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College of Business Administration

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Factors Affecting Investment in Logistics Sector: Evidences from the Special Economic Zone at Duqm

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Declaration

I acknowledge that the source of the scientific content of this dissertation has been determined and that it is not provided for any other degree, and that it reflects the opinions of the researcher, which are not necessarily adopted by the donor.

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Factors Affecting Investment in Logistics Sector: Evidences from the Special Economic Zone at Duqm

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Thank you all

Dedication

To my parents

Who is calling me daily to encourage me to complete my study.

To my wife and daughter

Who is supporting me at every moment in my studying time.

To my sister Nasrin

Who was my classmate; her support and motivation were valued to complete my study**.**

Abstract

Factors Affecting Investment in Logistics Sector: Evidences from the Special Economic Zone at Duqm

This study aimed to investigate the factors affecting the investment opportunities in the logistics sector in The Special Economic Zone at Duqm. The study examined the relationship between logistic infrastructure, government regulation, macroeconomic environment and investment opportunities in the logistics sector in a special economic zone in Duqm. This paper provides both a framework and an analysis, which contributes to the further researches in the factors affecting the investment opportunities in the logistic sector in the special economic zone at Duqm and help the decision makers to make the right decision

A primary and secondary data were used in this study. The secondary data was based on reviewing literature, and the primary method is distributing a questionnaire among employees and investors in the logistic sector in Duqm. The questionnaire was distributed through an electronic link via Google Forms and share it through social media applications. Three hundred five questionnaire responses were received.

SPSS V26 program was used to test and analyze the collected data. The results show that the factors of logistic infrastructure, government regulation and macro-economic environment can affect investment opportunities in the logistics sector in the special economic zone at Duqm.

Duqm is on its way to becoming a global logistics hub. The special economic zone at Duqm has to continue the infrastructure developments to match global standards and peer regions. Along with physical infrastructure developments, progress has been made in developing financial markets, improving the system of corporate governance, education and research related to logistics services that will significantly change the logistics landscape for the better. The limitations of this study, which may be taken into consideration on a similar study in the future, include more participants for the study to get more responses about the tested variables. The second limitation is the study and questionnaire was limited to only one special economic zone in Oman, and it will be more effective if it is applied to all economic zones in Oman.

Key words: Logistics, investment, special economic zone in Duqm, logistic infrastructure, government regulation, macro-economic environment

ملخص الدراسة

العوامل المؤثرة على الاستثمار في القطاع اللوجستي: شواهد من المنطقة الاقتصادية الخاصة بالدقم

تهدف الدراسة إلى التعرف على العوامل المؤثرة على فرص الاستثمار في القطاع اللوجستي في المنطقة الاقتصادية الخاصة بالدقم. تناولت الدراسة العلاقة بين البنية التحتية اللوجستية، والتنظيم الحكومي، والبيئة الاقتصادية الكلية، وفرص الاستثمار في القطاع اللوجستي في المنطقة الاقتصادية الخاصة بالدقم. تقدم هذه الورقة إطارًا وتحليلاً يسهمان في إجراء المزيد من الأبحاث في العوامل المؤثرة على فرص الاستثمار في القطاع اللوجستي في المنطقة الاقتصادية الخاصة بالدقم ومساعدة متخذي القرار على اتخاذ القرار الصحيح.

تم استخدام البيانات الأولية والثانوية في هذه الدراسة. استندت البيانات الثانوية إلى مراجعة الأبحاث ، والطريقة الأولية هي توزيع الاستبيان على الموظفين والمستثمرين في القطاع اللوجستي بالدقم. تم توزيع الاستبيان من خلال رابط إلكتروني عبر نماذج جوجل ومشاركته عبر تطبيقات التواصل الاجتماعي. تم استلام ثلاثمائة وخمسة ردود على الاستبيان.

تم استخدام برنامج SPSS V26 لاختبار وتحليل البيانات المجمعة. وأظهرت النتائج أن عوامل البنية التحتية اللوجستية ، والتنظيم الحكومي ، والبيئة الاقتصادية الكلية يمكن أن تؤثر على فرص الاستثمار في القطاع اللوجستي في المنطقة الاقتصادية الخاصة بالدقم.

