

## A NEW ERA OF COLLABORATION AND GROWTH ON THE OMAN-UAE RAIL PROJECT

**Dr. Fayaz Ahamed**

M A, Department of Business Administration, University of Technology and Applied Sciences, Ibri–Oman, Email: [fayazahamedin@gmail.com](mailto:fayazahamedin@gmail.com)  
ORCID ID 0000-0001-6580-5596

**Abdul Naser Manakkancheri**

Department of Business Studies, University of Technology and Applied Sciences, Ibri–Oman  
Email: [abdul.naser81m@gmail.com](mailto:abdul.naser81m@gmail.com), ORCID ID 0000-0002-7939-7957

**Abdulmajeed Kadooran**

Department of Business Studies, University of Technology and Applied Sciences, Ibri–Oman  
Email: [kadooran777@gmail.com](mailto:kadooran777@gmail.com), ORCID ID: 0000-0002-7504-1099

### Abstract

The Middle East is an area comprising countries that share a common history, are at diverse degrees of economic development, and have dramatically varied endowments of natural resources. It is also an economic geography that has been least regionally and globally integrated since its inception in 1981. To attain greater economic independence from the oil-based economy, the GCC member nations have established themselves as a major hub in the global circulation of commodities. Railways may be seen as one of the major source for economic diversification. The much-anticipated GCC-wide railway is still progressing, with each Gulf nation constructing its own networks. The overall attitude toward the development of the trade and logistics infrastructure in the Gulf is further highlighted by the strategic plans of the UAE and Oman through a landmark deal for a rail network. The alliance is intended to herald a new chapter of collaboration and prosperity in sustaining and broadening the national economy. The goal of the current study is to map and analyze a ground-breaking rail system that will link Oman and the UAE and support a thriving economy. This article investigates project collaboration, the critical role of rail and commodity transportation in supporting and diversifying the national economy. It concludes that the development of territory transportation can significantly influence the GCC's rapid economic growth rate.

**Keywords:** GCC, Oman Rail, Etihad Rail, Transportation, Logistics, Regional Integration and Economic Growth.

### INTRODUCTION

The Gulf Cooperation Council's (GCC) development plans strongly emphasise logistical infrastructure as an engine for economic diversification. The area's economic landscape is changing due to investments in ports, highways, rail, airports, and logistics cities (Ziadah, 2018). The GCC members are proposing to construct a heavy railway line to connect all six

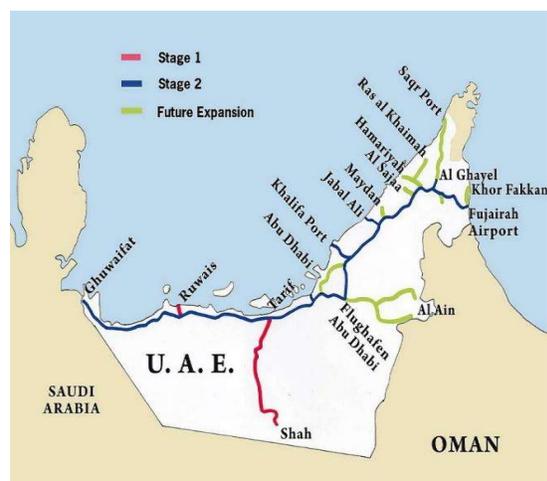
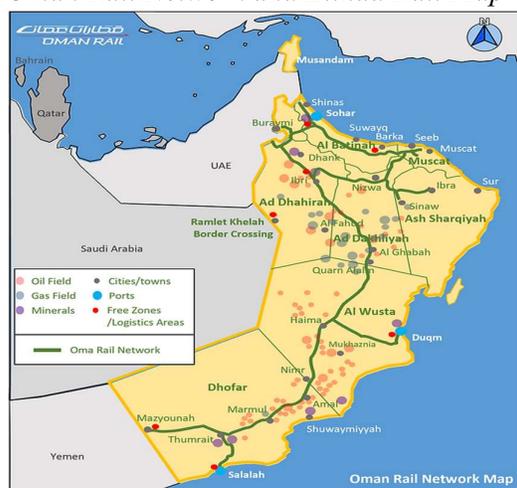
states. It will travel from Kuwait City to Muscat via Saudi Arabia and the United Arab Emirates, then make a circle through Bahrain and Qatar through causeways. With the exception of Saudi Arabia and, to a lesser degree, the UAE, the region has little to no railroad history, making this a tough challenge. This calls for the coordination of standards among six states and integration with Saudi Arabia's current heavy rail system and the other five governments' projected rail networks (Lowe & Altrairi, 2013). The line is anticipated to extend beyond the GCC to Jordan and the European Union (B. D. K. Y. S. Reporter, 2018). Aside from the main GCC line, all GCC member states are developing their own domestic rail networks. These include long-distance mixed freight and passenger lines in Saudi Arabia and the UAE, as well as urban metro systems serving the cities of Oman, Bahrain, and Kuwait. In the future, the GCC rail network will be able to regulate costs while reducing emissions (Frost & Sullivan, 2011).

