



Assessing the Competitiveness of Iraq's Logistic Corridors through Multimodal Transport and SWOT Framework

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Keywords: Multimodal Transport - Faw Port - Maritime Transport - Development Road - SWOT Analysis - Maritime Logistics - Logistic Corridors.

1. **ABSTRACT:** Multimodal transport in Iraq is one of the most important sectors that Iraq has recently focused on. It also works to improve the logistics of various types of transport corridors: sea, land, and rail, within the framework of international trade systems. However, multimodal transport in Iraq faces many challenges, weaknesses, and threats that affect this pivotal sector of the Iraqi economy. This is despite Iraq's strengths, whether in its geographical location, oil reserves, or labor, as well as several advanced seaports, most notably the Grand Faw Port, a qualitative leap in the Iraqi seaport sector. Furthermore, the paper analyzes the means and possibilities of future connectivity between Iraq and several countries in the Middle East and Europe via the development road linking Iraq to Turkey, making trade between Iraq and Europe more fluid. The research paper attempts to present the various modes of transport in Iraq, while conducting a SWOT analysis of the internal and external environment, the status of multimodal transport in Iraq, and its most important obstacles. It also comes up with several recommendations that help raise the efficiency of multimodal transport in Iraq and maximize its productivity at all levels.

2. INTRODUCTION

Multimodal transport offers numerous advantages, most notably the use of multiple modes of transport in a single, integrated operation. This allows the carrier to leverage the advantages of each mode of transport, whether in terms of speed, safety, or cost, thus positively impacting the overall cost of transport. However, multimodal transport faces several regulatory, geographical, and technical challenges. These include differing transport laws in the countries through which it passes, as well as variations in transport corridors and roads, and the size and capacity of transport routes and railway lines.[1]

Maritime transport is the lifeblood of Iraqi foreign trade. Iraq seeks to capitalize on its geographical location on the Arabian Gulf and develop its ports. Iraq has five major cargo ports: Umm Qasr Port, Khor Al-Zubair Port, Abu Flous Port, and the Grand Faw Port, which represents a significant leap forward for Iraqi maritime transport. These ports are located on the Shatt al-Arab waterway in the southern part of Basra Governorate. Iraq also has two crude oil export terminals. It is worth noting that Umm Qasr Port is the largest shipping port for Iraqi foreign trade and is located near Kuwait. Basra Port, which is divided into northern and southern sections, has 13 berths for commercial use. Iraq could potentially integrate these ports into China's Belt and Road Initiative [2].



Figure 1. Iraq's position on the global trade map within the framework of the international multimodal transport system. Source: Iraqi Ministry of Transport 2023.

Iraqi ports play a pivotal role in Iraq's multimodal transport system. The figure above illustrates two international trade routes for transporting goods from Shanghai, China, to several European cities and capitals, including those in Germany, the Netherlands, and Austria. The first route begins in China, passes through India, then the Shatt al-Arab waterway, the Arabian Gulf, Iraq, and the Turkish border, reaching Istanbul. From there, goods continue to other European cities and capitals until they reach their final destinations. The second route illustrates the passage of goods from Shanghai, China, through India, the Gulf of Aden, the Bab el-Mandeb Strait, the Red Sea, the Suez Canal in Egypt, and the Mediterranean Sea, before continuing to other European countries and capitals. The figure shows that the first route, which involves goods passing through the Arabian Gulf, then Iraq and its ports, including Umm Qasr and Faw, then to Turkey, and finally to European capitals, is shorter and reduces costs and travel time [3].

3. RESEARCH PROBLEM

Around the world, the cost of multimodal transportation represents about 45% of the total transportation costs. In this context, transportation time in Iraq took a long time and high cost because of there are inefficiency and ineffectiveness applications for multimodal transport which reflected in high cost and long time. The research will address the problem and the weakness that face applying multimodal transportation in Iraq. Therefore, research problem illustrated in trying to identify the requirements for implementing the multimodal transportation in Iraq and obstacles that prevent it.

