**Business Requirements Document**

# PROJECT DETAILS

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| PROJECT NAME | | |
| Utilizing Company vs 3rd party Carriers | | |
| CREATOR | | |
| Brandon Albers | | |
| DOCUMENT NO. | DATE | VERSION NO. |
| 01 | 10/23/24 | 01 |

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| 1. EXECUTIVE SUMMARY SNAPSHOT |
| This BRD outlines the scope and objectives of an analysis aimed at comparing the cost-effectiveness of using in-house drivers versus third-party carriers for freight transportation. The purpose of this analysis is to provide the executive team with actionable insights into the potential cost savings and operational implications of each option.  The analysis will evaluate key cost components, such as fuel, labor, equipment leasing, and other operational expenses, to calculate the cost per mile (CPM) for in-house drivers. Similarly, it will assess the CPM for third-party carriers by examining historical freight charges and delivery distances. By comparing these metrics across various states and delivery scenarios, the analysis will highlight areas where savings can be realized and provide a framework for making strategic decisions regarding freight operations.  This effort will help identify:   * The most cost-efficient transportation method for different regions. * The potential financial benefits of transitioning to in-house drivers.   Key operational considerations, such as resource requirements and logistical challenges, associated with each option.  The findings from this analysis will serve as a foundation for data-driven decision-making, allowing the company to optimize its freight transportation strategy and enhance cost efficiency. This document ensures alignment among stakeholders by clearly defining the goals, scope, and expected outcomes of the analysis. |

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| 2. PROJECT DESCRIPTION |
| This project aims to evaluate the cost-effectiveness of using in-house drivers compared to third-party carriers for freight transportation. Currently, the company relies on third-party carriers for all truckload shipments, which involves varying costs based on delivery locations and contracted rates. While this approach provides operational flexibility, it lacks transparency in cost breakdowns and may not be the most economical solution. The primary challenge is determining whether transitioning to an in-house driver model could reduce transportation costs without compromising service quality. This project is necessary to address rising freight expenses, improve cost predictability, and explore potential operational efficiencies, ensuring that the company’s freight strategy aligns with its financial and logistical goals. |

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| 3. PROJECT SCOPE | |
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| The scope of this project is to analyze the cost-effectiveness of using in-house drivers versus third-party carriers for freight transportation. The project aims to provide a detailed comparison of the cost per mile (CPM) for both options and to identify potential cost savings and operational considerations.  Project Goals:   * Determine the CPM for third-party carriers based on historical shipment data. * Estimate the CPM for in-house drivers by projecting expenses such as fuel, labor, and leasing costs. * Compare the financial impact of both models across various regions and delivery scenarios. * Provide actionable insights and recommendations to guide strategic decision-making.   Tasks and Deliverables:   * Collect and preprocess distance data from the Bureau of Economic Research. * Extract historical shipment data from the ERP system using Power BI. * Perform calculations to estimate CPM for both in-house drivers and third-party carriers. * Develop a comprehensive report summarizing findings and recommendations.   Costs and Resources:   * Internal labor for data extraction, analysis, and reporting. * Software tools, including Python, Excel, and Power BI, for data processing.   Deadlines   * Initial data collection: 10/24/24 * Completion of cost calculations: 11/4/24 * Submission of final report: 11/15/24 | |
| IN-SCOPE ITEMS | OUT-OF-SCOPE ITEMS |
| Item 1: Data analysis for truckload shipments over the past three years. | Item 1: Analysis of freight methods other than truckload shipments. |
| Item 2: Cost comparisons at the state level, accounting for regional variations. | Item 2: Consideration of purchasing semi-tractors instead of leasing. |
| Item 3: Evaluation of leasing semi-tractors as the primary equipment option. | Item 3: Operational implementation of any recommended changes. |
| Item 4: | Item 4: |
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| 4. BUSINESS DRIVERS | |
| **Business Driver 1: Cost Reduction and Financial Control** | The company is facing increasing freight costs due to reliance on third-party carriers with varying rates across regions. This project will analyze whether shifting to in-house drivers can lower these expenses, providing more predictable and stable transportation costs. By having greater control over driver wages, fuel expenses, and leasing costs, the company can better forecast and manage freight expenses, potentially leading to significant savings. |
| **Business Driver 2: Operational Efficiency and Flexibility** | Currently, the company’s freight operations are dependent on external carriers, which may lead to delays, inconsistent service levels, and limited flexibility in scheduling. By evaluating the feasibility of in-house drivers, the company aims to gain more control over delivery schedules, reduce reliance on external parties, and improve the overall efficiency of transportation processes. This could lead to faster response times, better customer service, and streamlined operations. |
| **Business Driver 3: Strategic Alignment with Financial and Logistical Goals** | As the company continues to grow, it needs a freight solution that aligns with its evolving financial and logistical strategies. This project will help assess whether in-house drivers or third-party carriers align better with long-term goals such as cost containment, scalability, and flexibility. The analysis will provide insights into which approach offers the best combination of cost savings, operational efficiency, and alignment with the company’s future growth plans. |
| **Business Driver 4:** |  |

