

Insights Into Logistics And Supply Chain Studies In Middle East

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1. ABSTRACT: Due to recent supply disruptions, the corona crisis and the limited supply of all kinds of raw materials, components and goods due to global polarisation, the importance of logistics and supply chain management is boosting. This study is therefore a continuation of a study carried out in Slovenia and is investigating higher education study programs in the field of logistics and supply chain in the Middle East. It is oriented towards logistics, supply chains, management, and sustainability topics, which create core competencies for logistics leaders, supply chain managers, and future experts. Keywords were selected to identify key logistics, management and sustainability issues related to higher education sector in the Middle East. It was revealed that some countries are much more focused on company logistics and others more on supply chain challenges. It was revealed that some countries do not give any attention to one of the top priorities of global managers - corporate sustainability. To be able to supply a sufficient amount of logistics experts for managing current and future challenges of resilient supply, onshoring, increasing

transparency, and fast response, Middle East countries should develop logistics education even more rapidly.

Keywords: *Supply chain management, Middle East, Higher Education Institutions, Logistics, Sustainability.*

2. INTRODUCTION

The global logistics industry grew significantly last decade, while logistics has become an essential part of the global business environment. Also, in the Middle East, the logistics industry plays a vital role in transportations development and urbanization. The strategic location of the Middle East (ME) - at the junction of three continents and with of world's most critical natural resources, with over half of the world's proven oil reserves - has historically been a crossroads for trade, peoples and as a transition zone for political and cultural interaction (Balat, 2006; Kort, 2008). The logistics industry is projected to grow by 4.3 % from 2020 to 2025 (Frost & Sullivan, 2017). According to global competitiveness, UEA is ranked among the top 20 countries in 2020 across 13 indexes related to transport (Sale, 2021). The United Arab Emirates is also considered one of the largest logistics hubs in the Middle East. That proves that logistics is among the most rising industry in those regions.

The Middle East has undergone tremendous cultural, political, and economic growth over the past few years. The region is facing a fundamental change in the oil market, where new technologies are increasing the supply of oil on the one hand, and on the other, raising concerns over the environment are forcing them away from

oil. In order to reduce their reliance on oil and become a more sustainable society, the oil-exporting countries, including ME countries, are establishing and implementing new reforms to diversify their economies (Mizorev et al., 2020). Similarly, new goals towards a more sustainable environment and green economy are set in the logistics industry (Menon, 2020).

Also, ME higher education is experiencing significant transformation, privatization, internationalization, and industry reforms (Romani, 2009). Many higher education institutes are adjusting to these changes by reforming their study programs or adding new ones to meet the growing market needs. The growth of the young population is estimated to be 65 million by 2030, and education is a crucial element for sustained development in those regions (PWS, 2021). According to Keser (2015), higher education influences the development of production systems, new implementation, and sustainable development and management systems. Logistics education significantly influences the logistics sector's success and potentially sets high demands on the education process. Literature review revealed that there is a lack of studies related to logistic education in ME; existing ones are focusing mainly on corporate social responsibility, sustainability and environmental perspective, a rise of private universities, and global competitiveness (Akkari, 2004; Alzyoud & Bani-Hani, 2015, Miller-Idriss and Hanauer, 2011; Rupp, 2009; Sherif, 2015).

The main aim of this study is to explore the logistics-related study programs in the Middle East. Our focus was to investigate higher education study programs with logistics-related topics (e.g., transport, management, sustainability, environment, eco/green, and others) in chosen ME countries. Analysis of this study programs important serves three purposes: first, it provides a database with the content that no previous authors have made; second, it provides a comprehensive comparison of ME logistic related study programs, using different criteria and thirdly, it can be used as an orientation tool for logistic sector workforce and education providers in these countries.

3. METHODOLOGY

First, we used web-content analysis as a qualitative

descriptive approach. Content analysis refers to a systematic coding and categorizing approach used to analyze and explore a large amount of textual information (Gbrich, 2007; Mayring, 2004). The definitions of the ME countries vary; it encompasses these 15 countries that each definition always includes (World population review, 2021): Turkey, Syria, Cyprus, Lebanon, Israel, Jordan, Iraq, Iran, Kuwait, Saudi Arabia, Bahrain, Qatar, United Arab Emirates, Oman, and Yemen. Firstly, we list all private and public higher institutions in chosen ME countries. Egypt was excluded in this case and will be further studied in the future since it is important player in logistics due to the Suez canal. It follows a comprehensive study of publicly available online data, accessible on HEI web pages for each institution to determine logistic-related study programs at all study levels (graduate and postgraduate.)

