



**Critical analysis of the logistics system/subsystem
of “Monlogistics Worldwide” LLC**

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Critical analysis of the logistics system/subsystem of “Monlogistics Worldwide” LLC

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Abstract

Logistics is an integral part of our everyday life. This abstract provides an overview of a Mongolian logistics company that plays an important role in the field of transportation and supply chain management throughout Mongolia. Operating in a vast and challenging geographical environment, the company has become an important link in facilitating trade and commerce within and across borders. Mongolia's unique geography and climate create numerous logistical challenges, including extreme weather, rugged terrain, and vast distances. “Monlogistics Worldwide” LLC successfully overcomes these challenges and continues to develop a strong infrastructure and comprehensive services to meet the diverse needs of its customers. At a time when Mongolia is developing as a trade center of Asia and Europe, “Monlogistics Worldwide” LLC is ready to play an increasingly important role in facilitating the movement of goods and products, contributing to economic development, and developing international partnerships. A critical analysis of “Monlogistics Worldwide” LLC logistics system will present a detailed assessment of various aspects of the company's supply chain and logistics operations. This analysis aims to identify the logistics system's strengths, weaknesses, opportunities, and threats and make recommendations for improvement. Critically analyze “Monlogistics Worldwide” LLC logistics system and demonstrate improved results. Based on the financial analysis, the future and trends of the company will be shown.

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1. Introduction

In today's global market, an efficient logistics system plays an important role in ensuring the smooth flow of goods and services, which directly affects a company's competitiveness and profitability. The complexity of modern supply chains, driven by factors such as globalization, technological advances, and changing customer demands, makes logistics management a complex and challenging business task. At this time, “Monlogistics Worldwide” LLC. selected and critically analyzed the company's logistics system. “Monlogistics Worldwide” LLC has been successfully operating as an international freight forwarding and logistics service provider since its establishment in 2005, and today we are one of the leading companies in the field of transportation logistics in the country and are ranked in the top 2 in the industry. The company has six local branches in the cities of Erdenet and Darkhan, as well as border ports such as Zamyn-Uud, Sukhbaatar, Altanbulag, and Gashuunsukhait. As a result, we can solve any transport logistics problem worldwide through a network of more than 300 specialized agents in more than 85 countries on 5 continents. “Monlogistics Worldwide” LLC is the first transport logistics service provider in Mongolia to be accredited by TUV Rheinland, an internationally recognized certification body, for integrated transport logistics and international transport brokerage services, and to be ISO 9001:2008 certified (<https://obortech.io/>, 2022).

Key word: Logistics of Mongolia, “Monlogistics Worldwide” LLC, Logistics Technology

1.1. “Monlogistics Worldwide” LLC” Roadmap

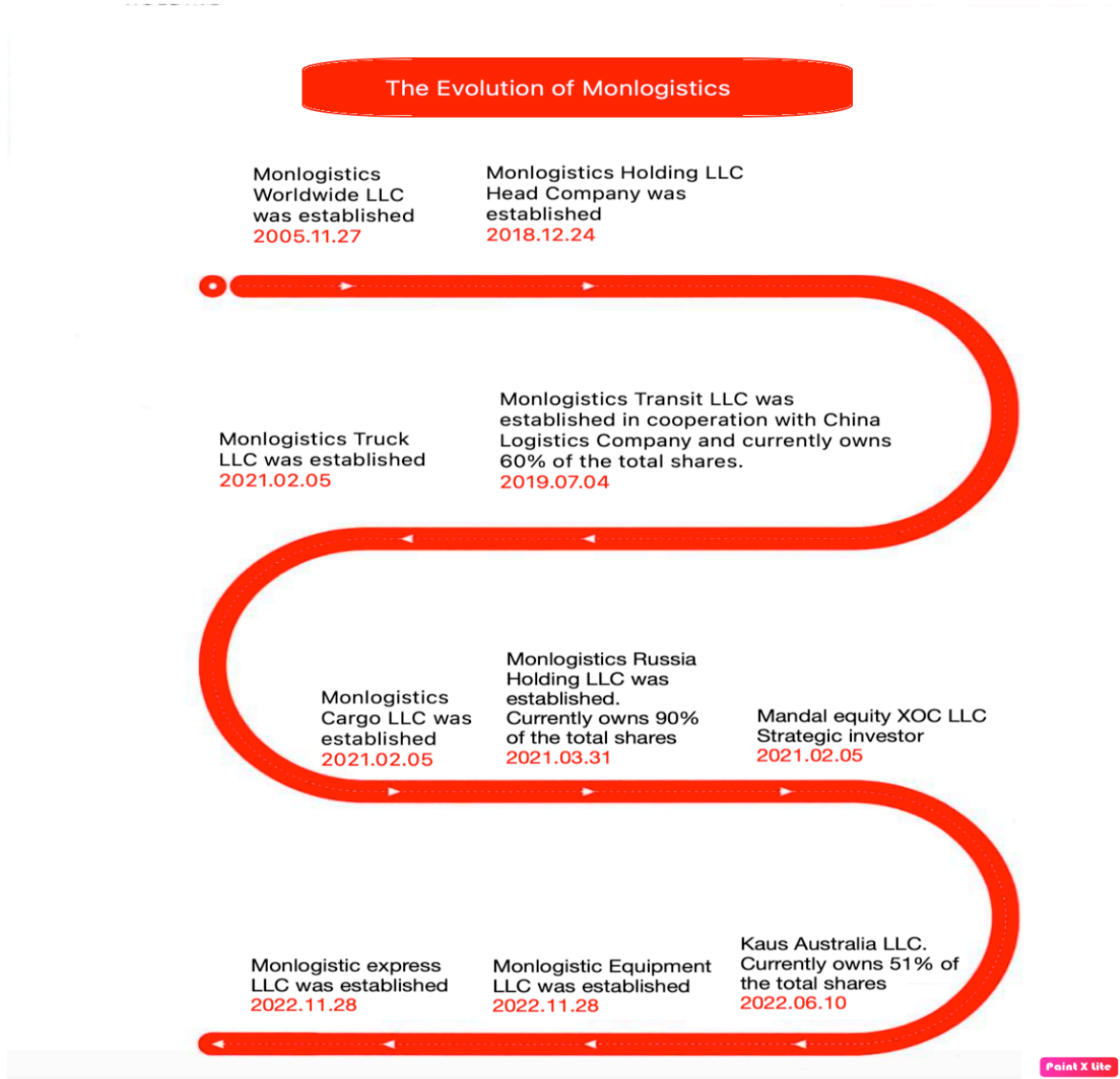


Figure 1 Monlogistics Roadmap (Internet 1)

2. Goals of the thesis

The main purpose of this thesis is to comprehensively evaluate the operational efficiency of “Monlogistics Worldwide” LLC. This assessment involves evaluating various aspects of the company's operations, including transportation, warehousing, inventory management, and distribution. I aim to identify optimal areas and identify inefficiencies that may hinder optimal performance. Another major objective of this study is to critically evaluate the effectiveness of “Monlogistics Worldwide” LLC's strategy. I will carefully examine the alignment of the company's strategic vision, mission, and goals with its operational activities. In doing so, we aim to measure a company's ability to respond effectively to industry trends, emerging technologies, and market dynamics. Analyze and critique the sustainability practices used by “Monlogistics Worldwide” LLC in its logistics operations. This analysis examines the actual impact of sustainability on a company's reputation and competitiveness. An important purpose of this study is to analyze the competitiveness of the logistics industry and determine where “Monlogistics Worldwide” LLC is positioned. We will assess market share, key competitors, and barriers to entry, and highlight the company's unique value proposition, strengths, and competitive weaknesses. This thesis will analyze the company's financial statements and predict the future performance of the company's stock in Mongolia. Also, the company's participation in the logistics and transport relations of Mongolia aims to show the connection.

