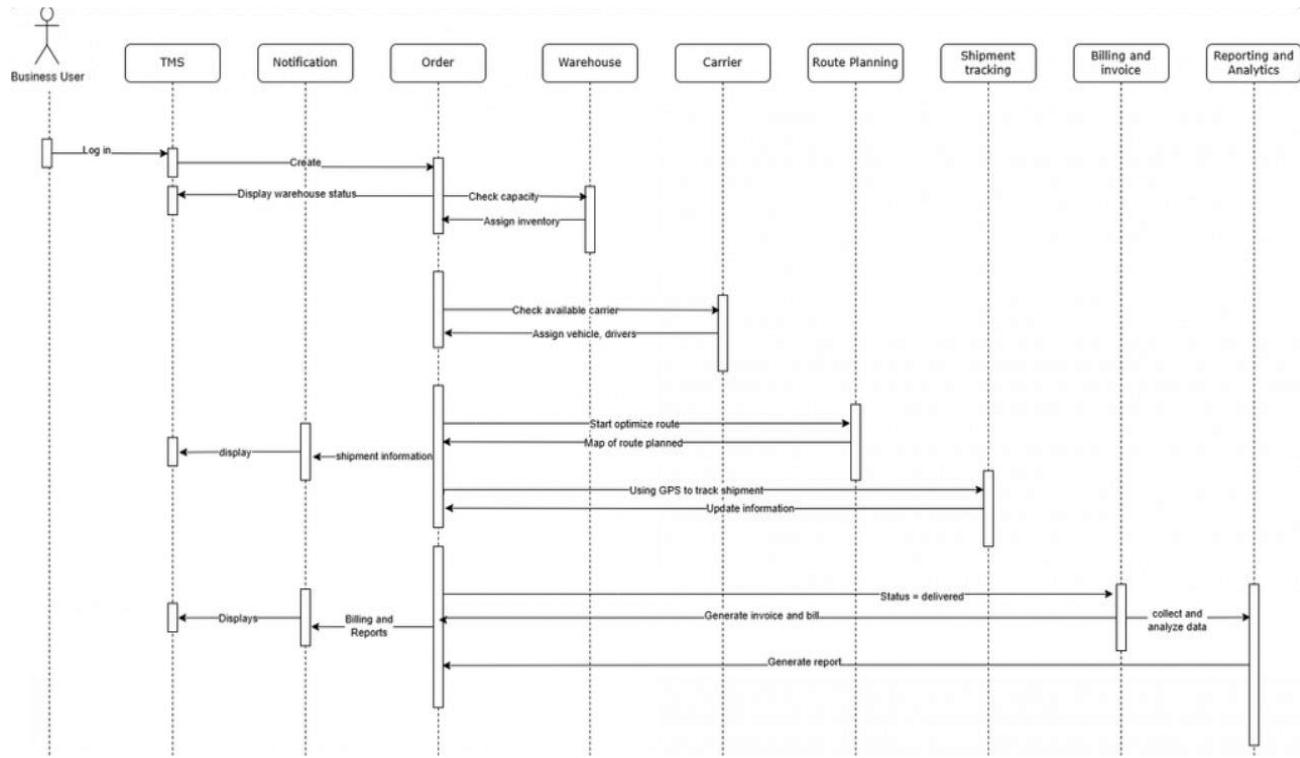
## 🌟 Milestones



## Requirements

Requirements	User Story	Importance	Jira Issue	Notes
Reporting and Analytics	Mr. Anh is a logistics manager who wants to receive detailed reports on goods, so he can analyze the data for better decision-making.	MEDIUM	<a href="#">COS20031-23: Reporting and Analytics</a> <small>TO DO</small>	
Data Backup and Recovery	Mr. Eric, a technical developer, wants to ensure that all data is securely backed up to prevent any potential data loss or issues in the future.	HIGH	<a href="#">COS20031-24: Data Backup and Recovery</a> <small>TO DO</small>	
Security	Mr. Brandon, a technical developer, believes that all the corporation's data must be stored securely to protect against potential risks and ensure data integrity.	HIGH	<a href="#">COS20031-25: Security</a> <small>TO DO</small>	
Route Planning and Optimization	Mr. Di is a driver who wants to optimize his routes to ensure he can deliver goods on time as efficiently as possible.	HIGH	<a href="#">COS20031-26: Route Planning and Optimization</a> <small>TO DO</small>	
Inventory Management	Mr. Binh is a warehouse manager who wants an effective inventory management system to track stock levels, streamline operations, and prevent overstocking or shortages.	MEDIUM	<a href="#">COS20031-27: Inventory Management</a> <small>TO DO</small>	
Order Management	Mr. Lien is a supply chain manager who is looking for an efficient order management system to streamline order processing, track shipments, and ensure timely delivery to customers.	MEDIUM	<a href="#">COS20031-28: Order Management</a> <small>TO DO</small>	