UAE has discovered that using or constructing a network of dependable railways is the way to go in the GCC (Reporter, 2022). In accordance with UAE Federal Law No. 2, Etihad Rail was founded in June 2009 to transform UAE's national rail network for the development of the country's whole transportation system. In addition to being a crucial component of the future GCC railway network connecting the six GCC countries, the UAE's main population and industrial centers will be connected by the railway network, which will be constructed in phases. Once finished, the railway will revolutionize logistics and transportation in the area, creating a contemporary, secure, effective, and sustainable network that will link the UAE and its regions to its GCC neighbours. Etihad Rail's cutting-edge network, which was constructed to worldwide standards, will serve as a foundation for sustainable social and economic development ("About Etihad Rail," n.d.)

Oman does not currently have any railways, but there is one other rail project there that is currently under construction: a link to the UAE. It was envisioned as a component of several infrastructure plans created by the Oman National Spatial Strategy (ONSS) (Artymiuk, 2023).

**Figure 1.**

*Oman Rail Network and Etihad Rail Map*



Sources: "Oman-UAE Rail Project | Oman Rail," n.d. About *Etihad Rail*. (n.d.).

Oman's situation is not much different from that of the GCC nations. Oman needs to make significant efforts to increase demand for a public transportation system and decrease an unhealthy reliance on private automobiles. Oman seeks to create growth avenues by fostering social cohesion and business interaction, connecting important urban centres, promoting mutual travel, and offering seamless transportation options between Oman and the UAE's economic and industrial zones. The railway's completion is crucial if Oman is to continue on its path to becoming a region's gateway to Asia and beyond. To do this, Oman will need not just a strong port infrastructure but also a vast and interconnected rail network for overland transportation. This is crucial if the sultanate is going to serve as a hub for other GCC nations. The Oman-UAE Railway Network Project is an expansion of the historic and strategic ties between the two nations, which cooperate to advance their shared interests. To construct and run a railroad network connecting Sohar Port, Oman with Abu Dhabi, the capital of the UAE, Etihad Rail and Oman Rail formed a joint venture, co-owned by the two countries with a total investment of USD 3 billion. By connecting the two nations via rail, the initiative also aims to open up new opportunities in the infrastructure, transportation, and logistics sectors ("Etihad Rail & Oman Rail Joint Venture," n.d.). Hence, it is significant to study that the project will greatly increase travel between Oman and the UAE, boost the two nations' competitiveness in international trade, and reinforce their roles as regional logistics hubs for import and export to domestic markets.

The purpose of this research is to determine what advantages the economy believes the excellent train system between the UAE and Oman has. It will also help with regional integration and address the difficulties of the joint project. Reviews of the GCC rail network are the subject of part two of this article. Part three examines the chosen methodology. The study's results are highlighted in part four, and the final section discusses the potential for more research.

## **REVIEW OF LITERATURE SUMMARY**

### **Lessons from the Experience**

The oldest and most storied Hejaz rail link, 1310 km in length and built in the early 20th century to connect Madinah Al Munawwarah in Saudi Arabia with Damascus in Syria, was used to transport pilgrims until World War I, damaged and it was never repaired. KSA constructed a railway line from Damman to Riyadh between 1947 and 1951 to deliver supplies and equipment for the Arabian American Oil Company (ARAMCO) (Saif, Ghulman, Ahmed, & Khalil, 2016). The GCC's transportation industry is currently strong and growing on all fronts. The six member states of the GCC have come to see the value of building railways that connect them and interact with national rail networks.

Aside from the main GCC line, all GCC member states are developing their domestic rail networks. These include long-distance mixed freight and passenger lines in Saudi Arabia and the UAE, as well as urban metro systems serving the cities of Abu Dhabi, Dubai, Bahrain, and Kuwait (Lowe & Altrairi, 2013).