Nine keywords were set for evaluating logistics-related study programs: logistics, supply chain, transport, management, sustainable, environmental, eco/green, waste/circular, and corporate (social) responsibility. However, only study programmes accessible online and English were analyzed and included. Secondly, data were analyzed with the SPSS software program and perform analysis sequences for different variables. To achieve our aim, we compare and analyze the data regarding different criteria.

4. RESULTS

There were 405 logistics, sustainability, and management-related study programs in 15 ME countries found in English. Of which the most significant share is Bachelor programs (59%), followed by Master programs (35%) and Ph.D. programs (6%). Most study programs were found in Israel (which represents 14% of study programs found), and Lebanon (12% of researched programs) presents the highest share of available study programs, including transport, environment, and management study topics in programs. Syria (1% of programs in the ME database) and Bahrain (2%) represent an insignificant share of programs gathered in the ME study program database. Figure 1 exposes how the number of programs correlates with the researched ME countries' population. Cyprus indicates the smallest gap between the programs found and programs per 1 million population.

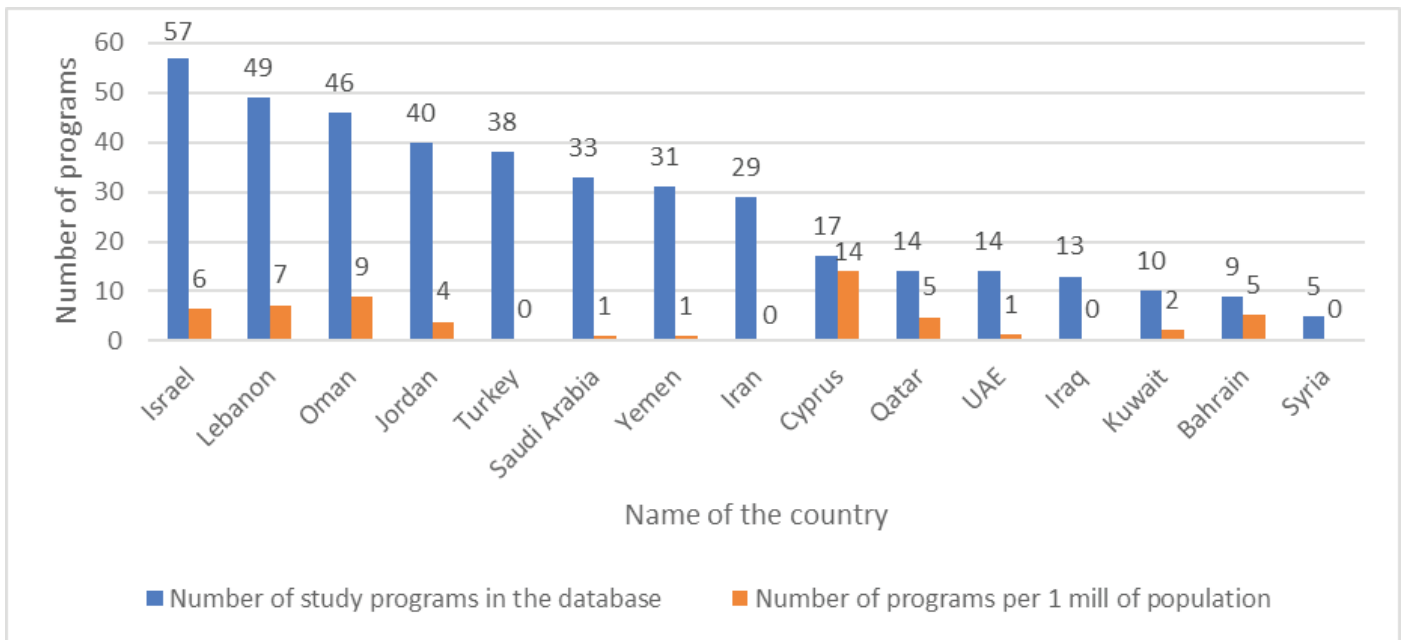


Figure 1: Number of study programs per country in ME database and number of found study programs per 1 million population in ME countries

The found programs were analyzed deeper to determine which of the methodology mentioned study topics (keywords) are integrated into the program curriculum. From all nine researched study topics, the highest share of programs includes management (50.1% of

all programs included in ME database), next group is sustainability/transport/logistics (31.6% - 34.8%) and final group Eco/green and CSR (12.6% - 18.0%). The share of each study topic implementation in the created ME database can be visible in Figure 2.