## 🎨 User interaction and design



## 🎨 UI-UX Design Mockup

The UI-UX design mockup for the Akatsuki Shipment Management system features a clean, modern interface with a light blue and white color scheme. The left sidebar includes navigation links for Dashboard, Messages, Routes (which is the active tab), Inbox, Schedule, Payments, and Reports. A summary card at the bottom left shows 'Today' with a total of 1332 shipments and 678 km traveled. The main content area has two main sections: 'Shipment Management' and a detailed view for 'UA-145009BS'. The 'Shipment Management' section lists several shipments with their details (Shipment number, Origin, Destination, Buyer, and Status). The detailed view for 'UA-145009BS' shows the shipment is 'On way' and provides tabs for Information, Vehicle Info (selected), Company, and Billing. It includes a 3D model of a truck showing a 65% load capacity, truck specifications (Iveco 80E190, 7,340 kg), and route details. A 'Route map' shows the planned route on a map with a blue line and red markers.

## ❓ Open Questions

Question	Answer	Date Answered
• Which tasks distributed approach would be suitable for the team?	• A group task would be divided into smaller work and assigned to individuals. Each will complete them according to the deadline assigned by the team lead and the overall results are combined to complete the group task.	Sep 6, 2024
• How to determine meetings time	• We use a website called When2meet which allows the team members to fill in their free time. The time with most free members is chosen as the meeting time. • Members who are not able to come will be updated about the meetings' content later	Sep 6, 2024
• How do we plan to manage our risks	• Risks are evaluated by the probability that it will happen and the impact of its consequence. • After thorough evaluation, the whole team make decisions on what should be done to handle those risks.	Sep 13, 2024
• What are some skills that the team need to improve on	• Communication and presentation are essential skills for teamwork and information exchange with stakeholders. • Product management tools like Jira and Confluence are mandatory for collaborating.	Sep 20, 2024