Exploring Technology Integration: Aims to explore the role of technology and digitization in the logistics operations of “Monlogistics Worldwide” LLC. We will critically assess the company's adoption of emerging technologies such as the Internet of Things (IoT), artificial intelligence (AI), and blockchain, and assess their impact on improving efficiency and customer service.

Supply Chain Resilience Assessment: To assess “Monlogistics Worldwide” LLC ability to maintain supply chain flexibility in the face of disruptions and changing global conditions. I will analyze the company's risk management strategies, such as contingency plans and disaster recovery, and evaluate how these strategies have been implemented in real-world situations.

Stakeholder Relationship Analysis: Another important objective is to examine the relationships between “Monlogistics Worldwide” LLC and its key stakeholders, such as customers, suppliers, employees, and regulatory agencies. This analysis examines the

impact of a company's ethical and responsible business practices on reputation and long-term sustainability.

Finally, these specific objectives of a critical analysis thesis for a logistics company will guide the research process and provide a comprehensive assessment of the company's operations and strategies, providing tangible insights into improvements and growth (DEVELOPMENT, 2023).

3. Backgrounds

3.1.Literature review

“Monlogistics Worldwide” LLC, the leader in transportation logistics services in Mongolia, operates under the name "Monlogistics" Holding LLC. Since its establishment in 2005, the company has been committed to providing high-quality transportation logistics services, including import, export, and transit transportation that meet international standards. With a total of 1 parent company and 9 subsidiary companies, “Monlogistics Worldwide” LLC continuously imports and exports consumer goods and products that are essential for the daily life of Mongolian citizens. Recognized as the best, “Monlogistics Worldwide” LLC is ISO 9001:2008 certified and accredited by the prestigious TUV Rheinland certification body. The company offers comprehensive transport logistics solutions based on the policies, strategies, and directions of operations issued by "Monlogistics" Holding LLC. Focusing on improving professional skills and efficiency, we continue to make a significant contribution to Mongolia's transportation industry. (LLC M. , 2022).

Since its establishment, “Monlogistics Worldwide” LLC has continually excelled as a premier international freight forwarding and logistics service provider. Today, we proudly stand as one of the foremost companies in the transportation logistics sector, consistently ranking among the top three in the industry. Our commitment to excellence and dedication to delivering exceptional services have cemented our position as leaders in the field.

In September 2023, the transportation landscape in our nation saw remarkable growth, with a total of 9.4 million tons of cargo transported across various modes, marking a significant 35.2% increase from the same period the previous year. Notably, this surge follows an impressive 52.6% rise from the preceding year. Moreover, the cumulative cargo transported since the beginning of the year reached 75.9 million tons, showcasing an

outstanding 90% increase over the same period in the previous year (TRANSPORT, 2023).

Among the modes of transportation, roads played a pivotal role, facilitating the movement of 65.93% of the total cargo, followed by rail at 34.07%, while air transport contributed a minor fraction at 0.01%. These statistics underscore the robust growth and operational efficiency of “Monlogistics Worldwide” LLC, positioning us as a key player in the evolving transportation industry.

Looking ahead, the promising surge in our country's mining exports augurs well for the future of our company, offering ample opportunities for “Monlogistics Worldwide” LLC to continue its upward trajectory and make significant strides in the logistics and freight forwarding sector.

4. Operation service

4.1. Features of operation

“Monlogistics Worldwide” LLC is a leading organization in the transport logistics market with more than 180 employees and a specialized team in cooperation with more than 800 customer partners from more than 160 international countries and more than 1500 domestic enterprises. (LLC M. , 2022)

4.2. Company Mission

A national brand that aspires to the world

4.3. Company Vision

“Monlogistics Worldwide” LLC will become a leading freight forwarder in Mongolia and a highly recognized company in the Asia-Pacific region with a full supply chain capability.

4.4. Products and services

“Monlogistics Worldwide” LLC provides import, export, and transit transportation to customers by road, rail, air, and sea. Their product features. Flexible payment terms are available and all shipments are insured. It also offers comprehensive transportation services. In addition, they offer customers a comprehensive range of transport and logistics services, including consulting, customs clearance, terminal services, insurance, warehousing, and delivery.

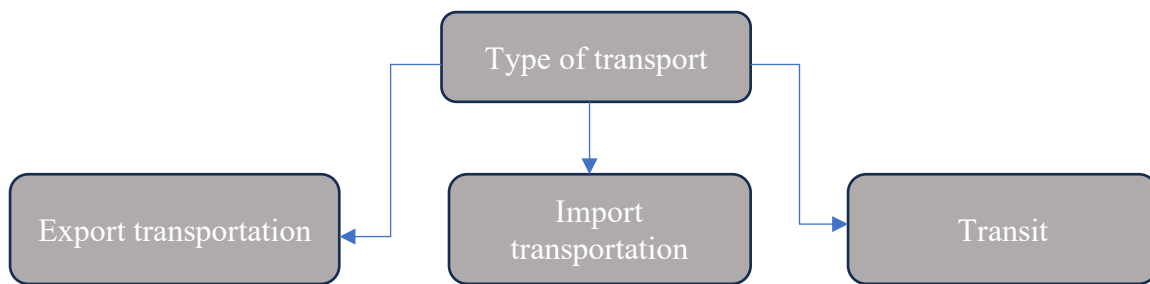


Figure 2 Type of Transport “Monlogistics Worldwide” LLC

In recent years, the share of “Monlogistics” LLC in cargo transportation throughout Mongolia has been increasing every year. The company also provides three main types of transportation.

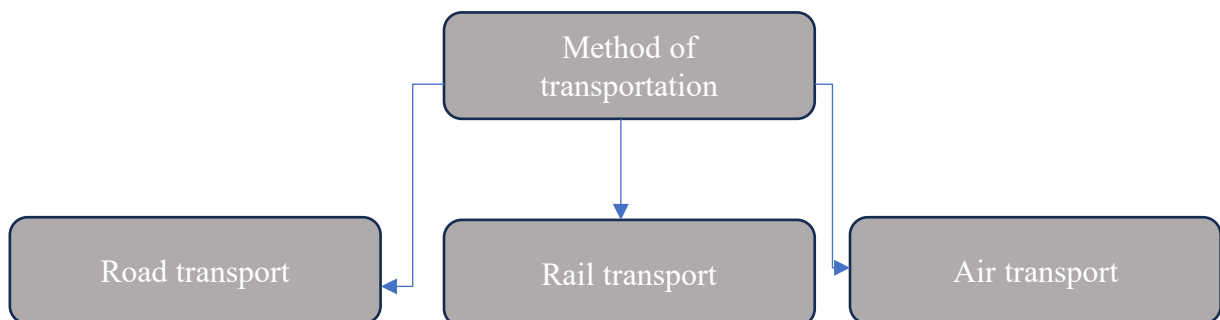


Figure 3 Method of Transportation “Monlogistics Worldwide” LLC

Rail transport

Rail transport has an advantage over land transport in that it can transport large quantities of cargo in a short period of time at low cost regardless of weather conditions. Although Mongolia is landlocked, it has a high infrastructure of railways connecting Europe and Asia. By using this infrastructure, there is a wide opportunity to organize export, import and transit transportation by railway in a short period of time. MonLogistic LLC performs export, import and transit operations using the Mongolian and international railway network.

Air transport

Air freight is the fastest form of cargo transportation and includes mail, urgent, perishable and fragile items by direct or transit flights. If necessary, additional services such as customs clearance, reception, and address delivery of special air transport packages are provided to customers. MonLogistic LLC carries out import transportation by air from cities such as Incheon, South Korea, Istanbul, Turkey, Frankfurt, Germany, and Beijing, China.