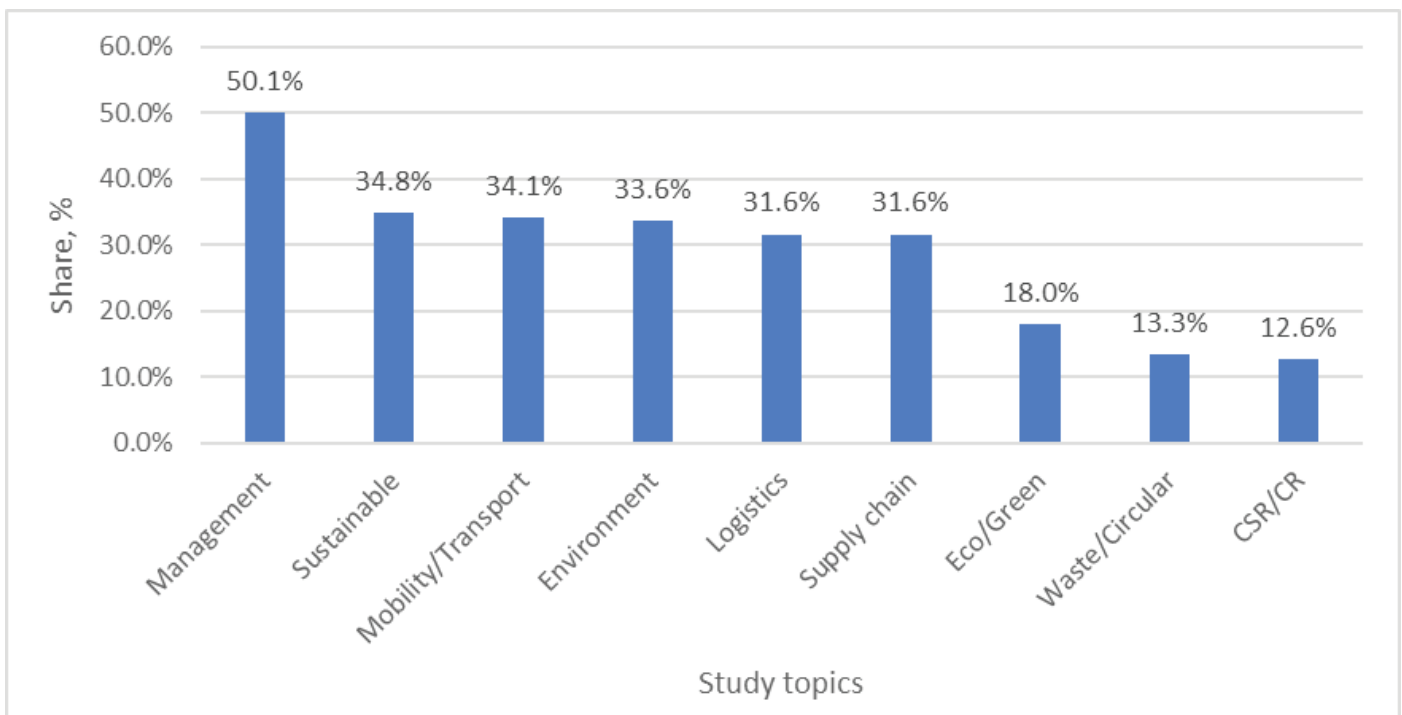


Figure 2: Share of study topics integrated into study programs in ME countries

The ME database data was grouped into study topics per study level to research how each study topic is integrated into each study level. Figure 3 indicates that 53% of all bachelor-level study programs and 49% of all Master's programs include management as a study

field in the curricula. According to the ME database, the mobility/transport study field is mainly included in Ph.D. programs. Similarly to mobility/transport, the study topic eco/green has more programs at the Ph.D. level, including this topic in their curricula.