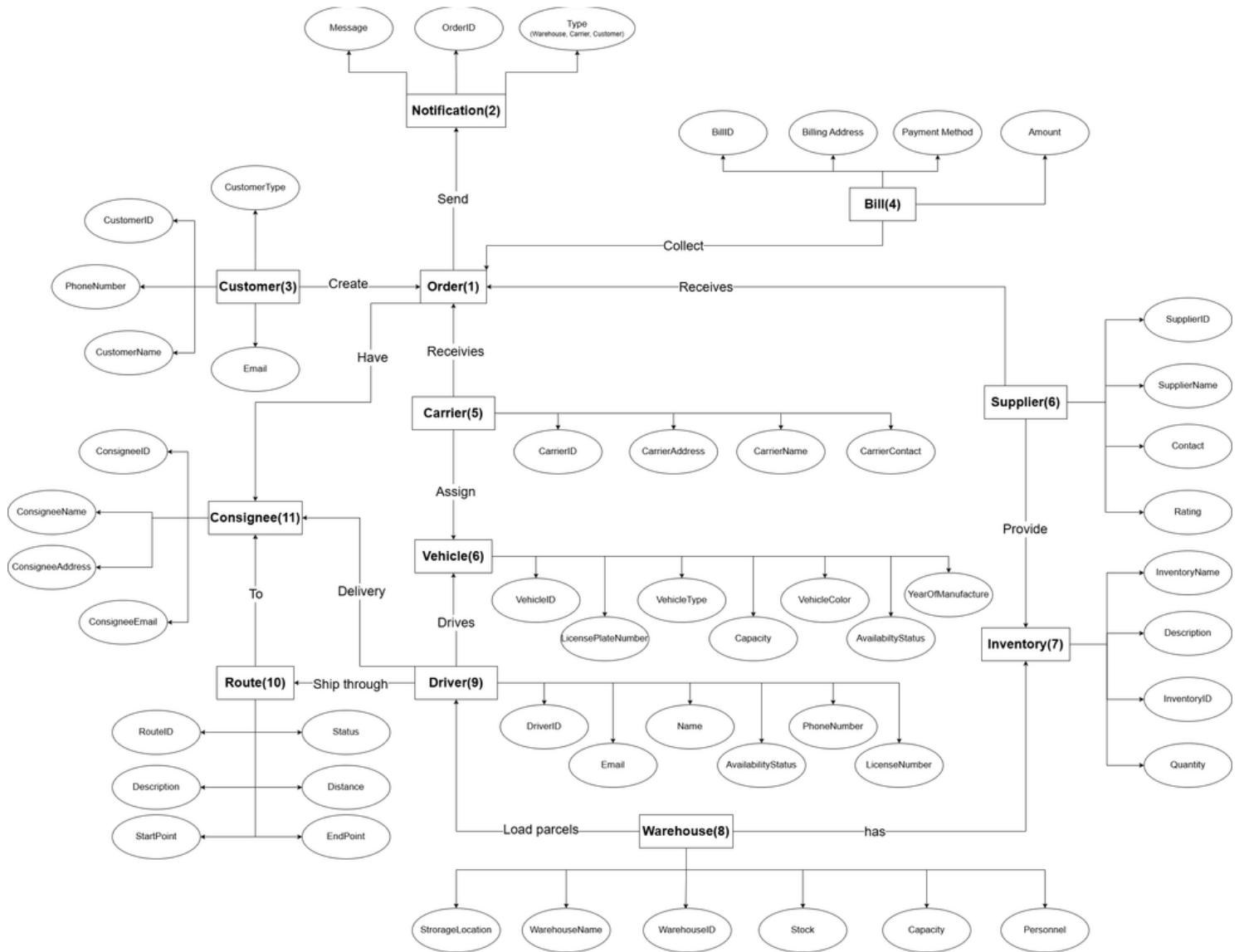
## ⚠️ Out of Scope

These are some features that are out of scope when we discuss. We would like to visit later if it meets the requirements of the project.