Auto transport

Road transport is cheaper and faster than ground transport, but it has disadvantages such as the use of specially prepared tracks, the need for sophisticated operational technology, and strict adherence to timetables. Although road transport is more expensive than rail, it has the advantage of direct door-to-door delivery from the shipper's warehouse to the receiver's warehouse and the flexibility to move the cargo at any time. It is a very suitable type of transport in Mongolian conditions. "Monlogistics Worldwide" LLC mainly provides road transport services and organizes import and transit services.

Sea transport

The most economical and high-turnover mode of transportation is sea transportation. Since Mongolia is landlocked, goods are imported to the border port through the sea ports of other countries by road, rail, and mixed transport. For Mongolia, the nearest sea port is Tianjin Port, and 80 percent of all traffic from China to Mongolia passes through this port. "Monlogistics Worldwide" LLC, through its subsidiaries, arranges import shipments to Mongolia through potential shipping agents, and arranges container, bulk and bulk cargo shipments from other countries around the world. "Monlogistics Worldwide" LLC provides a wide range of transport logistics services.

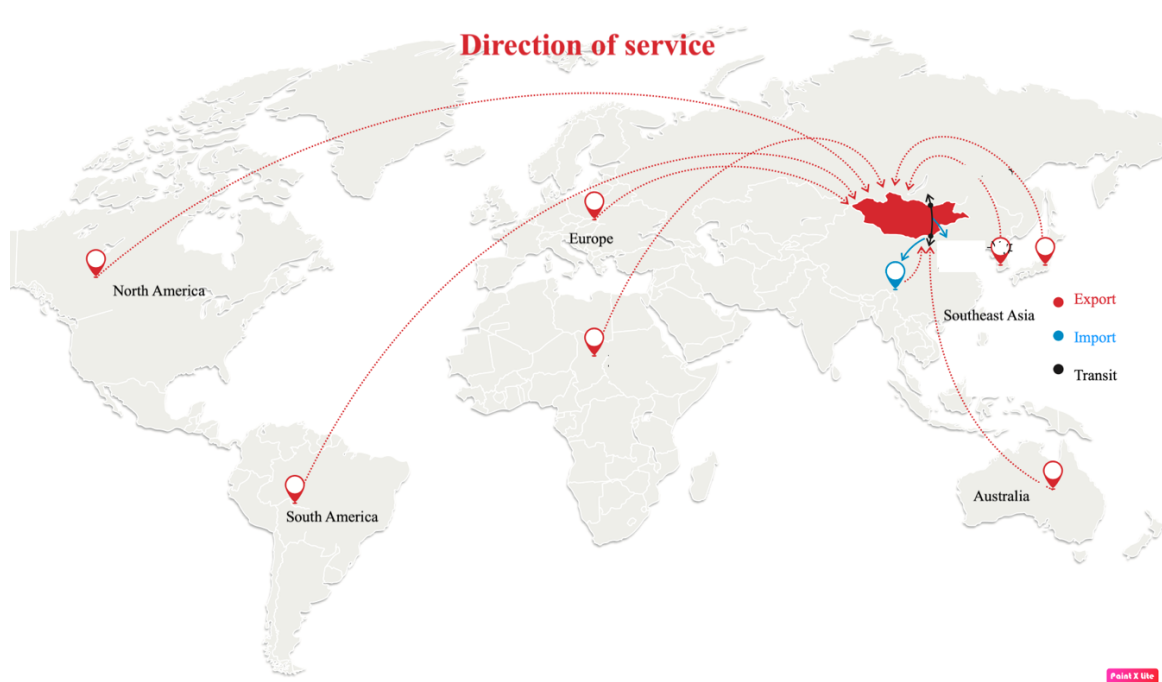


Figure 4 “Monlogistics Worldwide” LLCservice map (Internet 2)

Freight collection

Customers need to import or export small shipments from different countries. In this situation, air freight, trucks and full containers are expensive to use. Therefore, the transportation of small cargo at the request of the customer is called collective cargo transportation. “Monlogistics Worldwide” LLC also provides this service.

Warehousing services

In addition, “Monlogistics Worldwide” LLC provides the service of keeping the cargo of customers in customs-guaranteed, simple, hot and cold warehouses within the framework of the contract with the subcontractor.

5. Human resource policy

“Monlogistics Worldwide” LLC is continuously working in the field of human resource formation and qualification, which is the main driving force of Mongolia's transportation industry. Currently, it is operating with about 180 employees. 59% of all employees of “Monlogistics Worldwide” LLC are women and 41% are men. 63 percent of all employees are young people aged 20-35. “Monlogistics Worldwide” LLC is working in accordance with the following basic principles of human resources. They are committed to providing specialized skills, future career growth, competitive pay, social support and a strong community. Also, employees are constantly trained and developed according to their profession, and take care of their health. In 2022, “Monlogistics Worldwide” LLC introduced training for employees, students, and transportation industry professionals to empower suppliers and customers in international transportation logistics, customs clearance, and foreign trade.

6. Risk management system

“Monlogistics Worldwide” LLC identifies potential risks and factors affecting them, develops and implements risk prevention policies, and works in coordination with the operations of its subsidiaries. “Monlogistics” LLC may experience risks such as loss of normal border customs operations, infrastructure failure, loss of information security, exchange rate changes, lack of trucks and loyal customers, technical failures, lack of manpower, and changes in the legal environment. . Therefore, the potential risks to “Monlogistics Worldwide” LLC are shown in the risk matrix below.

Table 1 “Monlogistics Worldwide” LLC Risk assessment matrix

Risk Assessment Matrix				
Severity				
		Low	Medium	High
Probability	High	Loss of information security	Fluctuations in exchange rates	Loss of loyal customers due to price competition
	Medium	Disruption of normal customs operations	Loss of liquidity	Lack of transport
	Low	Changes in the legal framework	Labor shortage	Infrastructure failure

The table shows that the biggest risks are price competition and the threat of losing loyal customers. As of 2022, 223 companies out of more than 2,500 organizations operating in the field of transportation throughout Mongolia are providing the same services to “Monlogistics Worldwide” LLC. Therefore, they should be focus to this sector. “Monlogistics Worldwide” LLC prides itself on robust risk management strategies, ensuring seamless operations even in the face of challenges. The dedicated team employs comprehensive risk assessment methods, proactive planning, and innovative solutions to mitigate potential risks effectively. By prioritizing risk management, we guarantee the safe and efficient transport of goods, bolstering our reputation as a trusted logistics partner in Mongolia and beyond.

7. Materials and methods (SWOT analysis and financial analysis with linear regression model)

7.1. What is the logistics

Logistics refers to the overall process of managing how resources are acquired, stored, and transported to their final destination. Logistics management involves identifying prospective distributors and suppliers and determining their effectiveness and accessibility. Logistics managers are referred to as logisticians (KENTON, 2023).

Mongolia's trade and transport logistics sector is very small compared to other major countries. This is directly related to the following two factors. Population of Mongolia. It is also directly related to the number of factories producing final products. "Monlogistics Worldwide" LLC operates in multiple industries and will use linear regression to forecast the company's future earnings based on financial statements. It will also conduct a SWOT analysis of "Monlogistics Worldwide" LLC, identify strengths and weaknesses, and indicate ways to use strengths, eliminate weaknesses, and improve.

7.2. The status of Mongolia's transport sector

For Mongolia, which is landlocked, has a population of 3.3 million, and is highly dependent on the mining industry, the transport and logistics sector has been playing an important role in the economy. In 1925, when Mongolia embarked on its freight transportation journey, the inception of the first freight transportation document marked a significant milestone. This document was instrumental in recording vital details such as the cargo's name, size, and distance, laying the foundation for organized and systematic freight management in the country's transportation sector. In 2022, the revenue of the transport sector will increase by 47.6 percent from the previous year and reach 2.0 trillion MNT.

7.3. Linear Regression

Regression analysis is a technique for using data to identify relationships among variables and use these relationships to make predictions. We will be studying linear regression, in which we assume that the outcome we are predicting depends linearly on the information used to make the prediction. Linear dependence means a constant rate of increase of one variable with respect to another (as opposed to, e.g., diminishing returns) (Glasserman, 2001).