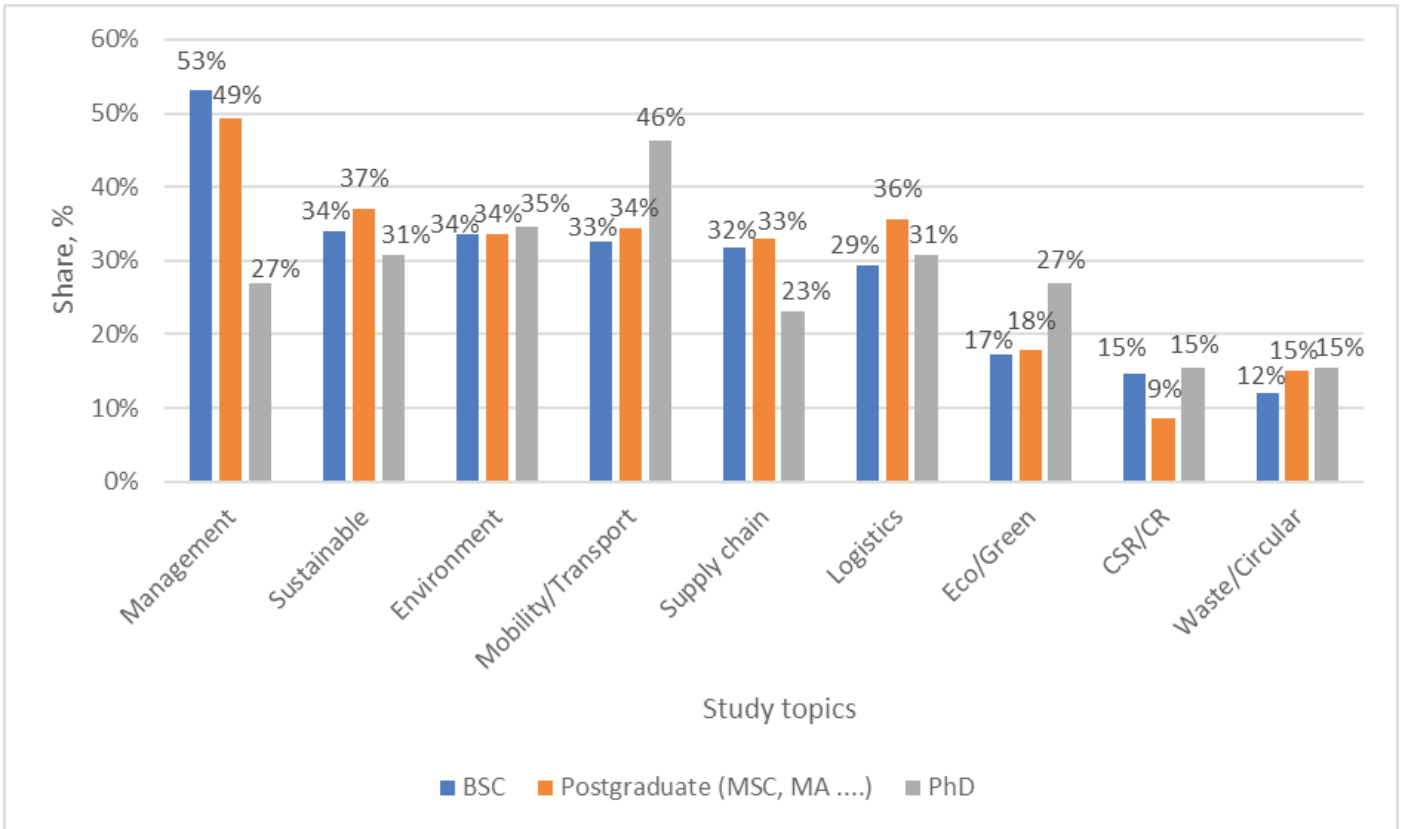


Figure 3: Share of study fields included in ME study programs per study levels

To research why some of the researched ME countries indicate a higher number of programs in specific study topics, the number of found programs per country was compared with GDP per capita in the country (World Bank Group, 2021) and the sustainability score per country (Sustainable Development Report, 2021). It was meant to determine if some countries that score

higher in sustainability have more study programs that include this study topic and if higher GDP correlates with more programs. There was no clear correlation found between GDPs per capita and a number of programs, and between sustainability score per country and study topics implemented in the study curricula. The researched data can be seen in Figure 4.