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| 5. PRESENT PROCESS UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO |
| Currently, the company relies on third-party carriers for all freight transportation needs, with external vendors handling the shipping of truckload orders. The process begins with the sales team creating shipment orders, which are then passed to the logistics department to identify and select an appropriate third-party carrier. These carriers provide quotes based on the delivery distance and route, which are accepted or negotiated depending on the cost. Once a carrier is selected, the logistics team coordinates the shipment details, including scheduling and tracking. The carrier bills the company based on the distance traveled and the weight of the shipment, with varying rates depending on the region and delivery requirements. The process lacks centralized control over costs, and freight charges can fluctuate significantly. Additionally, the company has limited ability to optimize delivery times or negotiate more favorable rates. As a result, transportation expenses are unpredictable, making it difficult to effectively manage and budget freight costs. |

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| 6. PROPOSED PROCESS UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO |
| The proposed process involves transitioning from third-party carriers to utilizing in-house drivers for freight transportation. The process will begin by assessing the company’s fleet requirements and leasing semi-tractors for long-haul deliveries. Instead of relying on external carriers, the logistics team will manage the scheduling, routing, and dispatching of in-house drivers. Each shipment will be assigned to an available driver, with routes planned based on distance and delivery time windows. The team will use real-time data to monitor driver performance and ensure efficient delivery. The company will manage all associated costs internally, including fuel, driver wages, benefits, leasing costs, and maintenance. This model will give the company more control over transportation schedules, improve cost predictability, and potentially lower overall freight expenses. Additionally, by having a dedicated fleet, the company can optimize delivery routes, reduce delays, and better align freight operations with its logistics strategy. The overall goal is to improve cost efficiency and operational flexibility while maintaining high service levels. |

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| 7. FUNCTIONAL REQUIREMENTS UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO |
| The current process addresses the issue by outsourcing freight transportation to third-party carriers, which offers flexibility in terms of shipping capacity and service options. However, this approach does not provide direct control over costs, service quality, or scheduling, leading to unpredictable freight expenses and inefficiencies. To address these challenges, the functional requirements for the proposed project are as follows:   * **Cost Tracking and Analysis:** The ability to track and analyze freight costs by type, route, and carrier is essential. This includes calculating the cost per mile (CPM) for both third-party carriers and in-house drivers, ensuring that all cost factors—such as fuel, labor, leasing, and maintenance—are accounted for in the new model. * **Fleet Management and Scheduling:** The project requires a system to manage in-house drivers and semi-tractors, including real-time scheduling, dispatching, and monitoring of drivers. This system must optimize routes, manage daily driving limits, and ensure timely deliveries. * **Data Integration:** The project will need seamless integration between historical shipment data (from the ERP system) and distance data (from the Bureau of Economic Research). The system should enable easy data input, calculation, and reporting to compare the costs of third-party carriers versus in-house drivers across different regions and delivery scenarios. * **Operational Flexibility**: The solution must allow for the adjustment of operational strategies based on demand fluctuations, allowing the company to scale the use of in-house drivers as needed. It must also ensure that in-house drivers can be deployed efficiently without compromising delivery times or customer satisfaction. * **Compliance and Reporting:** The system should ensure that all operational, financial, and legal requirements are met, including labor laws for drivers, vehicle maintenance regulations, and safety standards. Additionally, it should generate reports to track performance metrics, costs, and potential savings. |