The main question of the research is to find whether the implementation linking the port of Faw to various modes of transport by land, sea, air, and rail, would maximize the port's competitiveness and increase its annual profits

This is performed by studying the possibility of applying multimodal transport systems in Iraq and measuring its impact on the competitiveness of Iraqi ports.

The research objectives are as follow : 1. Determining the strengths, weaknesses, opportunities and threats facing the State of Iraq in raising the competitiveness of its ports within the framework of future development plans, using the SWOT analysis. 2. Increasing the competitiveness of Iraqi ports, raising their efficiency and improving their productivity at the level of all operations within the ports.



3. Paying attention to environmental sustainability standards, reducing pollution rates within Iraqi ports, and the possibility of converting Iraqi ports into green ports. 4. Analyzing the competitive environment of Iraqi ports using Porter's Five Forces model to identify the factors influencing their ability to attract regional and international investments and logistics companies.

This research will try to reduce time and cost of multimodal transport in Iraq, in addition defining obstacles; that prevent the application of the multimodal transport and how to overcome them and work to activate them and link them to the great port of Al-Faw because of its political and geographical importance. The importance of the study also emerges in explaining the importance of multimodal transport systems and their role in reducing cargo loss by reducing the number of cargo inspections. It also highlights the role of multimodal transport in improving Iraq's economic growth and the foundations for developing infrastructure in Iraq, both in seaports and on land routes. The study also highlights the importance of using a SWOT analysis matrix to identify the strengths, weaknesses, opportunities, and threats facing the Grand Faw Port, while highlighting its most important competitors from the ports of the Arabian Gulf states, including the UAE, Qatar, Kuwait, and Oman. It also highlights Iraq's competitive advantages, which positively impact the competitiveness of the Grand Faw Port. The importance of the study also emerges in using statistical analysis of the study variables and analyzing the responses of the research sample, which consists of port customers from companies and shipping lines, as well as workers within the port in its various departments and sections, using SPSS. The study also measures the impact of the independent variable, the multimodal transport system, on the dependent variable, the competitiveness of Iraq's ports, namely Umm Qasr, Khor Al-Zubair, and Abu Flus, with the Grand Faw Port at the forefront. The results are used to answer the study's questions to prove or disprove them. The study aims to produce clear results and then arrive at several recommendations within the framework of a time-bound implementation plan aimed at maximizing the competitiveness of the Iraqi port of Faw regionally and internationally.

The research hypothesis are: 1. The relationship is statistically significant between improving the efficiency of multimodal transport in Iraq and the competitiveness of the Iraqi port of Faw. 2. There is statistically significant relationship between the efficiency of transport infrastructure and the implementation of a multimodal transport system in Iraq. 3. There is a statistically significant relationship between the efficiency of the seaports surrounding the port of Faw and the competitiveness of the port. 4. There is a statistically significant relationship between the weakness of land, rail and river transport in Iraq and the high efficiency of operations in the port of Faw and the increase in the number of shipping companies dealing with the port.

The contribution of the thesis is summarized in reviewing many of the literatures that discuss the role of multimodal transport in strengthening the competitiveness of seaports, by applying it to the Iraqi port of Faw, to come up with an effective strategic plan that works to increase the competitiveness of the Iraqi port of Faw and increase its productivity by providing a competitive environment that ensures an increase in the number of ships entering the port, improving the efficiency of operations and operations within the port, and improving the efficiency of logistical activities within the port, as well as studying all types of transport modes available in Iraq, including maritime transport, air transport, land transport and rail transport, with a study of the strengths of the port of Faw, the weaknesses, opportunities and threats it faces using SWOT analysis, in addition to using Porter's five forces analysis to come up with an action plan that achieves the objectives of the study and identifying a number of recommendations that increase the competitiveness of the Iraqi port of Faw and improve the efficiency of the multimodal transport system in it.



4. LITERATURE REVIEW

Previous studies have examined the most important transport corridors and routes in Iraq, including maritime, land, and rail transport, within the framework of Iraq's multimodal transport system. These studies also presented logistical performance indicators in Iraq, its most important seaports, their capacities, and their main challenges, in addition to the main land transport routes and their capacities. They also addressed the most important railway lines, their capacities, and their main challenges, as well as the most important Iraqi trade corridors and their role in international maritime trade and multimodal transport from Asia to Europe.