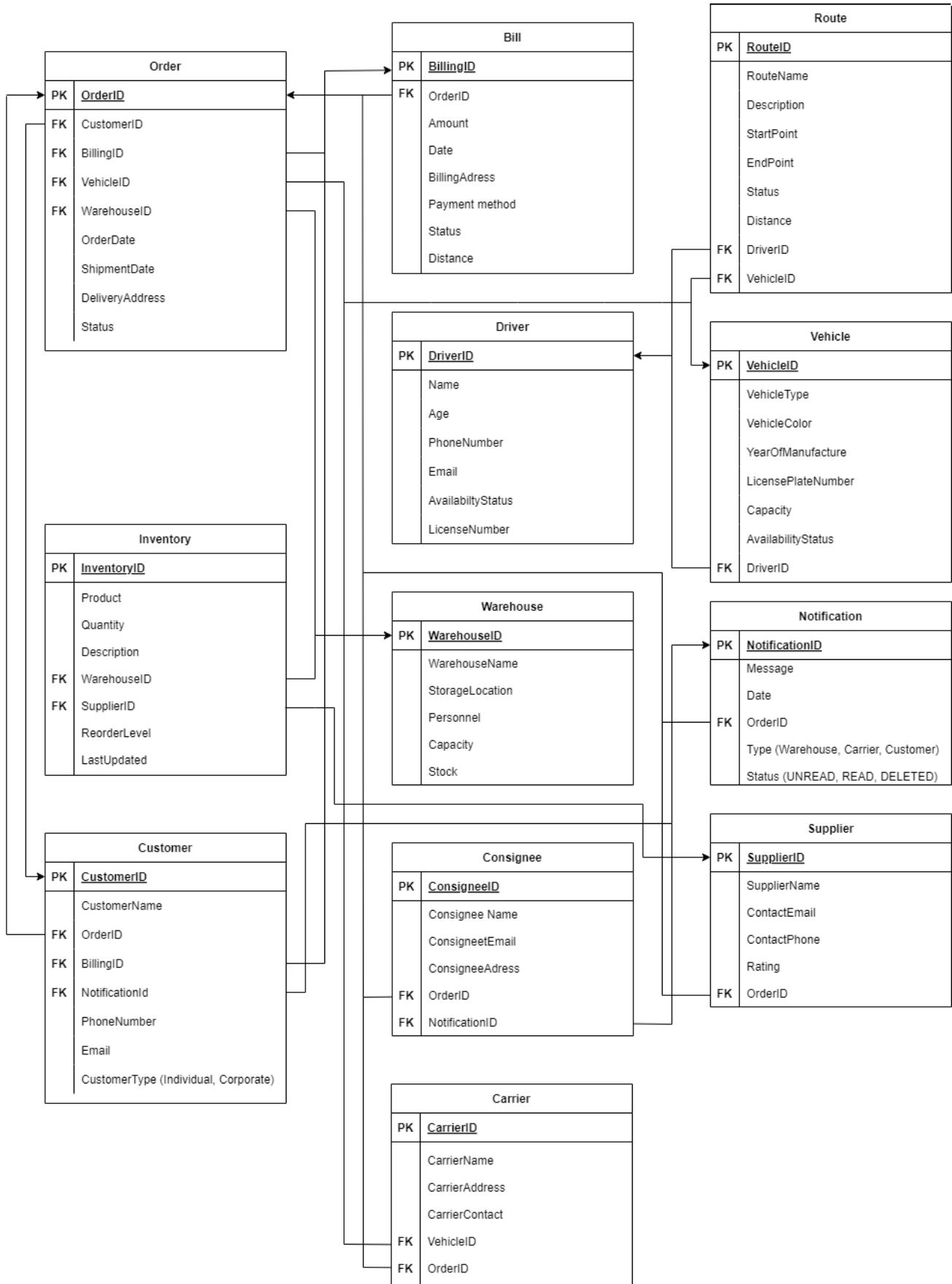
- Human Resources Management
- Third-Party Fleet and Driver Scheduling
- Virtual Reality (VR) Training Systems

## Entities Relationship Diagram (ERD)

### Conceptual Relationship Diagram



## Entity Diagram





## Team Member Profiles

### 🐱 Nguyen Hoang Trung

Name	Nguyen Hoang Trung
Communication preferences	<ul style="list-style-type: none"><li>Using some social platforms for casual communication and exchanging files.</li><li>Keep the conversation focused and productive.</li></ul>
Things I need	<ul style="list-style-type: none"><li>All my teammates have to contribute their ideas to build a good project.</li><li>Finish all the tasks meticulously and on time.</li></ul>
How I learn best	<ul style="list-style-type: none"><li>In a working space</li><li>Clarify all ideas so that I can understand them all.</li></ul>
Things I struggle with	<ul style="list-style-type: none"><li>When teamworking, I need all of my teammates to contribute their ideas and communicate with others.</li></ul>
Things I love about COS20031	<ul style="list-style-type: none"><li>This is a good project unit to improve skills that related to teamworking.</li><li>We can access and explore various kinds of tool such as Jira, Confluence.</li></ul>
My aim for this project	<ul style="list-style-type: none"><li>My main goal for this project is achieving HD score.</li><li>Building connection with my peers.</li></ul>
My favorite saying	<p>“Logic will get you from A to B. Imagination will take you everywhere.”</p> <p>Albert Einstein</p>
Other things I want you to know about me	<ul style="list-style-type: none"><li>I'm a big fan of Arsenal</li></ul>