### **Impact on Economic Advancement**

The strategic geographic location of the Gulf region along the Asia-Europe trade route, which has led to massive levels of expenditure on mega transport infrastructure in various GCC states, including ports, airports, trains, and roads, is the cause of the growth of the region's logistics infrastructure (Ziadah, 2018). The proposed GCC railway network will be utilised by the

majority of businesses and industries because it is affordable and practical for intermediate transportation. Eventually, travellers will also gain from the system, which offers a more affordable, point-to-point kind of transit (Mahendran & Pillai, 2016).

Etihaad Rail's benefits are widely used and have several positive economic effects, including the creation of new job possibilities, savings on commuting, the environment, road maintenance, accidents, and travel time. Etihaad Rail will significantly help and support the UAE's economic progress. With the implementation of Etihaad Rail, longer visitor stays are anticipated. The environment's impact from tourism's carbon footprint would be the main drawback (Mohammed & Alkhoori, 2021).

### **Amplification Advantage**

The railway contributes significantly to human life by offering services that are reliable, safe, and economical while also being environmentally friendly and stimulating the economy. (Kurwi, Demian, & Hassan, 2017). Increased access to amenities and employment opportunities provided by rail transportation can boost economic growth by raising income. Rail transportation requires little land, which is crucial for long-term economic growth, it can contribute significantly to moulding and boosting the local economy ("Transit & Economic Development," n.d.). According to Crampton (2003c), in the long run, rural residents will be able to obtain high-quality services at reasonable prices, gaining access to the market and other services provided by major urban areas, if government policy can focus greater investment on rail transportation. The implementation of a sub-regional export-led growth plan and a neighbour country's inclusion into the regional production networks would be crucial to the country's future progress. Thus, a key policy factor for the modernisation of the rail system and network is an external connection, which includes the scale of economies, cost advantages, and efficient time-based transport inclusive of cross-border transits (Nwet Aung, 2016).

The possibility of free movement across the region's territory and an increase in interregional and social mobility are all made possible by well-developed and efficiently operating transportation infrastructure, including railway transport. It also creates the conditions for the development of the system of resettlement, employment, and recreation, which serves as a significant impetus for the inflow of population. Transport infrastructure offers excellent connectivity between the cities and the countryside, which can lead to a uniform socioeconomic development of the nation (Polyakova & Borisova, 2019).

### **Market Integration**

One of the least regionally and globally integrated regions in the globe is the Middle East (Kamel, 2018). The completion of the railway project, which would increase economic interdependence and integration between the Arab nations, has also received the Economic and Social Commission for Western Asia's approval. Additionally, the GCC project will directly benefit the economies by boosting travel and trade between the GCC nations as well as the freedom of movement for citizens and residents, which will in turn promote regional investment (Kozicki, 2016).

### **Competitiveness and Performance in the Rail Industry**

Railways are more efficient in using available space to move passengers and goods. Rail is 30% less expensive, emits 80% less carbon dioxide, and uses 60-80% less energy. Additionally, it is significantly safer and produces less noise pollution (Frost & Sullivan, 2011).

The much-anticipated GCC-wide railway is still progressing; the project has been fully implemented on the UAE's side up to the Saudi Arabian border. Over 200 kilometers of the track are completed within Saudi Arabian land. But is probably going to be hampered by those states who are less adept at creating infrastructure (Whiteaker & Whiteaker, 2022). Oman aspires to connect the GCC railway from Muscat to Salalah and beyond, including the Duqm Special Economic Zone. With a Public Private Partnership (PPP), Oman Rail is looking into private participation in the joint venture (Prabhu, 2021).

### **The Importance of the Study**

The Etihad Rail Company will shortly begin construction on a sizable infrastructure project in the United Arab Emirates (UAE). The Etihad railway network, the UAE's first major infrastructure undertaking, will completely alter the country's economy, strategy, social structure, and environment. A freight rail system has been envisioned in both the 2030 Abu Dhabi economic vision and the UAE National Charter 2021. The Gulf Cooperation Council (GCC) border is meant to serve as a link between the major cities in the UAE. The absence of a similar historical train heritage in the region makes this ambitious undertaking a difficult task for the Etihad Rail Company and the locals (Ahmad & Ahmad, 2016). One of the emerging nations that concentrate on investment and the development of cutting-edge logistics infrastructure is the Sultanate of Oman (Ba-Awain & Daud, 2018). Oman is looking to the logistics sector as an alternative contributor to its economic growth as part of the Asyad program. The Oman economy is at risk if it is completely dependent on the energy industry in the long run because of declining production capacity, high production costs, and volatile oil prices (Hakro & Omezzine, 2016). It is critical to recognise the basic significance of strengthened regional links, infrastructure-based synergies, and inter-territorial policies for the GCC region to function successfully as a global hub. The literature research indicates that the GCC rail might have a significant positive influence on the region.