4.1 Railway transportation

Iraq is seeking to develop a plan to improve its infrastructure, particularly its railways, but it suffers from a lack of the necessary funds. This is all part of Iraq's efforts to capitalize on its strategic geographic location to become a hub for transporting goods and people between the Arabian Gulf and Turkey, and then on to European cities and capitals. Iraq plans to construct a south-north railway line, linking the Grand Faw Port in southern Iraq to Basra Governorate. The railway will extend from the port to the Turkish border, including the construction of 15 train stations along the way, passing through major cities such as Basra, Baghdad, and Mosul. This will facilitate the direct transport of goods from Asia to Europe without the need for extensive loading and unloading operations. This also aligns with China's Belt and Road Initiative, which aims to connect 130 countries in Asia, Europe, and Africa through road and rail infrastructure, thereby facilitating international trade. Iraq is considered a vital link in multimodal transport between East and West and between Asia and Europe [4].

The Republic of Iraq has an old network of railway lines, which the state is working to develop and improve, connecting major cities in the center, south, and north. It also has international railway connections with neighboring countries. Current lines include the Baghdad-Fallujah and then Anbar lines, as well as freight lines to seaports. Perhaps the most important railway lines are Iraq's railways include the southern line, which connects Baghdad to Basra and passes through the Middle Euphrates. It serves both passenger and freight transport, forming the core of multimodal transport if rail transport is linked to land or sea transport. The western line connects Baghdad Governorate to Ramadi, reaching Fallujah and the areas of Al-Qaim and Akashat. This is mostly a single-track, non-electrified line, requiring development in stations, platforms, infrastructure, rails, and other areas. Iraq also has freight transport lines, including private lines connecting Baghdad and the northern governorates, and lines to ports such as Umm Qasr. International lines: These connect Iraq to Syria at Al-Rabiyah and include a new line connecting Basra to Shalamchah with Iran, and a project to connect Al-Shuaiba with Safwan with the Gulf states. Almost all these lines face problems with infrastructure, electricity, track extension, and improving the quality of service for passengers. The Iraqi railway sector is one of the most important sectors in dire need of development, but Iraq lacks the necessary funding, especially considering the current economic conditions [1].

According to the Iraqi Railways Authority, Iraq aims to connect the railway lines to the highway, which is considered part of the Iraqi development road, which will pass through nine Iraqi governorates, starting from Al-Faw in Basra in the south to the Turkish border. This project works to connect Al-Faw Port to Umm Qasr Port, thus linking southern Iraq to Turkey. Work on this project began in 2024. The project includes a double-track railway line for trains transporting passengers and freight. The line is 1,190 km long for shipping freight. It is planned that the initial capacity of the freight train will be about 3.5 million containers, with a total load of 22 million tons of bulk goods annually. It is planned to increase this load to seven and a half million containers, 33 million tons annually, in addition to a high-speed passenger train line with an annual capacity of about 13.8 million passengers. All of this will help develop railway transport operations in Iraq as a multi-modal transport, whether for transporting passengers or goods [5].



Figure 2. The international transport corridor between North and South between Russia and Iran and then to Europe. Source: [5].

4.2. Road transportation

The efficiency of Iraqi roads is considered one of the most important priorities of the Iraqi Ministry of Transport, as the Ministry aims to reduce accidents and human losses on roads, whether expressways, rural roads, or border roads. The Ministry of Transport also works to improve road specifications in line with international specifications and provides roads with smart systems for monitoring, tracking, and measuring speeds and capturing traffic violations to ensure the safety of trucks, passengers, and goods. Iraq also aims to raise the efficiency of roads in terms of lane width and intersections, the level of pavement thickness on the road, as well as the number of bridges and tunnels and their specifications in order to maintain road safety and reduce damage from floods and rain, and take into account environmental factors such as noise, pollution, land consumption, etc. and provide safety elements for the driver and vehicle along the road, such as barriers, lighting, etc. in order to reduce accident rates and ensure the safety of passengers and goods. The Ministry also determines the maximum legal speeds on the road and determines the longitudinal and transverse slopes and any slopes along the road with the aim of reducing traffic density, avoiding congestion, and facilitating the process of transporting passengers and goods in order to The possibility of benefiting from land routes, whether by linking them to the development road or even raising the efficiency of transportation operations within Iraq and providing an advanced transportation service [6].