 Đinh Việt Phát

Name	Dinh Viet Phat
<b>Communication preferences</b>	<ul style="list-style-type: none"> <li>Using Zalo group and verbal conversation</li> <li>Each member shares the idea for the project in friendly and constructive way.</li> </ul>
<b>Things I need</b>	<ul style="list-style-type: none"> <li>Exactly time for the deadlines</li> <li>The feedback from each member</li> </ul>
<b>How I learn best</b>	<ul style="list-style-type: none"> <li>Private, quiet, and cozy space</li> </ul>
<b>Things I struggle with</b>	<ul style="list-style-type: none"> <li>Deadline and time management</li> <li>Apply the knowledge from the theory to practical for building the best solution for company</li> </ul>
<b>Things I love about COS20031</b>	<ul style="list-style-type: none"> <li>The certificate from LinkedIn Learning</li> <li>Learning how to manage a project practically with real problems of company</li> </ul>
<b>My aim for this project</b>	<ul style="list-style-type: none"> <li>Gain more knowledge about project management</li> <li>Can get the HD score base on our best solution for the company</li> </ul>
<b>My favorite saying</b>	<p>“Learn from yesterday, live for today, hope for tomorrow. The important thing is not to stop questioning.”</p> <p><b>Albert Einstein</b></p>
<b>Other things I want you to know about me</b>	<ul style="list-style-type: none"> <li>Everyone can call me Vell</li> </ul>

 Truong Le Minh Toan

Name	Truong Le Minh Toan
Communication preferences	<ul style="list-style-type: none"><li>• Face-to-face communication will be preferred for communication at work</li><li>• Social media for casual communication</li></ul>
Things I need	<ul style="list-style-type: none"><li>• All members do not miss the deadline</li><li>• Collaborating for improving solution</li></ul>
How I learn best	<ul style="list-style-type: none"><li>• A private workspace, rain falling outside, and a drink</li></ul>
Things I struggle with	<ul style="list-style-type: none"><li>• Urgent deadline</li><li>• Teammates with lack of effort to complete a project</li></ul>
Things I love about COS20031	<ul style="list-style-type: none"><li>• Understanding about how to manage a project using different technique</li><li>• Mastering Agile, Jira, and Confluence</li></ul>
My aim for this project	<ul style="list-style-type: none"><li>• Complete all the requirements</li><li>• Trying to build a complete solution that can work in real context</li></ul>
My favorite saying	<p>“What does not kill me makes me stronger.”</p> <p>Friedrich Nietzsche</p>
Other things I want you to know about me	<ul style="list-style-type: none"><li>• I'm Itachi</li></ul>

 Phung Gia Khang

Name	Phung Gia Khang
Communication preferences	<ul style="list-style-type: none"><li>• Both verbal and emails</li><li>• Friendly, constructive, avoid unnecessary emotions</li></ul>
Things I need	<ul style="list-style-type: none"><li>• Clear deadlines for each task</li><li>• Quick response during work hours (response in 4 hours)</li></ul>
How I learn best	<ul style="list-style-type: none"><li>• In a private, quiet atmosphere</li></ul>
Things I struggle with	<ul style="list-style-type: none"><li>• Noisy environment</li><li>• Short-tempered teammates</li></ul>
Things I love about COS20031	<ul style="list-style-type: none"><li>• A wide range of tools and knowledge for project management</li><li>• Teamwork and collaboration experience</li></ul>
My aim for this project	<ul style="list-style-type: none"><li>• Satisfactorily fulfill most of the requirements</li><li>• Deploy a complete solution for the assigned problem</li></ul>
My favorite saying	<p>“Art is an explosion”</p> <p>Deidara</p>
Other things I want you to know about me	<ul style="list-style-type: none"><li>• I like anime</li></ul>