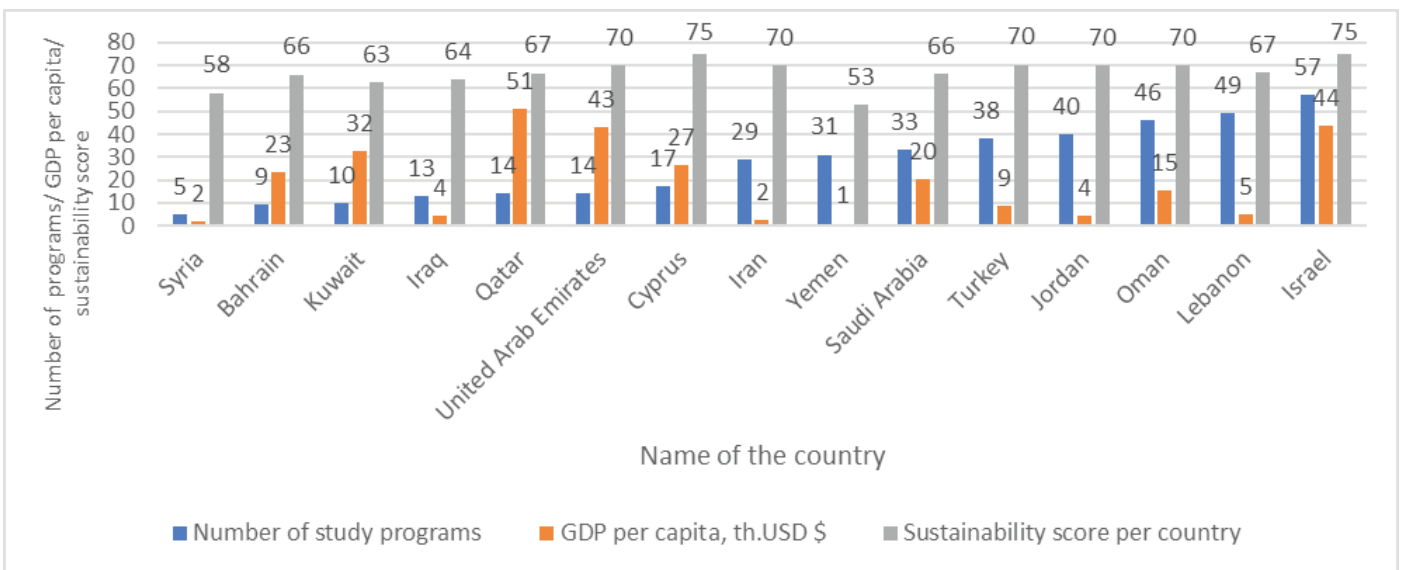


Figure 4: Number of study programs in ME database per country with GDP per capita and sustainability score