Table 2 :The lengths of different types of land roads in Iraq.

Component	Length
Highways	1084 km
Major highway from Basra to Anbar	1200 Km
Arterial roads	11000 km
Rural roads	10000 km
Border roads	11000 km
Secondary roads	15200 km
Total, Except for Baghdad municipalities	58592 km

Source: (Logistics Cluster Assistance, 2025).



The previous table shows the potential of the State of Iraq in terms of different types of roads. Iraq has a highway from Basra to Anbar with a length of 1,200 kilometers, in addition to a new road under construction with a length of about 520 kilometers. Iraq also has a network of highways that reaches about 1,084 kilometers. It also has arterial roads that reach about 11,000 kilometers and border roads with neighboring countries that reach about 11,000 kilometers, in addition to secondary roads that reach about 15,200 kilometers, in addition to roads in rural areas and villages that reach about 10,000 kilometers. Thus, the total number of roads in Iraq is about 58,592 kilometers, which indicates the need to expand the network of roads in Iraq to connect villages and governorates. It is also necessary to pay attention to the existing roads, as most of them suffer from deterioration, low maintenance rates, and the spread of potholes along the roads, in addition to the collapse of many of them, which hinders the movement of passengers and goods and increases the rate of accidents. It is worth noting that Iraq has already begun a road development plan to facilitate the connection of cities, villages, and ports from the south in Basra to the north, passing through several governorates, to connect southern Iraq to its north, in preparation for the connection plan with Türkiye within the framework of the multi-modal transport system [7,8].

4.3. Water way transport

The maritime port sector is one of the most important sectors of the Iraqi economy. Iraq possesses numerous ports, including commercial and oil ports. Among the most well-known are Umm Qasr, Khor Al-Zubair, Abu Flous, and the Grand Faw Port. However, the sector faces several weaknesses. Perhaps the most significant problem facing maritime transport in Iraq is the aftermath of the Iran-Iraq War, which resulted in the sinking of many ships in the Arabian Gulf and Iraqi ports. These sunken vessels have prevented large ships from entering Iraqi ports. Furthermore, costly maintenance and dredging operations are required, in addition to the removal of these sunken ships, to complete the construction of major ports in Iraq. As mentioned, the Grand Faw Port is one of the ports expected to contribute to the revival of Iraqi maritime trade and improve the efficiency of maritime logistics activities. Its cost is estimated at approximately \$10 billion, and it will be the largest in Iraq in terms of draft, number of berths, number of terminals, and other factors. According to estimates by government agencies and the Iraqi Barriers Authority, the port's final handling capacity is approximately 99 million tons per year, and its area is approximately 55 square kilometers [8]

4.3.1. Faw port

Iraq seeks, through the establishment of the Faw Port, to achieve a number of economic, commercial and political goals, including getting out of the problem of the depths of Iraqi ports and the narrowness of the navigational channels in Khor Abdullah and Shatt al-Arab, as well as providing decent job opportunities for thousands of unemployed workers, in addition to Iraq's need for a large port to establish the Iraqi coastal borders with countries such as Iran and Kuwait, as well as the low competitiveness of Iraqi ports compared to developed ports in countries that do not have the same economic efficiency and distinguished geographical location as the State of Iraq, as well as improving the coastline and stopping the process of erosion and loss of the coast, in addition to filling the deficit that has afflicted Iraqi ports, as a large number of Iraqi ports cannot receive ships with large drafts and large loads. Iraq can also, through the Faw Port, connect with European countries via Turkey, as the distance from Iraq to Turkey does not exceed 1200 kilometers, which qualifies Iraq to be a link between the countries of the Arabian Gulf and Europe. Iraq also seeks to achieve a role in transporting goods and trade. International via the dry canal [9].