## Le Nguyen Thai Son

<b>Name</b>	Le Nguyen Thai Son
<b>Communication preferences</b>	<ul style="list-style-type: none"> <li>Both verbal and emails</li> <li>Friendly and willing to share with everyone</li> </ul>
<b>Things I need</b>	<ul style="list-style-type: none"> <li>Clear deadlines for assigned tasks</li> <li>Clear feedback from each</li> </ul>
<b>How I learn best</b>	<ul style="list-style-type: none"> <li>In private and quiet place like my room</li> </ul>
<b>Things I struggle with</b>	<ul style="list-style-type: none"> <li>Teammates do not speak clearly or do not contribute ideas</li> </ul>
<b>Things I love about COS20031</b>	<ul style="list-style-type: none"> <li>I can work on a project with my friends.</li> <li>Get to know and learn many new tools</li> </ul>
<b>My aim for this project</b>	<ul style="list-style-type: none"> <li>I can work on a project with my friends</li> <li>Get to know and learn how to use many new tools</li> </ul>
<b>My favorite saying</b>	<p>"If you're not a good shot today, don't worry. There are other ways to be useful."</p> <p><b>Sova</b></p>
<b>Other things I want you to know about me</b>	<ul style="list-style-type: none"> <li>I solo beat Faker</li> </ul>

 For a facilitation guide and more info on running this play with your team, visit <https://www.atlassian.com/team-playbook/plays/my-user-manual>



# Meeting Notes

## Overview

Team	Members
Team 15	<ul style="list-style-type: none"><li>• Phung Gia Khang</li><li>• Truong Le Minh Toan</li><li>• Nguyen Hoang Trung</li><li>• Dinh Viet Phat</li><li>• Le Nguyen Thai Son</li></ul>

## 📅 Meeting dates

Date	Goal
6/9/2024	Organize a meeting to introduce members, vote for leaders, choose project topics, and set up Jira and Confluence accounts for project management.
13/9/2024	Finalize the Team Agreement and complete individual Team Member Profiles for project documentation.
20/9/2024	Complete the Persona page and document meeting notes for reference and progress tracking.
25/9/2024	Finalize the Project Plan, ER Diagram, and Empathy Map to establish clear project direction and user understanding.

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Meeting Note - 6/9/2024

## Participants

- Phung Gia Khang
- Truong Le Minh Toan
- Nguyen Hoang Trung
- Dinh Viet Phat
- Le Nguyen Thai Son

## Goals

- Meeting and introducing members, voting for leaders
- Choosing topics
- Creating Jira, Confluence accounts and creating project

## Discussion topics

Time	Item	Presenter	Notes
20 minutes	Topic discussion	Phung Gia Khang	<ul style="list-style-type: none"><li>• Choosing the topic about managing transportation and do research about it</li></ul>
90 minutes	Learning Jira and Confluence	Dinh Viet Phat	<ul style="list-style-type: none"><li>• Taking the Linkedin Learning certificates about operating Jira, Confluence</li><li>• Joining the Jira project</li></ul>

## Action items

- Every member joining Jira and Confluence
- Applying template for Canvas for proposal creating
- Members learn to use Agile and Scrum

## Decisions

- Phung Gia Khang will be the leader
- Topic: Transportation Management System (TMS) Software

# Meeting Note - 13/9/2024

## 👤 Participants

- Phung Gia Khang
- Truong Le Minh Toan
- Nguyen Hoang Trung
- Dinh Viet Phat
- Le Nguyen Thai Son

## 📋 Goals

- Complete the Team Agreement
- Complete Team Member Profiles
- Assign Role and Responsibility

## 🗣 Discussion topics

Time	Item	Presenter	Notes
30 minutes	Complete Team Agreement	Phung Gia Khang, Nguyen Hoang Trung	<ul style="list-style-type: none"><li>• All team members unified about the communication platform, setting up meetings online and offline.</li><li>• Complete the team agreement to discover the working style of each members.</li></ul>
30 minutes	Complete Team Member Profiles	Phung Gia Khang	<ul style="list-style-type: none"><li>• Times for each member reflect about themself (hobby, lifestyle, strength, weakness, ...)</li><li>• Discuss with each other about the personal information to bond between members</li><li>• Complete the team member profiles page</li></ul>
1 hour	Role and Responsibilities	All team members	<ul style="list-style-type: none"><li>• Khang conducts a discussion for team to introduce about themself and if they nominate themself for a role in a team, all team members will consider to assign role based on skill of each members.</li><li>• Complete the Role and Responsibilities page. Inside that page includes skill of themself and what they think the responsibilities of their roles.</li></ul>