It assumes that there is a direct relationship between two variables and that this relationship can be represented by a straight line. Linear regression is the simplest form of regression. I will use Linear Regression in my thesis research.

Regression is a statistical technique used in finance, investing, and other fields to determine the strength and nature of the relationship between one dependent variable (often denoted Y) and several others (called independent variables).

Also called simple regression or ordinary least squares (OLS), linear regression is the most common form of this technique. Linear regression establishes the linear relationship between two variables based on a line of best fit. Linear regression is thus graphically depicted using a straight line with the slope defining how the change in one variable impacts a change in the other. The y-intercept of a linear regression relationship represents the value of one variable when the value of the other is zero. Non-linear regression models also exist, but are far more complex.

7.4. A SWOT analysis of “Monlogistics Worldwide” LLC

It will help you assess the current situation and identify areas for improvement and growth.

7.4.1. Strengths

Strategic location: Mongolia's geographic location between Russia and China makes it a hub for goods and transportation between these two large markets and other regions.

Natural resources: Mongolia is rich in natural resources, including minerals and raw materials. The logistics sector is useful in bringing these resources to international markets.

Growing economy: Mongolia's steady economic growth has increased the demand for trade and logistics. This growth allows logistics companies to expand their services.

Government support: Mongolia's economy needs to improve infrastructure such as roads and railways, and improve transport capacity and connectivity.

Agreements: Mongolia signed trade agreements with neighboring countries, facilitated cross-border trade, and worked together to develop the logistics sector.

7.4.2. Weaknesses

Infrastructure Challenges: While infrastructure is improving, challenges remain, especially in remote and rural areas. Poor road conditions and limited transport networks can hamper logistics operations.

Extreme Weather: Mongolia has an extreme climate, including harsh winters, which hampers transportation and logistics operations.

Landlocked: Mongolia is landlocked, limiting direct access to international markets by sea. This can increase shipping costs and cause complications.

Regulatory and customs issues: Bureaucracy, customs procedures, and regulatory barriers slow down the movement of goods across borders and increase operational costs.

Skills gap: There may be a skill gap in the logistics workforce, such as the need for more experience in supply chain management and modern logistics practices. Because the turnover is low compared to other countries.

7.4.3. Opportunities

Transit trade: Mongolia can further develop its role as a transit hub for goods transported between Russia and China. This can be facilitated by improving infrastructure and trade agreements.

Growth of e-commerce: The growth of e-commerce in Mongolia is enabling logistics companies to offer end-to-end delivery services, warehousing solutions, and support for online retailers.

Infrastructure investment: Continued investment in infrastructure projects will improve logistics capabilities and provide access to international markets.

Sustainable logistics: Mongolia's focus on environmental protection will help develop sustainable and environmentally friendly logistics practices.

Cross-Border Trade: Expanding cross-border trade with neighboring countries, especially China and Russia, will boost the logistics sector if regulatory barriers can be reduced.

7.4.4. Threats

Economic volatility: Mongolia's economy is vulnerable to fluctuations in commodity prices, which may affect demand for logistics services, particularly in the natural resources sector. Last year, Russia and China connected by natural gas pipelines and railways, reducing the amount of cargo transiting through them.

Political instability: Political instability or changes in government policies can affect the business environment and logistics operations.

Competition: Increasing competition from regional logistics players may put pressure on domestic logistics companies.

Climate events: Severe weather events such as heavy snowfall or flooding can disrupt logistics operations and supply chains.

Global Economic Trends: Changes in global trade patterns, economic trends, and geopolitical tensions may affect “Monlogistics Worldwide” LLC.

In conclusion, Monlogistic LLC has advantages and opportunities for economic growth. However, it faces infrastructure, regulatory issues, and extreme climate challenges. To capitalize on its strengths and opportunities, the industry must address its weaknesses and mitigate potential threats such as economic instability and political instability.

Such an analysis not only identifies the strengths and weaknesses of the existing logistics system but also opens up opportunities for improvement and innovation.

8. SWOT analysis discussion

This analysis examines internal strengths and weaknesses, external opportunities and threats in relation to Mongolia's situation. Here is a comprehensive evaluation and discussion of the SWOT analysis conducted on “Monlogistics Worldwide” LLC.

8.1. Internal strength

“Monlogistics Worldwide” LLC prides itself on on-time delivery, customer satisfaction and operational efficiency. Using the latest logistics technology improves their control, inventory management and route optimization. Our dedicated and skilled workforce forms the foundation for smooth logistics operations.

8.2. Internal weaknesses

Infrastructure, especially road conditions, and limited storage facilities make our operations difficult. Financial constraints and a lack of skilled personnel have hindered our expansion and technology investments.

8.3. External features

Mongolia's economic growth opens up opportunities for increased demand for logistics, especially in sectors such as mining and agriculture. Participating in international trade agreements expands our market reach, especially with neighboring countries. The growing wave of e-commerce is creating last-mile logistics and supply chain services.

8.4. External threats

Changes in logistics industry regulations and policies may require “Monlogistics Worldwide” LLC to make significant adjustments that may threaten current operations. Increasing competition from domestic and international players requires constant innovation and strategic positioning. Economic instability, inflation and currency depreciation threaten our financial stability and profitability.

8.5. Correlation and Correlation

Our infrastructure challenges directly impact economic growth and our ability to take advantage of international trade opportunities.

Investing in technology and skilled workforce development can help reduce internal vulnerabilities and external threats.

8.6. Impact on the Company

By leveraging operational efficiencies and technological advancements, we can partner with e-commerce businesses to tap into the growing online market. Addressing infrastructure challenges through strategic partnerships and government lobbying can sustain demand for economic growth.

8.7. Strategic recommendation

Allocate resources to advanced logistics software and IoT devices for real-time monitoring and improved efficiency. Under the influence of the government, the infrastructure will be improved, favorable regulations will be supported, and a favorable environment for logistics operations will be created. In order to diversify our services, we will establish strategic partnerships with domestic businesses and large international logistics companies.

8.8. Risk mitigation strategies

Conduct regular risk assessments to anticipate regulatory changes and create adaptive operational protocols. Diversify service offerings to mitigate risks associated with economic volatility and ensure revenue streams from different sectors.

8.9. Conclusion

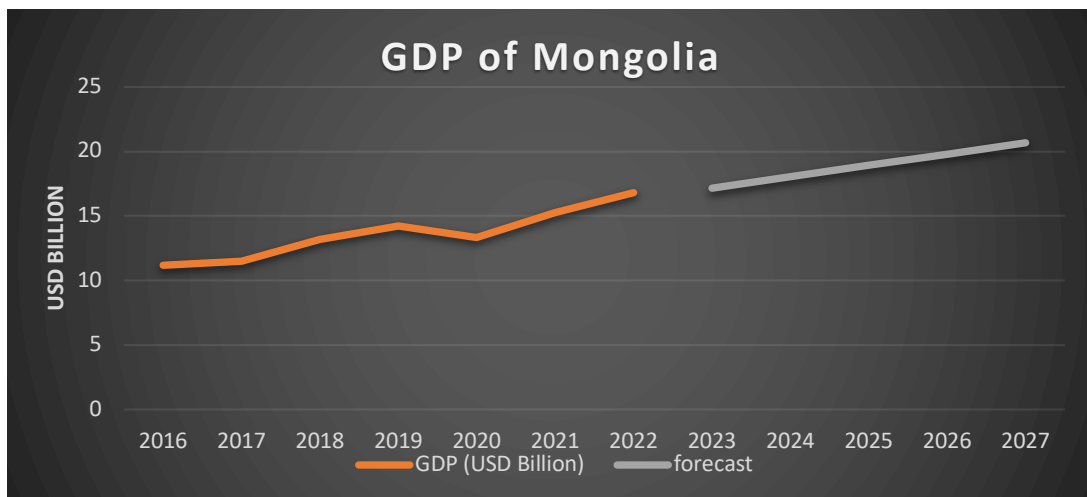
Finally, this SWOT analysis comprehensively shows the current situation and future opportunities of our MonLogistik LLC. By leveraging their strengths, addressing internal weaknesses, exploring external opportunities, and neutralizing threats, they can become powerful players in Mongolia's logistics industry. Strategic planning and adaptability will be fundamental to sustainable growth and competitiveness in an ever-evolving market.