Figure 3. The five main berths have been completed in the port of Faw Source: Iraqi ministry of transport 2023

The previous figure shows that five main berths have been completed in the port of Faw. It is planned that the port of Faw will contain 92 berths, including two berths for traffic, 20 berths for general cargo, and 46 berths for containers of different sizes: 20 feet, 40 feet, 45 feet, and 60 feet. The port also contains 16 berths for general cargo, 6 berths for petroleum derivatives, and 2 berths for gas. The port's handling capacity is expected to reach approximately 66 million tons annually by 2038, according to estimates by the General Company for Iraqi Ports. It is also planned that the port will contain a 15-kilometer-long western wave breaker, as well as a 400-meter-wide, 25-kilometer-long navigation channel. The port will also contain tanks for petroleum products, a water desalination area, and a waste treatment plant. It will also contain berths with a length of 17 kilometers and a capacity of 25 million containers (TEUS) annually [10].

4.4. Air transportation

Air transport in Iraq is considered one of the most important means of transportation, both within Iraq and internationally. Transport is carried out using specialized passenger aircraft. Air transport is characterized by speed and high safety standards. However, it suffers from high fuel costs and relatively high overall costs. The Iraqi Ministry of Transport regulates the air transport sector, announcing that several hundred aircraft cross Iraqi airspace daily, according to IATA. The Iraqi air transport sector is expected to generate nearly \$5 billion in revenue by 2023, employing approximately 260,000 people. However, this vital sector suffers from several problems, most notably the weak infrastructure of airports, which requires development, modernization, and reconstruction. There is also a need for container yards, storage areas, and air cargo facilities, along with expanding the overall capacity of container terminals, warehouses, and yards, and establishing new warehouses, such as those in the Erbil region. The number of Iraqi citizens using air transport is expected to reach approximately 13.5 million passengers by 2028. The Iraqi Ministry of Transport is attempting to open investment opportunities in the sector. The air transport sector, its infrastructure development, and the improvement of its operational efficiency within the framework of a multimodal transport system, with the possibility of linking airports to smart technology systems, as well as improving the efficiency of logistical operations within airports, in addition to linking airports to suitable road and rail lines, which supports Iraq's efforts in implementing a multimodal transport system [11].

4.5. Development Road

The Iraqi government launched the Development Road Initiative, which is a new trade corridor between the East and the West, passing through the Gulf states via Iraq to Turkey and then to Europe. Perhaps one of the most prominent components of this road, which is an icon of multimodal transport, is the large Iraqi port of Al-Faw, as the road is considered a means of linking this port to domestic transport and then international transport via Turkey to Europe. The initiative includes the construction of a 1,200 km railway line from Iraq in the south to Turkey in the north, which facilitates transit trade and local and regional trade between Iraq and neighboring countries. This road can shorten transport time, i.e. the journey time for passengers or goods is 10 days less than the Suez Canal. Therefore, this corridor can receive trade from Asia and the Indian Ocean for transport to Europe. This road is also considered more suitable for time-sensitive goods. However, this road faces several challenges, including the fact that the general condition of the Iraqi railways is very poor, in addition to the fact that the railway locomotives are old and dilapidated, in addition to the weakness of the communications, control and signaling systems. Along the train route and within the framework of the Iraqi development plan, Iraq completed the rehabilitation of the southern part of the railway in 2014, which connects the port of Umm Qasr to the city of Baghdad. This line is approximately 550 kilometers long. After that, the second part, the northern line, was developed. The northern railway line extends from Baghdad to Rabia, with a length of 530 kilometers, linking Iraq to Syria and then Turkey. After that, Iraq is moving towards improving the efficiency of trains, increasing their speed and increasing the load capacity to accommodate a larger quantity of goods, as speeds are still low so far, ranging between 80 and 100 kilometers per hour, and the load capacity is also low. The harsher the security conditions, the lower the speed, which increases the travel time, threatens the safety of shipments and raises the total cost of transportation. Therefore, developing and modernizing this road is considered the nucleus of multimodal transportation from East to West and from Asia to Europe, making Iraq a link in international [12].