### **Research Question**

According to the literature review, Oman and the UAE should look at including rail transportation in their public transportation systems. The following queries were identified in more detail:

- a. How could the Oman Rail, and Etihad Rail revolutionize their economic engine?
- b. Do the rail sector link markets in the GCC and trade destinations that promote a unified, vibrant, and diverse economy?

### **Research Objectives**

The Middle East's push for a joint venture rail network system is not without foundation. That is essential at this time. The shared network solidifies Oman and the UAE's strategic and mutually beneficial relationship. Hence, the following goals are the main emphasis of the current study:

- a. To research the joint venture project's plans, which link regional trade and social cohesion.
- b. To estimate the impact of the projected growth of national economies to support economic and social growth.

- c. To arrange the influence of the Oman Rail on Omani society.
- d. To make recommendations for improving and ensuring economic ties in the proposed GCC railway network through joint ventures.

### **RESEARCH METHODOLOGY**

The current study uses an exploratory research technique approach to investigate research problems, railways that haven't been thoroughly investigated before, especially in Oman. Because the railways topic being studied in the current study is novel and the data collection procedure presents some difficulties, exploratory research is performed. Yet, the research makes clear the precise nature of the issue that has to be resolved in this joint venture, which by connecting the two nations by rail is anticipated to open up new opportunities in the infrastructure, transportation, and logistics sectors. A range of sources, including the evaluation of published literature, and data, was used to gather the data.

### **DISCUSSION**

The UAE has many means of transportation, the rail project is expected to bring a new form of transportation that will bring the UAE higher on the World Bank LPI and also increase efficiency that leads to business growth (Bryan, Weisbrod, & Martland, 2007b). The rail project is estimated to be 1,200 km in length, and the construction will be implemented in three phases. Phase 2 will be the 137 km track connecting Ruwais to Ghewifate and the 190 km line between Liwa Junction and Al Ain. This phase will also include a connection to Saudi and Oman borders. Etihad Rail and Oman Rail, who developed and ran the national railroad systems of the UAE and Oman, respectively, launched the joint venture known as Oman & Etihad Rail Company (OERC) in September 2022. With an investment of \$3 billion, the Oman-Etihad Rail Company, a new organization that is equally owned by the two companies and operates this network, was founded, opening a new chapter in the cooperative engine of economic progress. The joint venture has the potential, in particular, to support Sohar Port's growth aspirations by establishing it as a key hub for both rail-based containerized and general cargo flows from Oman's Batinah coast into the UAE's commercial and industrial core. But, the network is starting in Sohar, Oman, and could eventually spread to other Gulf States (Prabhu, 2021). The Omani government disclosed plans to build a metro system in Muscat that would link the northern coastal town of Al Seeb and the districts of Ruwi and Muttrah to Muscat International Airport. The UAE has made significant investments in rail infrastructure elsewhere as well. There have also been recent UAE-wide initiatives in addition to emirate-specific ones like the 2013 and 2014 launches of the Dubai Metro and Dubai Tram systems, respectively. According to the ambitious plans of the UAE, 36.5 million people and millions of tonnes of freight will be transported annually by trains speeding at up to 200 km/h. It is also anticipated that removing vehicles and trucks from the nation's highways will reduce transportation-related carbon emissions by 70-80%. Once complete, it is anticipated that the trip by rail between Abu Dhabi and Dubai, the two major cities in the UAE, will take around 50 minutes, while the trip from Abu Dhabi to Fujairah will take about one hour and 40 minutes, or about half as long as it does by automobile. The Dh50bn (\$13.6bn) spent on the project, according to Emirati officials, will generate about Dh200bn (\$54.5bn) for the economy, and connecting rural and regional locations to larger cities will greatly expand the economic potential in undeveloped areas ("How The GCC Railway Could Revolutionize Trade and Transport in the Gulf," n.d.) GCC

railways are anticipated to make a substantial contribution to the region's economic development and diversify transportation options, which will promote stronger political links among the Gulf States and lower costs. Yet, the economic justification for building a rail network throughout the area is sound, and historical precedents are encouraging.