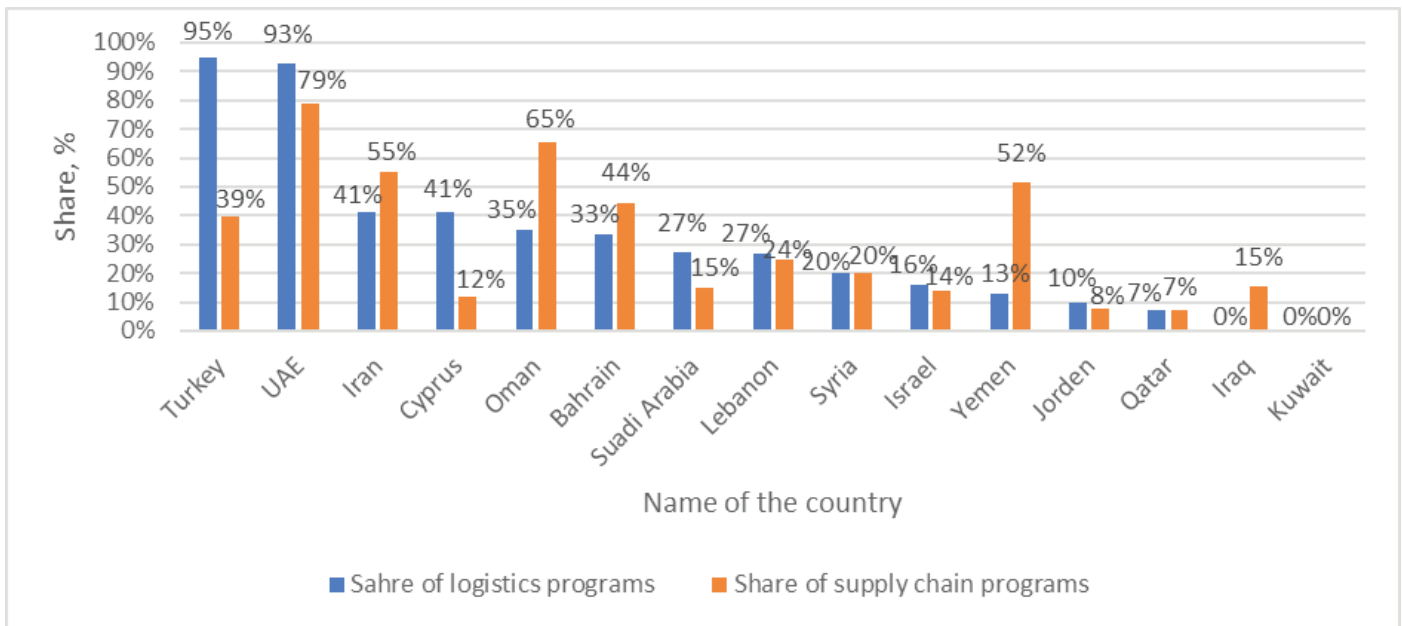


Figure 5: Share of study programs in ME countries which include logistics or supply chain study topics

Some of the programs focused on logistics, some on supply chain study topics, but some of the researched programs in the ME database included both study topics equally. To research how researched ME countries view logistics and supply chain and how it is integrated into the study programs, there were analyzed the number of programs, including logistics study topic and supply chain study topic. Figure 5 indicates that Turkey's HE programs integrate logistics study topics highly, with 93% of Turkey's researched study programs including logistics topics in their curricula. It also represents one of the graph's most significant gaps, indicating a strong focus on logistics rather than supply chain. Opposite results are observed for Yemen and Oman, where more programs were found, focusing on supply chain rather than logistics. On the other hand, Syria and Qatar represent an equal share of supply chain and logistics study topic integration in study program curricula.

5. DISCUSSION AND CONCLUSION

The given results of researched programs indicate that ME countries (Turkey, UAE, Cyprus, Saudi Arabia, Lebanon, Israel, Jordan) emphasize logistics in HE programs. Other ME countries (Iran, Oman, Bahrain, Yemen, Iraq) highlight the supply chain study topic. The economic focus could explain these results in each country or location. For example, Turkey's geographical location bridging Europe with Asia and ME has set an excellent

condition for Turkey to become an excellent logistics hub. Since Turkey is such a critical trading channel, it might explain why many study programs include logistics study topics.

The high integration of management study topic integration in researched programs indicates that HE prepares the young specialists, leaders, and experts to have a necessary skill set in becoming logistic hub managers, sustainability managers, etc. In addition, logistics and supply chain study topics are highly integrated into Master's level of programs, which with additional skillset from management study topic indicates an excellent preparation of well-skilled logistics managers. Although there were very few Ph.D. level programs found, they mainly include study topics mobility/transport, environment, and logistics, which leads to considering that these potentially could be the current focus of the ME academic research areas.

Although most study programs related to logistics, sustainability, and management were found in Israel, comparing it with a number of programs per 1 million of the population in Israel, the found are not that much, considering the number of Israel inhabitants. On the other hand, the number of found study programs in Cyprus is smaller than in Israel, but the population is around eight times smaller. They indicate that Cyprus could be more oriented towards logistics, sustainability, and management than other ME countries.

In conclusion, the ME region is an important part of the global transport, logistics, and supply chain network, and it requires educated, skilled. Well-prepared future specialists and managers and with the general insight of HE current situation in ME countries, it seems that the ME has study programs that cover various study topics and potentially could prepare multi-disciplined logistics and supply chain specialists and managers.

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