9. Financial Analysis and Forecast

9.1. Mongolian Economics situation

The activities of companies operating in any country are related to the country's gross domestic product. Therefore, before analyzing the company, it is a very good step to analyze the general economic situation of the country. Mongolia's economy has been growing in recent years, but the impact of the covid-19 infection on the world has become a serious challenge for Mongolia as well. Also, 2020 and 2021 were difficult years when the export of the mining industry, which constitutes the main share of the gross domestic product of our country, decreased. The transport sector is divided into four main sub-sectors: road, rail, air and water. All types of transportation were calculated for each category, including freight, freight turnover, turnover, tons and kilometers transferred, and revenue from transportation. At this time, I made a calculation comparing "Monlogistics Worldwide" LLC " and Mongolia in terms of freight turnover and freight turnover income. According to the official data of the World Bank, the gross domestic product of Mongolia will be 16.81 billion US dollars in 2022. The GDP of our country is equal to 0.01 percent of the world economy.

Graphic 1 GDP of Mongolia (from data)

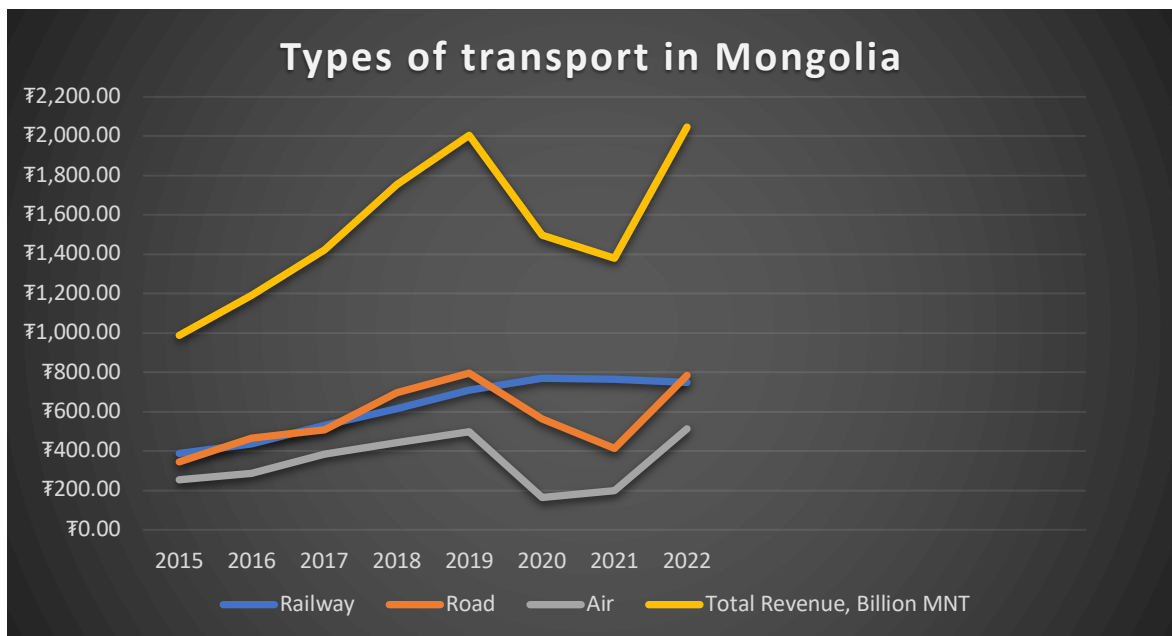


According to this forecast, Mongolia's gross domestic product is generally growing. The logistics sector of our country is likely to grow (Tradingeconomics, Tradingeconomics, 2023).

9.2. Total foreign trade turnover

As a landlocked country, foreign trade is mainly carried out by road and rail. In 2022, the export of road transport will be 3.2 (64.7%) billion USD compared to the previous year. In dollar terms, air transport exports increased to 188.1 (16.6%) million dollars. Railway exports decreased by 69.5 (2.2%) million dollars. Here you can see the revenue and shipping volume of our country's logistics industry. In the table below, you can see the total revenue of Mongolia's logistics, how much revenue is earned from railways, air transport, and roads.

Graphic 2 Types of transport in Mongolia (from data)



Mineral products, natural and cultured stones, precious metals, jewelry, and textile products account for 97.0 percent of total exports. However, 74.9 percent of the total import is made up of machinery, equipment, electrical appliances, basic metals, articles made from them, vehicles, their spare parts, and food products. Most of the export and import cargo is transported by road and rail. Therefore, it is important for "Monlogistics" LLC to pay attention to both of transportation. That's why it's important to invest in a truck and train trailer. If they add trucks and train trailers, the company can move more freight and earn more revenue.

9.3. Revenue of Logistics in Mongolia

Transportation in Mongolia is highly dependent on the following factors.

Consider macroeconomic factors such as GDP growth, inflation rates, and consumer spending. Economic stability or recession can affect the demand for logistics services.

9.4. Forecasting methods

Use expert opinion, market research, and qualitative analysis to predict future trends. Quantitative methods such as time series analysis, regression analysis or financial modeling are used to predict future financial performance based on historical data patterns.

Forecasting methods in the logistics industry in Mongolia, like in many other regions, rely on various techniques and data analysis to predict future trends and make informed decisions. Forecasting methods widely used in the logistics industry are:

Time Series Analysis: Analyze time series data, including historical logistics and transportation data over a specific period, to identify patterns and trends.

Regression Analysis: Regression models are used to determine the relationship between various variables affecting logistics operations. By analyzing historical data, regression analysis helps determine the impact of fuel prices, demand, and economic indicators on logistics performance.

Machine learning algorithms: Machine learning techniques such as neural networks, decision trees, and random forests can analyze large amounts of data to identify patterns and make predictions. These algorithms can be trained on historical logistics data to predict future trends and optimize routes and operations.

Qualitative Methods: Qualitative methods of forecasting include expert opinion, market research, and research to predict future logistics trends.

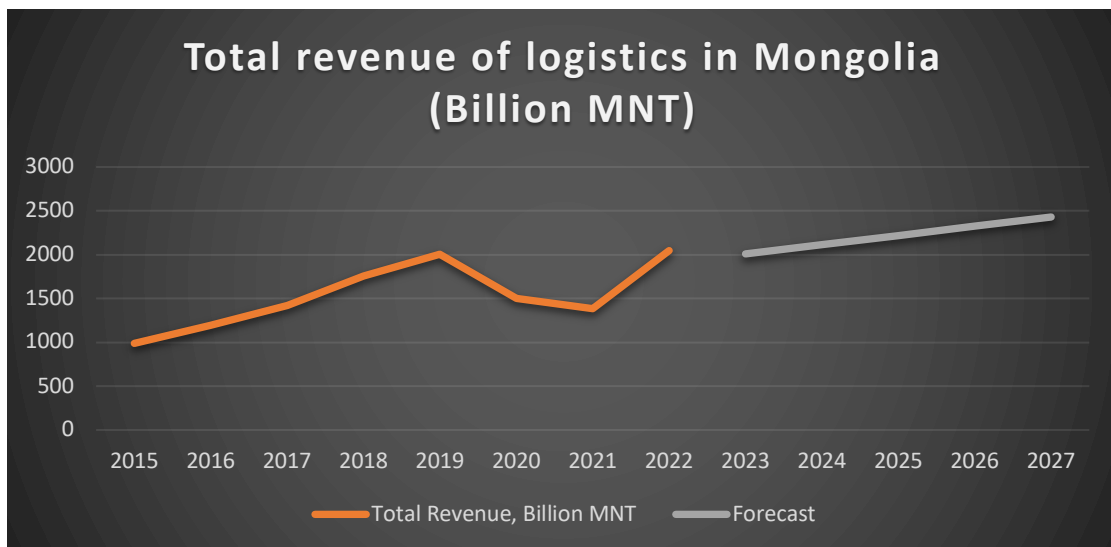
Simulation Models: Simulation modeling creates computer-based models that simulate logistics processes. These models help assess the impact of changes in various factors such as demand, inventory levels, and transportation routes by including various variables and scenarios.