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| – PRIORITY | | |
| Use the following priority table. It allows you to apply a ratings system to your requirements, so you have the visibility (into the value, status, and description of each requirement) that is necessary for determining whether a particular requirement is essential to project success. | | |
| **VALUE** | **STATUS** | **DESCRIPTION** |
| 1 | Immediate | The requirement is critical to the project’s success. Without fulfilling this requirement, the project is not possible. |
| 2 | High | The requirement is high priority re the project's success, but the project could still be implemented in a minimum viable product (MVP) scenario. |
| 3 | Moderate | The requirement is important to the project’s success, as it provides value, but the project could still be implemented in an MVP scenario. |
| 4 | Low | The requirement is of low priority, but the project’s success is not dependent upon it. |
| 5 | Prospective | The requirement is out of the project’s scope and is included as a possible component of a prospective release and/or feature. |

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| – CATEGORIES (RC1) | | | |
| In this section, detail the project’s functional use; break down your project’s requirements into categories so that they’re easy to understand. You can duplicate this section for any successive project categories as needed. The following table includes a unique ID for each requirement, the details of each requirement, the priority of each requirement, and the name of the person who is driving or is responsible for the requirement. Include descriptions of how the current process addresses the issue. Also include the functional requirements necessary to achieve success. | | | |
| **ID** | **REQUIREMENT** | **PRIORITY** | **RAISED BY** |
| 1 | Cost Tracking for Third-Party Carriers | High | Distribution Manager |
| 2 | Cost Analysis for In-House Drivers | High | Distribution Manager |
| 3 | Data Integration for Cost Comparison | Medium | Installation Coordinator |
| 4 | Fleet Management and Scheduling for In-House Drivers | High | Distribution Manager |
| 5 | Compliance Monitoring and Reporting | Low | Installation Coordinator |

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| 8. NON-FUNCTIONAL REQUIREMENTS UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO | |
| Detail all non-functional requirements (NFRs) of the project, including such things as features, system behavior, and project characteristics that relate to user experience. | |
| **ID** | **REQUIREMENT** |
| 1 | **Usability and User Interface (UI):** The system interface should be intuitive, easy to navigate, and require minimal training for users to operate. Key features like route scheduling, cost analysis, and fleet management should be easily accessible. |
| 2 | **Availability and Reliability**: The system should be available 99.9% of the time, with minimal downtime for updates and maintenance. Users should be able to access the system during normal business hours without interruption. |
| 3 | **Integration with Existing Systems**: The system should seamlessly integrate with existing platforms, such as the ERP system, Power BI, and the Bureau of Economic Research data, without requiring significant manual input. |
| 4 | **Response Time for Reporting and Analysis**: The system should generate reports on cost savings, fleet performance, and other KPIs within a few minutes of data processing. The response time should not exceed 3 seconds for basic operations and 10 seconds for larger reports. |
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| 9. GLOSSARY UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO | |
| For easy reference, enter any terms, abbreviations, and/or acronyms that you include in this document. | |
| **TERM/ABBREVIATION** | **EXPLANATION** |
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| 10. REFERENCES UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  YES  UNKNOWN  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO | |
| Provide links to all referenced resources (websites, documents, etc.) throughout this document. | |
| **NAME** | **LOCATION** |
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| 11. APPENDIX |
| Include any additional information for reference, e.g., process details, analysis results, studies, third-party examples, etc. |
| **Epicor System Data:**    **Cost Estimates for Leasing Semi-Tractors:**    **Cost Per Mile by Carrier:**    **SWOT:**  **Strengths:** Cost savings, control over operations, and better fleet management.  **Weaknesses:** High upfront costs, potential operational complexity, and risk of underutilization of drivers.  **Opportunities:** Potential for long-term cost reduction, improved customer service, and scalability of operations.  **Threats:** Regulatory compliance risks, market fluctuations affecting fuel prices, and higher operational risks. |