الدقم في طريقها لأن تصبح مركزًا لوجستيًا عالميًا. على المنطقة الاقتصادية الخاصة بالدقم أن تواصل تطوير البنية التحتية لتتوافق مع المعايير العالمية والمناطق النظيرة. تغير المشهد اللوجستي إلى الأفضل يتطلب تطوير البنية التحتية وتطوير الأسواق المالية، بالإضافة الى تحسين نظام حوكمة الشركات والتعليم والبحوث المتعلقة بالخدمات اللوجستية. قيود هذه الدراسة، والتي قد تؤخذ في الاعتبار في دراسة مماثلة في المستقبل، إضافة المزيد من المشاركين في الدراسة للحصول على مزيد من الردود حول المتغيرات التي تم اختبارها. القيد الثاني هو ان الدراسة والاستبيان كانا مقصورين على منطقة اقتصادية خاصة واحدة فقط في سلطنة عمان، وستكون أكثر فعالية إذا تم تطبيقها على جميع المناطق الاقتصادية في السلطنة.

الكلمات المفتاحية : الخدمات اللوجستية، الاستثمار، المنطقة الاقتصادية الخاصة بالدقم، البنية التحتية اللوجستية، التنظيم الحكومي، بيئة الاقتصاد الكلي

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LIST OF ABBREVIATIONS

CAGR	Compound Annual Growth Rate
FDIs	Foreign direct investments
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GCC	Gulf Cooperation Council
JV	Joint Venture
OPAZ	The Public Authority for Special Economic Zones and Free Zones
SEZAD	The Special Economic Zone Authority at Duqm
SEZD	The Special Economic Zone at Duqm
SPSS V26	Statistical Package for Social Sciences
WTO	World Trade Organization

CHAPTER ONE

INTRODUCTION

1.1 Background of study

Investment opportunities are essential for investors in every sector, and can give companies the chance to increase their market share and competitiveness .The logistics industry, as one of the fastest-growing industries in the world, helps the investors to improve their supply chain and reach the highest number of regions around the world (Jing & Cai, 2010). The establishment of Special Economic Zones was seen as a means to boost employment, exports and foreign exchange (Al-Muharrami & Al-Zaidi, 2019). These Special Economic Zones can transform the country into a business hub by developing logistics hubs (Lee & Hobday, 2003). There are 71 Special Economic Zones and Free Zones in the Gulf Cooperation Council (GCC) (Goussous, Sawaya, Schirmer, & Basma, 2020). Industries and logistics have been identified as two main business of the diversification agenda and the main drivers of FDI in the GCC economies. This is due to the region's central location, access to the busiest sea routes, cheap raw materials and utilities, and the financial ability to invest in enabling infrastructure and technologies (Goussous et al., 2020)

In Oman, The Public Authority for Special Economic Zones and Free Zones was established in August 2020 according to Royal Decree 105/2020, to oversee the Special Economic Zone at Duqm, Almazuna Free Zone, Salalah Free Zone, Sohar Free Zone and any other special economic zone or free zone in Oman (OPAZ, 2021b). The Public Authority for Special Economic Zones and Free Zones promotes investment opportunities in special economic zones and free zones inside and outside the Sultanate in coordination with the concerned authorities (OPAZ, 2021a). SEZAD is a government agency that was established by Royal Decree No. 119/2011 and entrusted with the powers and responsibilities of developing and administering the special economic zone at Duqm to become a regional maritime and transit-trade hub, an essential complex for export-oriented industries and an attractive tourism destination on the Arabian Sea (SEZAD, 2021b). The Special Economic Zone at Duqm is the most significant special economic zone in the Middle East (SEZAD, 2021b). The government has taken into consideration the need to ensure that the area is fit for a vast number of business activities to meet the needs of investors (SEZAD, 2021b).

This study focused on factors affecting investment opportunities in the logistics sector in the Special Economic Zone at Duqm. This is represented by three independent variables namely:

Logistic Infrastructure, Government Regulation and Macro-economic Environment, and the need to find their relationship with the dependent variable investment opportunity in the Special Economic Zone at Duqm. This paper provides both a framework and an analysis, which contributes to the further research of the factors affecting investment opportunities in the logistics sector in the special economic zone at Duqm and help decision makers make the right decisions. The expected finding is that there is a relationship between the tested variables, which can affect the investment decision in the logistic sector in The Special Economic Zone at Duqm.