### **Railway Economy and the Interconnectivity of Railways in GCC**

The Oman-UAE Railway Network Project may provide advantages in terms of energy and ecological issues, making it one of the most environmentally friendly modes of transportation like other rail networks operating globally. Investments in rail are expected to help cities in a variety of ways, including transportation, the economy, the environment, and public health. The improvement in accessibility to particular locations can eventually result in trade improvements, increases in employment density, more efficient distribution of land use, and in some cases, an improvement in land and property values. Economic benefits, in particular, can be measured in terms of this increase in accessibility (Mohammad, Graham, Melo, & Anderson, 2013).

Over time, the UAE and Oman have developed strong relationships in a variety of areas, including bonds of solidarity, brotherhood, good commonality, and ancient relations that have resulted in amicable relations. The alliance is intended to usher in a new era of collaboration and prosperity in sustaining and broadening national economies, as well as to accelerate the GCC countries' regional and global integration.

The railway makes a significant contribution to human life by providing services that are dependable, safe, and cost-effective, while also being environmentally friendly and stimulating the economy. It will transform logistics and transportation in the region by establishing a modern, secure, effective, and long-term network connecting the UAE and its regions to its GCC neighbours. It will soon outperform air carrier services in terms of cost, flexibility, and convenience. The railway allows rural residents to gain access to regional and interregional markets as well as other services provided by major urban areas such as hospitals, schools, and other institutions, resulting in the more uniform socioeconomic development of the nation and beyond.

The institutional commitment to bringing GCC Rail to life seems greater than ever in 2023. This could potentially increase investors' interest in proposed PPP rail projects. Although there has been development at the national level, it is not yet apparent how or when all six networks will be connected. Sharing of responsibility is at the heart of the GCC railways plan, which faces formidable geographic obstacles but has huge economic effects. Foreign private sector firms will be required for the project's operation as well as building phases, with post-construction service privatizations expected. Governments must acknowledge that practically all transportation services are loss-making and require ongoing subsidies. Even if they are privatized, there is no chance of recovering initial capital expenses. If the train is eventually finished, it might completely change a region that already seems connected to the rest of the world.

### **Policies of the Joint Venture**

The new business, Oman-Etihad Rail, will lay the groundwork and work plan for the project, including its financial framework and timeline, following this agreement. The business will also be in charge of designing, building, and running the rail network (“Abu Dhabi Transport News - ADMO,” n.d.). The GCC members recognize the fundamental importance of

strengthened regional links, infrastructure-based synergies, and inter-territoriality policies for the GCC region to function successfully as a global hub and propose to build a heavy railway line connecting all six states.

Any infrastructure project's ability to be implemented and operated successfully depends on the legal framework that is in place. Although each GCC country has its own laws, a uniform legal system must be put in place at the GCC level to control the GCC Railway.

In order to encourage harmonisation and the growth of freight and passenger transport between the GCC countries, the necessity of a single, comprehensive transport law was acknowledged in 2019. The adoption of a single transport law has the potential to revolutionize the whole transportation infrastructure; however, doing so would necessitate upgrading technological specifications and regulatory frameworks in each GCC country to assure consistency and alignment. Such a law might have clauses that: Contracts for the transportation of dangerous commodities, consignment notes, passenger transportation agreements, and contracts for the use of railroad equipment

- Responsibility for loss, damage, and delays in deliveries; packaging, loading, and disposal of items; and Insurance
- Claim settlement and dispute resolution procedures
- Clarify concerns pertaining to contract formation, as well as the rights, obligations, and liabilities of the parties involved and participating GCC nations.
- Assist in establishing a consistent, predictable, and unambiguous legislative framework for rail transportation between the GCC.

Enable rail operators and their clients to move goods and people across the GCC in a prompt, affordable manner, based on a standard legislative framework with little administrative complexity (“GCC Rail Project – Cross-border Laws,” n.d.)

### **The Projected Growth of National Economies**

The GCC Railway project was initially endorsed by all six member states in 2009 after being contested for decades. A number of Gulf countries are aiming to expand their tourism and entertainment industries as part of broader attempts to diversify their economies, and business leaders in the region have remarked that decreased travel distances may support this goal. By 2050, it is anticipated that the GCC railway will carry roughly 8 million people annually (“GCC Railway | Ministry of Transportation and Telecommunications,” n.d.-c). The GCC's plan to place a strong emphasis on logistic infrastructure to achieve greater economic independence from the oil-based economy emphasizes the importance of the railway as a driver of economic diversification and growth. The people and industries of the UAE, Oman and the GCC will benefit greatly from the establishment of a railway network because it will improve trade, increase employment density, allow for more efficient land use, and increase land and property values. They are a key hub for the global exchange of goods due to their strong port infrastructure and interconnected rail network for overland transportation in the UAE, Oman, and GCC nations. The new transportation platform will benefit both passenger and freight movement, with a focus on the latter. Because it is affordable and practical for intermediate transportation, the cargo portion of the project will be used by the majority of businesses and industries. This will help to foster a healthy rivalry between the rail network and air carriers, providing people and businesses with more cost-effective transportation options.