Figure 7. Map of the location of the port of Faw in the Iraqi Development Road Initiative source: (Arab Urban Development Institute, 2024)

The previous map shows the Iraqi development path, including the Grand Faw Port on the Arabian Gulf, where Iraq aims to reduce travel time for passengers and goods from Asia to Europe via Turkey, especially transit goods that pass through this development path, in addition to extending a railway line linking the city of Basra in the south to northern Iraq, then to Syria, then to Turkey, reaching European



cities and capitals. The development path links China to Europe through Iraq and then Turkey as a shorter alternative to the transit route for goods from the Suez Canal, then to the Mediterranean Sea, then to Europe. This project is considered a strategic project for Iraq, as Iraq plans for the Faw Port to become the largest port in the Middle East, capable of competing with the most famous ports in the Middle East, with the port being linked to a railway line and a land route that reaches Turkey at a cost of approximately \$17 billion. All of this demonstrates the importance of developing the land, railway, and maritime infrastructure in Iraq in order to increase its ability to provide a safe route for passengers and goods coming from China and heading to Europe, making Iraq a link in the path International trade contributes to raising Iraq's gross domestic product, achieving economic growth and creating many job opportunities, which contributes to achieving comprehensive economic development for Iraq [13].

5. Gap analysis

Although multimodal transport systems contribute globally to reducing transportation costs by approximately 45%, Iraq still suffers from significantly high costs and long transportation times due to the weak and ineffective implementation of these systems. Despite the importance of this sector in supporting the competitiveness of Iraqi ports and improving their logistics performance, there is a clear lack of studies that in-depth explore the basic requirements for implementing a multimodal transport system in Iraq and the obstacles to its implementation in terms of institutions, infrastructure, legislation, and coordination among stakeholders. Therefore, this study seeks to fill this gap by analyzing the reality of multimodal transport in Iraq and proposing practical solutions for its implementation.

Many research papers were reviewed that discuss the role of multimodal transport systems in improving the competitiveness of seaports at the level of many countries of the world, whether developed or developing countries, with an explanation of the importance of multimodal transport in improving the efficiency of transport operations and its role in linking seaports within the country and with various means and means of transport, with a presentation of the requirements for implementing multimodal transport in countries, especially Arab countries, as Iraq is one of the Arab Gulf countries that suffers from many difficulties in implementing the multimodal transport system, whether in technical, technological, operational or financial capabilities, or even at the level of infrastructure or with regard to political and security stability. The researcher noted the small number of scientific papers that discussed the role of multimodal transport in improving the competitiveness of maritime transport, especially in his country, Iraq, with the low connection between all institutions concerned with multimodal transport, including the Iraqi Ministry of Transport, the Iraqi Ports Authority and other relevant institutions, in addition to the small number of studies that addressed logistical performance indicators, with an explanation of the most important points of strength, weakness, opportunities and threats facing Iraqi ports, including FAW, with the aim of improving maritime transport revenues in Iraq and maximizing the competitiveness of ports regionally and internationally in what is known as SWOT analysis.

6. Research methodology (SWOT ANALYSIS)

Using a SWOT analysis, which includes strengths, weaknesses, opportunities, and threats, several strategies have been identified for developing maritime transport. The Analytical Hierarchy Process (AHP) was used to classify these strategies. The most important strategies identified for developing maritime transport included: (1) maintaining the port's reputation by developing and improving the efficiency of its facilities; (2) enhancing the knowledge and skills of local employees to increase their contributions and providing them with continuous training opportunities; (3) providing greater financial incentives for workers; and (4) improving port infrastructure and increasing the number of berths,



terminals, warehouses, and yards. Given the similarities in infrastructure and challenges faced by most major ports around the world, these findings can be applied to other ports seeking to develop their maritime transport strategies [14].

6.1. Strengths

Competitiveness 91% The sample percentage of 91% indicates that the management of the port of Faw has great confidence in the ability of the port of Faw to compete with the Gulf ports, including Jebel Ali, which encourages stakeholders from investors and shipping companies to enter the port and invest in it.