Big Data Analytics: With the advent of big data technology, logistics companies can analyze large amounts of structured and unstructured data to gain insights into customer behavior, market trends, and operational inefficiencies. Big data analytics can provide real-time predictions and predictive analytics for better decision making. **Collaborative Planning, Forecasting, and Recovery (CPFR):** CPFR is a strategy in which logistics partners work together to increase forecasting accuracy. By sharing information and insights, supply chain partners can collectively predict demand, optimize inventory levels, and improve overall efficiency.

In Mongolia's logistics industry, these methods are used in combination, taking into account the specific conditions, available data, and the nature of logistics operations. Advanced technology and data-driven approaches continue to play an important role in improving forecasting accuracy and streamlining logistics processes.

The graph below shows the gradual growth of Mongolia's logistics sector. But due to the war situation between Russia and Ukraine, transit freight has decreased. This is not very pleasant for "Monlogistic" LLC.

Graphic 3 Total Revenue of Logistics in Mongolia (from data)



10. Result and discussion

10.1. Financial analysis of “Monlogistics Worldwide” LLC

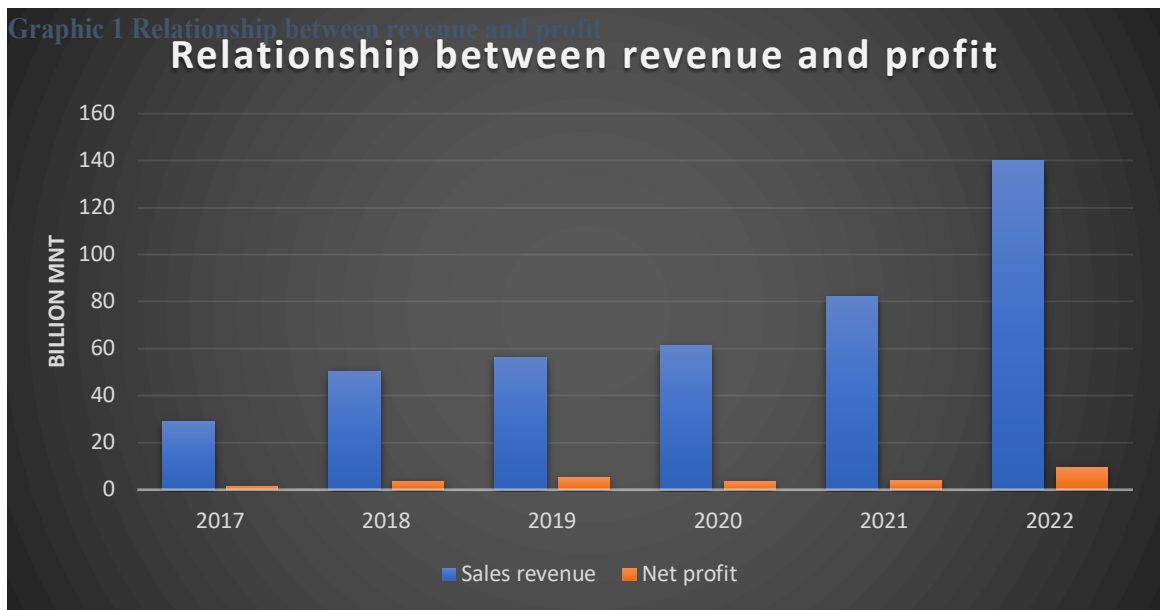
"Monlogistic" LLC will determine the financial indicators of 9 subsidiaries and perform financial analysis. This will include a financial analysis of the income statement for each main service sector.

“Monlogistics Worldwide” LLC sales revenue depends on 1. total shipping volume 2. unit shipping price 3. exchange rate. From 2013 to 2022, the number of shipments of Monlogistic LLC increased by an average of 27.8 percent per year. In 2022, the average transport price increased due to the impact of the global pandemic, and in 2023, the average transport unit price decreased by 7% from the previous year due to the normalization of customs operations. IMF analysts predict that it will increase by an average of 1 percent per year in the future.

The sales revenue of “Monlogistics Worldwide” LLC increased by 70 percent from the previous year and reached 140.1 billion MNT in 2022, which is an average annual growth rate of 37 percent in 2017-2022 (LLC R. o., 2023).

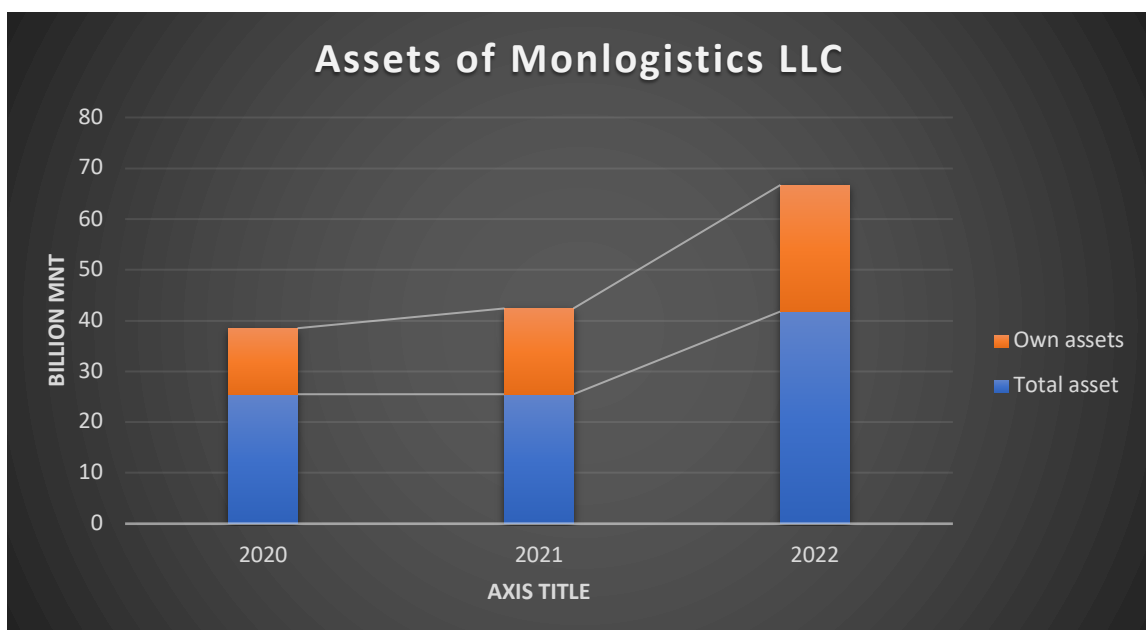
Total assets will reach 41.8 billion MNT in 2022, of which 94% are current assets and 6% are non-current assets. In 2022, 92 percent of Monlogistics Group's equity or 22.9 billion MNT earned.

Graphic 4 Relationship between revenue and profit (from data)



The relationship between revenue and profit can be seen in the graph above. The correlation between sales revenue and net profit R is 0.89 or 89 percent, which means that net profit can be calculated from sales revenue. Although profitability is related to income, the significance of the linear regression shows that the correlation is 0.04 and the correlation is not high.