The transportation infrastructure and the tourism industry complement each other well. Tourism's development throughout history has been inextricably linked to and dependent on the history of mobility (Batzner & Stephenson, 2017). The railway contributes to this sector by reducing travel time and cost and improving amenities and safety, which may result in longer visitor stays. A surge in the tourism industry will undoubtedly contribute to the region's socioeconomic development.

## **CONCLUSION**

The GCC has the ability to build its railway infrastructure based on established standards, fluctuations in signalling systems, and political obstacles that have hindered many other projects can be avoided. An important development in the GCC's transportation industry is the rail transportation project that Oman and the UAE started. The ground-breaking agreement to build a rail line connecting Sohar Port with the UAE rail network will open doors for the Omani and UAE economies that have the potential to be game-changers. The Gulf Cooperation Council's development plans strongly emphasise logistical infrastructure as an engine for economic diversification. Effective rail transportation is required to ensure GCC integration and to promote regional economic growth. This paper emphasizes the importance of railways in the nation's economic growth and regional integration. Because most GCC countries are geographically small, a domestic rail network may not be cost-effective unless it is regionally integrated. The UAE-Oman joint railway project is a watershed moment in this integration process. A regionally integrated railway will meet the rising demand for public transportation while reducing an unhealthy reliance on private automobiles. According to the research, there is no integrated railway without a suitable GCC regulator, and the GCC rail could have a significant positive impact on the region. People and industries will benefit in a variety of ways, including lower transportation costs, a safe and environmentally friendly mode of transportation, access to various domestic and regional destinations, and increased employment and business opportunities. To keep up with new technological developments, environmental changes, and rising client expectations, the rail industry must constantly upgrade itself. Further research can be conducted to probe the reasons for the delay in implementing the proposed GCC railway project.

## **Acknowledgement**

We are grateful that Almighty and everyone got the chance to participate in the current project.

## **REFERENCES**

1. About Etihad Rail. (n.d.). Retrieved from <https://www.etihadrail.ae/about/about>
2. Abu Dhabi Transport News - ADMO. (n.d.). Retrieved from <https://www.mediaoffice.abudhabi/en/transport/>
3. Artymiuk, S. (2023). Oman seeks consultants to explore feasibility of a Muscat metro. *International Railway Journal*. Retrieved from <https://www.railjournal.com/tenders/oman-seeks-consultants-to-explore-feasibility-of-a-muscat-metro/>