Logistics Operations Efficiency and Digital Transformation 84% The percentage that reached 84% of the sample indicates that there is a strong infrastructure of docks, container terminals, yards and warehouses owned by the Iraqi port of Faw, which means that the port can attract shipping lines. The port also has a digital infrastructure and smart systems, which means that it is possible to rely on artificial intelligence systems to efficiently perform logistics activities and reduce time, cost and waste in them.

Regional and international integration 77.5% The percentage of the sample that approved the necessity of regional and international integration between the port of Faw and the ports of neighboring countries reached 77.5% by linking the port to transportation networks as a strategic step to transform it into a pivotal point, especially in what is known as the Belt and Road Initiative or the Iraqi development method, which clearly contributes to supporting the port's competitiveness.

6.2. Weaknesses

Weakness in the internal infrastructure in Iraq 72.5% A percentage of 72.5% of the sample believes that there is a weakness in the internal infrastructure in Iraq, such as roads and railways, which hinders the efficiency of transportation operations to and from the port and weakens the port's connection within Iraq, thus weakening the multi-modal transportation system and increasing the cost of transporting goods internally and externally.

Iraq's limited financial capabilities 71% Most of the sample, at a rate of 70%, also believes that Iraq suffers from a weak point, which is limited financial capabilities and the difficult economic situation in the country of Iraq, which is what faces the development plans for the port and various means of transportation, whether land or rail, as well as airports in Iraq.

Lack of multi-purpose stations 71.5% A percentage of 71.5% of the sample believes that there is a lack of sufficiency in the docks and stations planned to be built as multi-purpose terminals capable of receiving different types and sizes of cargo ships, like the ports competing with the Port of Faw, such as the case in Jebel Ali, Bandar Abbas, or the Qatari Port of Doha.

6.3. Opportunities

Logistics Integration 84.5% of the sample acknowledged the possibility of achieving logistical integration between the Iraqi port of Faw and various means of transport, whether land, rail or air, which contributes to the ease of movement of goods to and from the port as an opportunity to improve freight transport operations and reduce costs.

Transit Hub 81% There is also an opportunity to exploit the geographical location of Iraq as it connects the Gulf and Europe through its borders with Turkey, and it is also close to the borders with Iran, which are separated by the Arabian Gulf. Therefore, the port of Faw can be transformed into a point of assembly and redistribution of goods from their origin in countries such as China, then they are reassembled and logistical activities and added value are added to them, then they are redistributed again by land, sea or even by railway lines to countries such as Turkey and from there to Europe.



6.4. Threats

Competing regional ports 75% of the sample saw ports such as Mubarak Al-Kabeer in Kuwait, Salalah in Oman, Doha in Qatar and Jebel Ali in the UAE as major threats to the competitiveness of the Iraqi port of Faw, which makes it urgent for the port to adopt effective strategies to attract shipping lines and customers and provide competitive advantages in order to maintain the lines and ships calling at it and build their loyalty to the port of Faw.

Failure to keep pace with innovation in modern logistics services 70% One of the most important threats facing the port of Faw, in the opinion of more than 70% of the sample, is the failure to keep pace with innovation in logistics services at the port, despite it being modern.