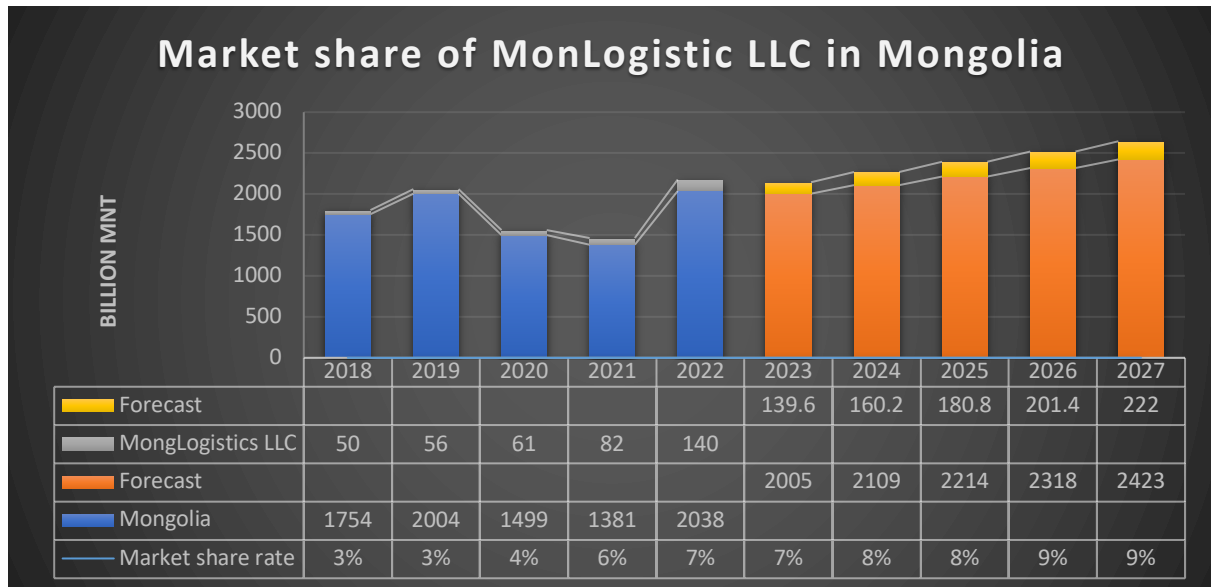
Graphic 5 Assets of “Monlogistics Worldwide” LLC (from data)



10.2. Market share of “Monlogistics Worldwide” LLC in Mongolia

In 2022, the revenue of Mongolia's transportation industry will reach two trillion MNT, and the transportation revenue of “Monlogistics Worldwide” LLC will occupy 6.9 percent of the market.

Graphic 6 Market share of “Monlogistics Worldwide” LLC in Mongolia (from data)



As can be seen from the table above, according to market forecasts, the revenue of the logistics industry is expected to reach 2.4 trillion MNT in 2027. It can be seen from this that in 2027, "Monlogistic" LLC will work with a sales revenue of 222 billion MNT, which will reach nine percent. market share. This prediction will be realized by improving our operations according to the short-term and medium-term strategy.

Mongolia's transport and logistics market is divided into three main parts: import, export and transit. It also shows the amount of coal exports, which accounts for the majority of Mongolia's exports, and the share of import container transportation, which is the main industry that generates revenue for “Monlogistics Worldwide” LLC. The table below is based on freight quantities.

Table 2 “Monlogistics Worldwide” LLC market share and transportation type (table created by Data)

Type of Transport	2022	2022
Import	5	2.1%
Export	40.6	0.2%
Transit	3.2	6.4%
Transport of export coal	31.8	0.2%
Import container shipping	1	10.1%

It can be seen from the above table that “Monlogistics Worldwide” LLC has a high position in the market of goods organized by import container transportation. In 2022, container transportation will account for 20.7 percent of the total import transportation. “Monlogistics Worldwide” LLC occupies 10.1 percent of the container transport market. Also, the company's subsidiary transported a total of 11,354 cargoes and goods, which means 202.9 thousand tons of cargo. It accounts for 6.4 percent of the total transit transport market.

The share of the transport sector in GDP has continuously decreased from the highest in 2009 (8.3 percent) to the lowest in 2021 (3.7 percent). However, in 2022, the share of the transport sector in the GDP will be 4.7 percent, which will increase by 1.0 points from the previous year, at the same level as in 2018, and by 0.2 points compared to 2019 (Bathishigh, 2022).

From this, it can be seen that Mongolia's gross domestic product is highly dependent on mining exports.

10.3. Financial plan

For “Monlogistics Worldwide” LLC, the parent company of “Monlogistics Worldwide” LLC, the financial indicators are defined as a combination of the head company of “Monlogistics Worldwide” Group and 9 subsidiaries. Below is a financial projection for “Monlogistics Worldwide” LLC.

Table 3 Financial projection for “Monlogistics Worldwide” LLC(table taken from Battulga researcher and analyst)

	2022	2023T	2024T	2025T	2026T	2027T
Sales revenue	140122	215507	273462	350349	393189	428617
Cost of sales	-123260	-187603	-231160	-299182	-334870	-365646
Total profit	16862	27904	42302	51167	58319	62971
General administrative expenses	-5440	-8743	-10043	-11834	-13653	-15791
Sales and marketing expenses	-804	-1007	-1033	-1117	-1199	-1288
Other operating income (expenses)	-281	-1472	-1563	-1732	-1947	-2198
Operating profit	10337	16682	29663	36484	41520	43694
Non-operating income and expenses	1398	582	-86	-88	0	0
Earnings before interest, taxes, depreciation and amortization	11735	17264	29577	36396	41520	43694
Depreciation cost	0	-876	-1866	-1871	-1927	-1973
Expenses before interest and taxes	11735	16388	27711	34525	39593	41721
interest expense	-385	-1757	-2850	-2294	-1738	-1182
Profit before tax	11350	14631	24861	32231	37855	40539
Income tax expense	-1659	-2179	-3876	-5410	-6617	-7025
Profit after tax	9691	12452	20985	26821	31238	33514

Analyzing the financial statements, the sales revenue of Monlogistic LLC depends on the total number of shipments, the unit price of the freight, and the exchange rate.

“Monlogistics Worldwide” LLC is actively expanding its transportation capacity within the framework of the Mongolian Government's 2023 railway construction project, and this strategic move has significantly increased the company's total transportation and unit volume, resulting in impressive growth and improved operational efficiency (LLC F. r., 2023).

“Monlogistics Worldwide” LLC is working to increase its transportation capacity due to the fact that the Government of Mongolia is going to start building a new railway in 2023. This strategic initiative dramatically increased the company's total shipments and unit count, resulting in impressive growth and operational efficiency.

The exchange rate has a great influence on the Mongolian logistics and transportation sector. In recent years, the exchange rate of the dollar and the euro has been constantly increasing. Therefore, the exchange rate has a very high impact on the financial plan.

Figure 5 exchange rate MNT and US (Internet 3)



In the image provided, the exchange rate against the US dollar is depicted, emphasizing the importance of having a reliable projection for future exchange rates. Accurate forecasting is essential for informed decision-making and effective financial planning in the face of currency fluctuations. Currently, the exchange rate of MNT against the US

dollar announced by the Central Bank of Mongolia is 3451, which is 10.7 percent higher than the average US dollar exchange rate of the previous year (Tradingeconomics, Tradingeconomics, 2023).

11. Logistics technology

The logistics industry is rapidly evolving, incorporating a variety of new technologies to improve efficiency, accuracy, and overall supply management. Logistics technology is having a good effect.

11.1. Internet of Things (IoT)

The digitization process is a major project aimed at creating a new network-information society based on information and communication technologies. Now we are witnessing "Industry 4.0" or "4th Industrial Revolution". IoT-enabled sensors enable real-time tracking of shipments, providing precise location data, temperature, and humidity. Vehicle and equipment sensors can predict maintenance needs, reduce downtime, and optimize maintenance schedules (Ivankova, 2023).