4. Batzner, A., & Stephenson, M. (2017). Towards an integrated transport network in the GCC region: Fostering tourism and regional cooperation. In *Routledge eBooks* (pp. 76–91). Informa. <https://doi.org/10.4324/9781315776576-5>
5. Ba-Awain, S., & Daud, D. (2018). International Journal of Economics, Commerce and Management OMAN AS A FUTURE LOGISTICS HUB: A CONCEPTUAL STUDY. *ResearchGate*. Retrieved from [https://www.researchgate.net/publication/325817424\\_International\\_Journal\\_of\\_Economics\\_Commerce\\_and\\_Management\\_OMAN\\_AS\\_A\\_FUTURE\\_LOGISTICS\\_HUB\\_A\\_CONCEPTUAL\\_STUDY](https://www.researchgate.net/publication/325817424_International_Journal_of_Economics_Commerce_and_Management_OMAN_AS_A_FUTURE_LOGISTICS_HUB_A_CONCEPTUAL_STUDY)
6. Dr. N. Kesavan, “Exports and Imports Stagnation in India During Covid-19- A Review” GIS Business (ISSN: 1430-3663 Vol-15-Issue-4-April-2020).
7. Dr. D.Paul Dhinakaran, “Customers Delight towards Service Excellence in Indian Overseas Bank Chennai” International Journal of Business Education and Management Studies (IJBEMS), ISSN:2941- 9638, (Vol.3.Issue 1. 2020 (March).
8. Dr. M. Surekha, “A study on utilization and convenient of credit card” Journal of Positive School Psychology, <http://journalppw.com>, 2022, Vol. 6, No. 4, 5635–5645.
9. Dr.M.Rajarajin “Bus Operations of Service Quality in Tamil Nadu State Transport Corporation Limited, Kumbakonam” Asian Journal of Management,(A and V Publication),(ISSN:0976 – 495X), Volume: 4, Issue: 1, May, 2013.
10. Dr.Umesh U, “Impact Of Human Resource Management (HRM)Practices On Employee Performance” International Journal of Early Childhood Special Education (INT-JECSE), ISSN: 1308-5581 Vol 14, Issue 03 2022.
11. M.Rajalakshmi “Current Trends in Cryptocurrency” Journal of Information and Computational Science, ISSN: 1548-7741, Volume 13 Issue 3 – 2023.
12. Dr.M. Mohana Krishanan “Consumer Purchase Behavior Towards Patanjali Products in Chennai” Infokara Research, ISSN NO: 1021-9056, Volume 12, Issue 3, 2023.
13. Dr. Malathi, “Impact of Covid-19 on Indian Pharmaceutical Industry” Annals of R.S.C.B., ISSN:1583-6258, Vol. 25, Issue 6, 2021, Pages. 11155 – 11159.
14. Dr.C. Vijai, “Mobile Banking in India: A Customer Experience Perspective” Journal of Contemporary Issues in Business and Government Vol. 27, No. 3, 2021, P-ISSN: 2204-1990; E-ISSN: 1323-6903.
15. D.Paul Dhinakaran Community Relations of Tamilnadu State Transport Corporation Ltd  
International Journal of Research and Analytical ..., 2019
17. Maneesh P, “Barriers to Healthcare for Sri Lankan Tamil Refugees in Tamil Nadu, India” Turkish Journal of Computer and Mathematics Education, Vol.12 No.12 (2021), 4075-4083.
18. B. Lakshmi, “Rural Entrepreneurship in India: An Overview” Eur. Chem. Bull. 2023,12(Special Issue 4), 1180-1187.

19. Dr.C. Paramasivan “Perceptions On Banking Service In Rural India: An Empirical Study” *Eur. Chem. Bull.* 2023,12(Special Issue 4), 1188-1201
20. Dr G.S. Jayesh “Virtual Reality And Augmented Reality Applications: A Literature Review” *A Journal for New Zealand Herpetology*, ISSN NO: 2230-5807, Vol 12 Issue 02 2023.
21. Dr.S. Umamaheswari, “Role of Artificial Intelligence in The Banking Sector” *Journal of Survey in Fisheries Sciences* 10(4S) 2841-2849, 2023.
22. S Kalaiselvi “Green Marketing: A Study of Consumers Attitude towards Eco-Friendly Products in Thiruvallur District” *Annals of the Romanian Society for Cell Biology.* 2021/4/15.
23. Dr. D.Paul Dhinakaran, “Impact of Fintech on the Profitability of Public and Private Banks in India” *Annals of the Romanian Society for Cell Biology*, 2021
24. Bryan, J., Weisbrod, G., & Martland, C. D. (2007b). Rail Freight as a Means of Reducing Roadway Congestion. *Transportation Research Record*, 2008(1), 75–83. <https://doi.org/10.3141/2008-10>
25. Crampton, G. (2003b). Economic Development Impacts of Urban Rail Transport. *ERSA Conference Papers*. Retrieved from [https://www.econstor.eu/bitstream/10419/116085/1/ERSA2003\\_295.pdf](https://www.econstor.eu/bitstream/10419/116085/1/ERSA2003_295.pdf)
26. Etihad Rail & Oman Rail Joint Venture. (n.d.). Retrieved from <https://uaeoman.etihadrail.ae/>
27. Frost & Sullivan. (2011). Strategic Insight on the GCC Rail Sector. History of the rail transport sector in the GCC. Retrieved from <http://www.frost.com/prod/servlet/cio/223147048>
28. GCC Railway | Ministry of Transportation and Telecommunications. (n.d.-c). Retrieved from <https://www.mtt.gov.bh/content/gcc-railway>
29. GCC Rail Project – Cross-border laws. (n.d.). Retrieved from <https://www.dentons.com/en/insights/articles/2023/march/8/gcc-rail-project-cross-border-laws>
30. Hakro, A. N., & Omezzine, A. (2016). Oil prices and macroeconomic dynamics of the Oman economy. *Journal of Developing Areas*, 50(1), 1–27. <https://doi.org/10.1353/jda.2016.0021>
31. Economy Middle East. (2022, May 12). How the GCC Railway could revolutionize trade and transport in the Gulf - Economy Middle East. Retrieved from <https://economymiddleeast.com/news/how-the-gcc-railway-could-revolutionize-trade-and-transport-in-the-gulf/>
32. (Economy Middle East, 2022)