7. Conclusion

This study measures the importance of multimodal transport in Iraq. It also seeks to address the problem of high multimodal transport costs in Iraq, despite lower global rates, as well as the long transit times, weak implementation of multimodal transport systems, and the lack of integration between different modes of transport. The study assesses the feasibility of implementing a multimodal transport system in Iraq that connects the Port of Faw with various land, sea, air, and rail transport options. This would enhance the port's competitiveness and increase its ability to compete with ports in the Arabian Gulf. The study employs SWOT analysis, examining internal and external environmental factors to assess the importance of the Iraqi Port of Faw to the multimodal transport system and identify its key strengths, weaknesses, opportunities, and threats. Furthermore, the research paper aims to measure the impact of a balanced multimodal transport system on the competitiveness of Iraqi ports, including Umm Qasr, Faw, Abu Flous, and others. It emphasizes the need to increase the productivity and competitiveness of the Iraqi Port of Faw and to identify ways to overcome all obstacles hindering the implementation of a multimodal transport system in Iraq, while leveraging Iraq's strategic geographical location and vast potential. Whether it's the workforce, oil wealth, or the strategic geographic location connecting Asia and Europe via Iraq and then Turkey, Iraq's potential is undeniable. This necessitates strengthening the multimodal transport system, improving land, sea, air, and rail transport, enhancing the capabilities of each mode of transport, and addressing its challenges through a comprehensive action plan. This plan aims to improve the efficiency of different transport methods, positively impacting the overall efficiency of the multimodal transport system. The study reached several conclusions, including the need to improve Iraq's infrastructure, whether at the port, road, railway, or airport level, to reduce the overall costs of transporting passengers and goods. This development strategy relies on connecting southern Iraq (Basra) to northern Iraq via a road and rail network extending to Turkey. This would allow goods from Asia to Europe to travel in fewer days than transiting the Suez Canal. An effective plan is required to ensure increased operational efficiency, improve logistical activities, and develop various transport corridors within Iraq. This will enhance the efficiency of multimodal transport operations, guarantee the safety of shipments, and positively impact the Iraqi economy and Iraq's role in international trade.



8. Recommendations

Developing and modernizing roads and paving them for new railway lines connecting southern and northern Iraq and working to link the port of Faw to northern Iraq via the planned line, ultimately achieving multimodal transport.

It is noted that the capacity of trains in Iraq, in terms of cargo volume, number of carriages, and train speeds, is low. Therefore, these dimensions must be improved and developed to accommodate the increasing volumes and quantities of goods. This includes extending and widening existing road lanes and paving them in Iraq's governorates, while considering safety and traffic control measures to reduce accidents involving goods or passengers.

Automating roads through intelligent tracking and monitoring of trucks using the highway will improve safety levels and determine economical speeds to protect passengers, goods, and vehicles.

Regarding seaports, it is essential to strengthen international trade by improving the technical capabilities of the port of Faw and connecting it to various modes of transport within and outside Iraq. Efforts should also be made to develop the infrastructure and facilities of other Iraqi ports and connect them to the port of Faw, most importantly Umm Qasr and Khor Al-Zubair. And others

Developing the capacity of container terminals, yards, warehouses, and storage facilities, and activating monitoring systems within ports.

Providing electronic systems and programs to complete customs procedures through smart systems, rather than through routine paper-based procedures, thus reducing congestion within ports.

The necessity of developing airports and their infrastructure, as well as connecting them to railways and other roads, especially those that suffered extensive damage after the Iran-Iraq War, the 2003 invasion of Iraq, and other acts of violence perpetrated by terrorist groups and others.

The necessity of opening new horizons for local and foreign investment in Iraq in the fields of infrastructure, roads, bridges, railways, and the management of Iraqi ports and terminals by advanced foreign companies, while ensuring the preservation of Iraqi national security.

The necessity of implementing digitalization, artificial intelligence, the Internet of Things, and blockchain in ports to ensure improved efficiency in transportation and logistics operations and to reduce accidents and congestion within ports.

Developing security and safety procedures in ports to address security threats. Politically

The necessity of paying attention to the marine environment and reducing pollution levels from ships entering Iraqi ports, as well as reducing waste, carbon dioxide, and other polluting emissions from all modes of transport, whether land, rail, or sea.

The importance of developing the Iraqi workforce in seaports and increasing training opportunities on smart port management systems and expediting customs procedures efficiently and effectively.

The importance of improving the efficiency of truck drivers on land routes to reduce accident rates and protect goods, trucks, infrastructure, and individuals.

The development of railway stations along the north-south route and vice versa, and the provision of modern train maintenance systems and advanced maintenance centers for train carriages.

Improving relations between Iraq and neighboring countries to enhance security and stability, thereby supporting Iraq's role in regional and international trade.



9. APPENDIX

If needed insert the Appendix here.

10. Declaration of Generative AI and AI-Assisted Technologies:

During the preparation of this work, the author(s) used Copilot 365 for improving the writing. After using this tool/service, the author(s) reviewed and edited the content as necessary and take(s) full responsibility for the content of the publication.

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