11.2. Blockchain technology

Blockchain ensures secure and transparent transactions, making supply chain processes such as payments, contracts and documentation more secure and efficient. The advantage is that blockchain data cannot be edited. Therefore, more reliable in terms of information. It enables end-to-end product tracking, where quality and authenticity are critical in industries such as food and pharmaceuticals. How the blockchain system will work. Being an emerging technology, the Blockchain aims at storing and transmitting data in a secure, more transparent, and decentralized way. It is considered a distributed database, or public/private shared ledger of all digital events, that has been run and shared among agents participating in the blockchain. Technically, Blockchain is a distributed system, containing all the transactions done since its start, in the form of blocks. These are constituted by the information sent by the users. These data transactions are secured by cryptographic algorithms. Blockchains can be generalized and used to implement a set of agreed rules that no one, neither users nor system operators, can break (Issaoui, 2019).

11.3. Robotics and Automation

Automated warehousing: Robots are used to sort, stack, and assemble goods in warehouses, greatly improving efficiency and reducing labor costs. Automated Guided Vehicles (AGVs): AGVs are used in warehouses and manufacturing facilities to move materials and streamline operations.

11.4. Big Data Analytics

Data-driven insights: Big data analytics process vast amounts of data to provide valuable insights into customer behavior, supply chain performance, and market trends to aid strategic decision-making.

Risk Management: Analyzing historical data can help identify potential risks and disruptions and enable proactive risk management strategies.

11.5. Technology “Monlogistics Worldwide” LLC

Advances in technology such as blockchain and artificial intelligence are transforming the transportation logistics industry, making it more efficient, transparent, and cost-effective. It is believed that this will increase the demand for the use of transport and logistics services by organizations in the trade sector.

They are announcing Obortech’s participation in the development of international freight forwarding and logistics operations with “Monlogistics Worldwide” LLC. Through Obortech’s Smart Hub blockchain-powered ecosystem, MonLogistics Worldwide is looking to improve its business operations through:

Decentralization — From production management to procurement, recording sensitive information on a decentralized network, without having it deleted or altered.

Blockchain and Cloud Storage — Securing the exchange of documents with partners using blockchain technology — by minimizing the use of email and paper printing.

Shipment traceability — Directly monitoring location, sealing, and shock of consignment in real-time through IoT sensors and overseeing shipment conditions 24/7. (Bayarsaikhan, <https://www.obortech.io/>, 2022)

In summary, the transportation logistics market is expected to grow in the medium term due to the growth of international trade and e-commerce, growth in emerging markets, and technological advancements. “Monlogistics Worldwide” LLC pursues a strategy in each business area with the goal of long-term sustainable development. The transport logistics industry, like any other industry, is adapting to modern technological solutions and creating a competitive advantage. Therefore, in the medium term, we are working with the strategy of becoming a technology-based transport logistics company. “Monlogistics Worldwide” LLC improves productivity by introducing technological solutions in its operations. They have developed their own internal transportation management system for their daily operations. The system allows employees to manage and monitor the entire transportation operation, analyze customer satisfaction and feedback, measure sentiment, and is unique in that it measures employee KPI performance and productivity. It is now possible to partially automate logistics processes based on artificial intelligence. For example, when users log in and enter information such as the type of cargo, where to ship, etc., the calculation will be done automatically. In addition to providing operational support, the company provides easy billing for customers.

12. Summary

In conclusion, Mongolia's logistics system has achieved significant development in recent years due to economic growth and globalization. It also has a positive effect on the activities of Monlogistics LLC. Although there are still challenges such as infrastructure constraints and geographical limitations, Monlogistics LLC. has made commendable progress in streamlining its logistics processes. Technology integration, investments in transportation infrastructure, and the implementation of efficient supply chain strategies have all played a role in improving the overall efficiency and effectiveness of the Monlogistics system.

In addition, Mongolia's strategic landlocked position creates challenges and opportunities. Efforts to improve cooperation with neighboring countries and create efficient transport corridors are important to overcome geographical constraints. Cooperation initiatives at the regional and international levels will further improve Mongolia's communications and trade relations and support economic growth and development.

Furthermore, there is a need for continued investment in education and training programs to prepare skilled personnel capable of managing modern logistics systems. Adopting sustainable practices such as environmentally friendly shipping and energy-efficient warehousing operations are essential to reducing the environmental impact of logistics operations. Although the system of “Monlogistics Worldwide” LLC has made great progress in the field of logistics and transportation in Mongolia, there is still room for further improvement and modernization. Monlogistic LLC can continue to improve its logistics capabilities by solving problems, promoting cooperation, and introducing technological advances and sustainable practices, thereby supporting economic growth and strengthening its position in the global market.

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14. Appendix

Appendix A GDP of Mongolia

Year	GDP (USD Billion)	Forecast
2016	11.18	
2017	11.48	
2018	13.18	
2019	14.21	
2020	13.31	
2021	15.29	
2022	16.81	
2023		17.15714286
2024		18.03714286
2025		18.91714286
2026		19.79714286
2027		20.67714286

Appendix B Type of Transport revenue in Mongolia

Date	Railway	Road	Air	Total Revenue, Billion MNT
2015	387.9	345.1	254.3	987.9
2016	436.9	467.2	287.3	1191.5
2017	530	506.4	385.5	1422.2
2018	616.02	695.86	442.3	1754.4
2019	708.62	796.06	498.68	2003.5
2020	770.1	564.38	164.1	1498.5
2021	766.34	413.9	200.066	1380.7
2022	748.2	784.6	513	2046.4

Appendix C Total revenue of logistics in Mongolia with forecast to 2027

Date	Total Revenue, Billion MNT	Forecast
2015	988	
2016	1192	
2017	1422	
2018	1754	
2019	2004	
2020	1499	
2021	1381	
2022	2038	
2023		2005
2024		2109
2025		2214
2026		2318
2027		2423

Appendix D Relationship between revenue and profit “Monlogistics Worldwide” LLC

Relationship between revenue and profit	Column1	Column2
	Sales revenue	Net profit
2017	29.2	1.7
2018	50.5	4.1
2019	56.4	5.1
2020	61.4	3.5
2021	82.3	3.9
2022	140.1	9.7

Appendix E Asset of “Monlogistics Worldwide” LLC

Column1	Total asset	Own assets
2020	25.5	13
2021	25.5	16.9
2022	41.8	24.9

Appendix F Marekt share of “Monlogistics Worldwide” LLCin Mongolia

Total Revenue, Billion MNT	Column1	Column2	Column3	Column4	Column5
Date	Mongolia	Forecast	“Monlogistics Worldwide” LLC	Forecast	Market share rate
2018	1754		50		3%
2019	2004		56		3%
2020	1499		61		4%
2021	1381		82		6%
2022	2038		140		7%
2023		2005		139.6	7%
2024		2109		160.2	8%
2025		2214		180.8	8%
2026		2318		201.4	9%
2027		2423		222	9%

Appendix G Regression of relationship between revenue and profit “Monlogistics Worldwide” LLC

SUMMARY
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.894251061
R Square	0.79968496
Adjusted R Square	0.732913279
Standard Error	18.94137593
Observations	5

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	4296.844833	4296.84483	11.97640913	0.040619656
Residual	3	1076.327167	358.775722		
Total	4	5373.172			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	10.56177013	21.28550858	0.49619534	0.653833846
1.7	12.84757222	3.712425575	3.46069489	0.040619656

15. Acknowledgment

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16. Abbreviation

IoT – Information of Technology

MNT – Mongolian Tugrug

GDP – Gross Domestic Product

USD- United states Dollar

KPI – Key performance indicator

IMF- International Monetary Fund

CPFR- Collaborative Planning, Forecasting and Replenishment

AGV- Automated Guided Vehicles