33. Reporter, B. D. K. Y. S. (2018, October 29). Future rail connects GCC and EU via Jordan. *Markets – Gulf News*. Retrieved from <https://gulfnews.com>
34. Kamel, M. Y. (2018). China's Belt and Road Initiative: Implications for the Middle East. *Cambridge Review of International Affairs*, 31(1), 76–95. <https://doi.org/10.1080/09557571.2018.1480592>
35. Kozicki, M. (2016). Railway development in Saudi Arabia. In *Wydawnictwo Uniwersytetu Łódzkiego eBooks*. University of Lodz Press. <https://doi.org/10.18778/8088-166-2.05>
36. Kurwi, S., Demian, P., & Hassan, T. M. (2017). Integrating BIM and GIS in railway projects: A critical review. Annual ARCOM Conference.
37. Lowe JG and Altrairi IS (2013) The Gulf Cooperation Council railway In: Smith, S.D and Ahiaga-Dagbui, D.D (Eds) Procs 29th Annual ARCOM Conference, 2-4 September 2013, Reading, UK, Association of Researchers in Construction Management, 1147-1157.
38. Mahendran, Y., & Pillai, R. (2016). The Impact of the GCC/Etihad Railway on the Aviation Sector in the UAE. *Proceedings of the Third International Aviation Management Conference*, Dubai, 23-24 November 2016, 106-116.
39. Mohammad, S. I., Graham, D. J., Melo, P. C., & Anderson, R. A. (2013). A meta-analysis of the impact of rail projects on land and property values. *Transportation Research Part A-policy and Practice*, 50, 158–170. <https://doi.org/10.1016/j.tra.2013.01.013>
40. Mohammed, J., & Alkhoori, F. (2021). The Viability and Contribution of High-Speed Rail to the Economic Growth and Social Development. *Technology and Investment*. <https://doi.org/10.4236/ti.2021.124011>
41. Prabhu, C. (2021, December 15). Nod for GCC Railway Authority spurs hopes for revival of Omani rail project. *ACE Times*. Retrieved from <https://www.zawya.com>
42. Nwet Aung. (2016, December). The Impact of Rail Transportation On Regional Economic Development Of Myanmar. KDI School of Public Policy and Management. KDI School of Public Policy and Management. Retrieved from
43. <https://archives.kdischool.ac.kr/bitstream/11125/31932/1/The%20Impact%20of%20rail%20transportation%20on%20regional%20economic%20development%20of%20Myanmar.pdf>

44. Oman-UAE Rail Project | Oman Rail. (n.d.). Retrieved from <https://www.omanrail.om/oman-uae-rail-project>
45. Prabhu, C. (2022, September 30). Oman-Etihad Rail project to buoy fortunes of Sohar Port. *Oman Observer*. Retrieved from <https://www.omanobserver.om>
46. Polyakova, I. N., & Borisova, A. (2019). Assessment of the railway transport effect for the social-and-economic development of the region. *E3S Web of Conferences*. <https://doi.org/10.1051/e3sconf/201913504052>
47. Reporter, A. S. (2022, May 17). GCC rail network: You could travel by train from Kuwait to Oman via UAE - News | Khaleej Times. *Khaleej Times*. Retrieved from <https://www.khaleejtimes.com>
48. Saif, M. A., Ghulman, B. A., Ahmed, I., & Khalil, M. (2016). Challenges to the Development of Railway Infrastructure in Remote and Formidable Terrain: A Case Study from Saudi Arabia. *Proceedings of the Third International Conference on Railway Technology: Research, Development and Maintenance*. <https://doi.org/10.4203/ccp.110.13>
49. Whiteaker, J., & Whiteaker, J. (2022, May 16). The GCC railway really should be built (but might not be). *Investment Monitor*. Retrieved from <https://www.investmentmonitor.ai>
50. Transit & Economic Development. (n.d.). Retrieved from <http://www.umich.edu/~econdev/rail/>
51. Ziadah, R. (2018). Constructing a logistics space: Perspectives from the Gulf Cooperation Council. *Environment and Planning D: Society and Space*, 36(4), 666–682. <https://doi.org/10.1177/0263775817742916>
52. Ahmad, S. A., & Ahmad, N. (2016). Etihad Rail: a new way to change a business landmark in the United Arab Emirates. *Emerald Emerging Markets Case Studies*. <https://doi.org/10.1108/emcs-01-2015-0008>