## ✓ Action items

- Team Agreement completed
- Team Member Profiles completed

## ⌚ Decisions

- Next meeting will be used to find out Persona for the problem
- Starting to write meeting notes for each meetings

# Meeting Note - 20/9/2024

## 👤 Participants

- Phung Gia Khang
- Truong Le Minh Toan
- Nguyen Hoang Trung
- Dinh Viet Phat
- Le Nguyen Thai Son

## 📋 Goals

- Complete Persona page
- Complete the Project Plan
- Writing meeting note

## 🗣 Discussion topics

Time	Item	Presenter	Notes
5 minutes	Meeting note	Truong Le Minh Toan	<ul style="list-style-type: none"><li>• Keep track of the meeting and jot down</li><li>• Starting creating backlog and sprint in Jira to tracking the process of each page needed in the proposal.</li></ul>
120 minutes	Complete Persona page	Phung Gia Khang	<ul style="list-style-type: none"><li>• Discussion and researching about the stakeholders</li><li>• Forming a list of stakeholders, some key group, people, and sorting it based on the priority, who play the most important role in entire process.</li><li>• Choosing from that list 5 stakeholders from different category (Staff, Customer, Manager)</li><li>• Forming the persona about above stakeholders, connecting with them for more information (if it necessary)</li><li>• After connecting with stakeholders, try to setting up an interview with them after a few days to understand about themselves and having data for researching and creating empathy map</li></ul>

## ✓ Action items

- Researching and understanding the persona of problem
- Having persona for key person of the problem
- Writing meeting note

## ⌚ Decisions

- Next meeting will be held on 25/09/2024

# Meeting Note - 25/9/2024

## Participants

- Phung Gia Khang
- Truong Le Minh Toan
- Nguyen Hoang Trung
- Dinh Viet Phat
- Le Nguyen Thai Son

## Goals

- Complete Project plan, ER Diagram and Empathy map, Project Requirement, Risk Assessment Matrix

## Discussion topics

Time	Item	Presenter	Notes
5 minutes	Meeting note	Truong Le Minh Toan	<ul style="list-style-type: none"><li>• Keep track of the meeting and jot down</li></ul>
60 minutes	ER Diagram	All team members	<ul style="list-style-type: none"><li>• Listing the entity for the problem of the ITL Corporation</li><li>• Try to figure out how to connect entities and researching about the optimal way to draw a ER Diagram</li><li>• Learning about how to use draw.io</li><li>• Collaborating through <a href="#">draw.io</a> to draw the ER Diagram and sharing it with other members</li></ul>
45 minutes	Empathy map	All team members	<ul style="list-style-type: none"><li>• Researching about appropriate empathy map template for applying to the proposal</li><li>• From the information when interviewing stakeholders, each members present about their stakeholders. To exploit information about stakeholder, other member need to ask questions about what they hear/ think/ feel/ say/ do about the current situation of their job or their experience.</li><li>• The presenters do research for missing information and try to combine all of the information of their stakeholders to create Empathy maps</li><li>• Filling the page customer interview to give an overview about team members' findings during the interview with stakeholders</li></ul>

1 hour	Project Requirement	All team members	<ul style="list-style-type: none"> <li>• Sketching the overall idea of the project, drawing the interface and listing some open questions that can encounter during the project.</li> <li>• Researching about objectives, assumptions, and requirements of the project</li> </ul>
1 hour	Risk Assessment Matrix	Dinh Viet Phat	<ul style="list-style-type: none"> <li>• Evaluate the risk that will occur during the project and listing it in the risk assessment matrix page</li> </ul>

## Action items

- Learn about ER Diagram and Empathy map through online sources
- Fill in missing details in the project plan
- Draw ER Diagram and Empathy map

## Decisions

- Deadline for project proposal completion is on 27/09/2024
- Review of project proposal is due at 10PM 29/09/2024
- Project proposal will be submitted as soon as review and fault checking is completed