1.2 Problem Statement

Growth in international trade and its related freight distribution systems require the development of logistics capabilities in the country (Hooi, Huang, & Hong, 2014). Logistics is a crucial factor that attracts investment and increases country revenues. It plays a vital role in diversifying sources of income. The effectiveness and efficiency of the logistics industry affects investment decisions in the country. Oman ports offer great opportunities for merchants and investors based on the natural geographical location overlooking the largest global shipping lines. This makes it an ideal location as a center for redistribution and export as it mediates the largest markets and global economic powers (OMANUNA, 2021).The Special Economic Zone at Duqm works to attract investors to the area, and develop the government's role in supporting the logistics sector and building investment opportunities as a logistics hub (SEZAD, 2021b). The Government of Oman established SEZD, and it is trying to achieve the following national objectives from establishing such economic zones: economic diversification; sustainable economic growth; securing job opportunities; balancing Oman's regional development; and, increasing private sector contribution to GDP (Al-Muharrami & Al-Zaidi, 2019). Oman's logistics sector is expected to grow at a CAGR of 7% between 2015 and 2020 (ITHRAA, 2016).To achieve the expected plans and Oman vision 2040, SEZD needs to find investment opportunities to attract more investors to the area and work to improve weaknesses.

Accordingly, this research investigated the factors affecting investment opportunities in the logistics sector in the Special Economic Zone at Duqm.

The problem statement of this study can be highlighted through "***What are the main factors affecting investment opportunities in the logistics sector in the special economic zone at Duqm***?"

1.3 Research Questions

Based on the problem statement, the main research question can be "***What are the main factors affecting investment opportunities in the logistics sector in the special economic zone at Duqm***?". Based on the main research questions three sub question were raised.

RQ 1: What is the relationship between logistics infrastructure and its effect on investment opportunities in the logistics sector in the Special Economic Zone at Duqm?

RQ2: What is the relationship between government regulation and its effect on investment opportunities in the logistics sector in the Special Economic Zone at Duqm?

RQ 3: What is the relationship between the Macro-economic environment and its effect on investment opportunities in the logistics sector in the Special Economic Zone at Duqm?

1.4 Research Objectives

Based on the main research question, the research objective is to investigate the main factors affecting investment opportunities in the logistics sector in the Special Economic Zone at Duqm.

RO 1: To examine the relationship between logistics infrastructure and its effect on investment opportunities in the logistics sector in the Special Economic Zone at Duqm.

RO 2: To examine the relationship between government regulation and its effect on investment opportunities in the logistics sector in the Special Economic Zone at Duqm.

RO 3: To examine the relationship between the Macro-economic environment and its effect on investment opportunities in the logistics sector in the Special Economic Zone at Duqm.

1.5 Significance of the study

This study aimed to investigate the factors affecting investment opportunities in the logistics sector in The Special Economic Zone at Duqm through testing the relationship between the independent variables of Logistic Infrastructure, Government Regulation and Macro-economic Environment and the dependent variable of investment opportunity in the Special Economic Zone at Duqm. Testing the relationship between the variables will give a clear vision about the factors that can affect investment opportunities in the logistics sector in the Special Economic Zone at Duqm and the ways that can attract more investors in this sector. The results of the study will help decision-makers make the right decisions, which will

improve the factors that attract investment, activate and improve regulations and laws in line with the corresponding special economic zones. The recommendations of this study will be sent to the Public Authority for Special Economic Zone and Free Zones to apply it in SEZD and other Special Economic Zones in Oman.

1.6 Operation definitions

Logistics: 'a process of planning, implementing, and controlling the efficient flow of products, information, and funds to conform to the client's requirements. Transport is a core component of logistics, moving goods between different points in the supply chain. Logistics encompasses the storage of raw materials, work-in-process parts, and finished products, as well as a variety of value-added services' (ADB, 2012). Hong, (2007) defined logistics as the 'process of managing the flow of materials from point-of-origin to point-of consumption that include companies offering single or integrated logistics services, such as various modes of transport service, public warehousing and storage, transport terminal services, as well as transport arrangement services.

Logistic infrastructure: is the allocation of capital to improve the efficiency of freight distribution through infrastructures (terminals, real estate, and telecommunications); operations (transport modes and equipment); and human resources (labor, management, governance, research, and development) (Rodrigue, 2012). Infrastructure is directly related to the nature of production, which requires the availability of roads, railways, ports and other facilities for operational efficiency (Saidi & Hammami, 2011).

Logistic government regulation: the structuring of regulations to promote a better-integrated freight distribution system. Regulations promote efficient model choice, avoid subsidized modal preferences, and favor the harmonization of regulation across jurisdictions (Rodrigue, 2012).

The Special Economic Zone Authority at Duqm (SEZAD): 'a government agency that was established by Royal Decree No. 119/2011 and entrusted with the powers and responsibilities of developing and administering the Zone to become a regional maritime and transit-trade hub, an important complex for export-oriented industries and an attractive tourism destination on the Arabian Sea' (SEZAD, 2021).

1.7 Thesis structure

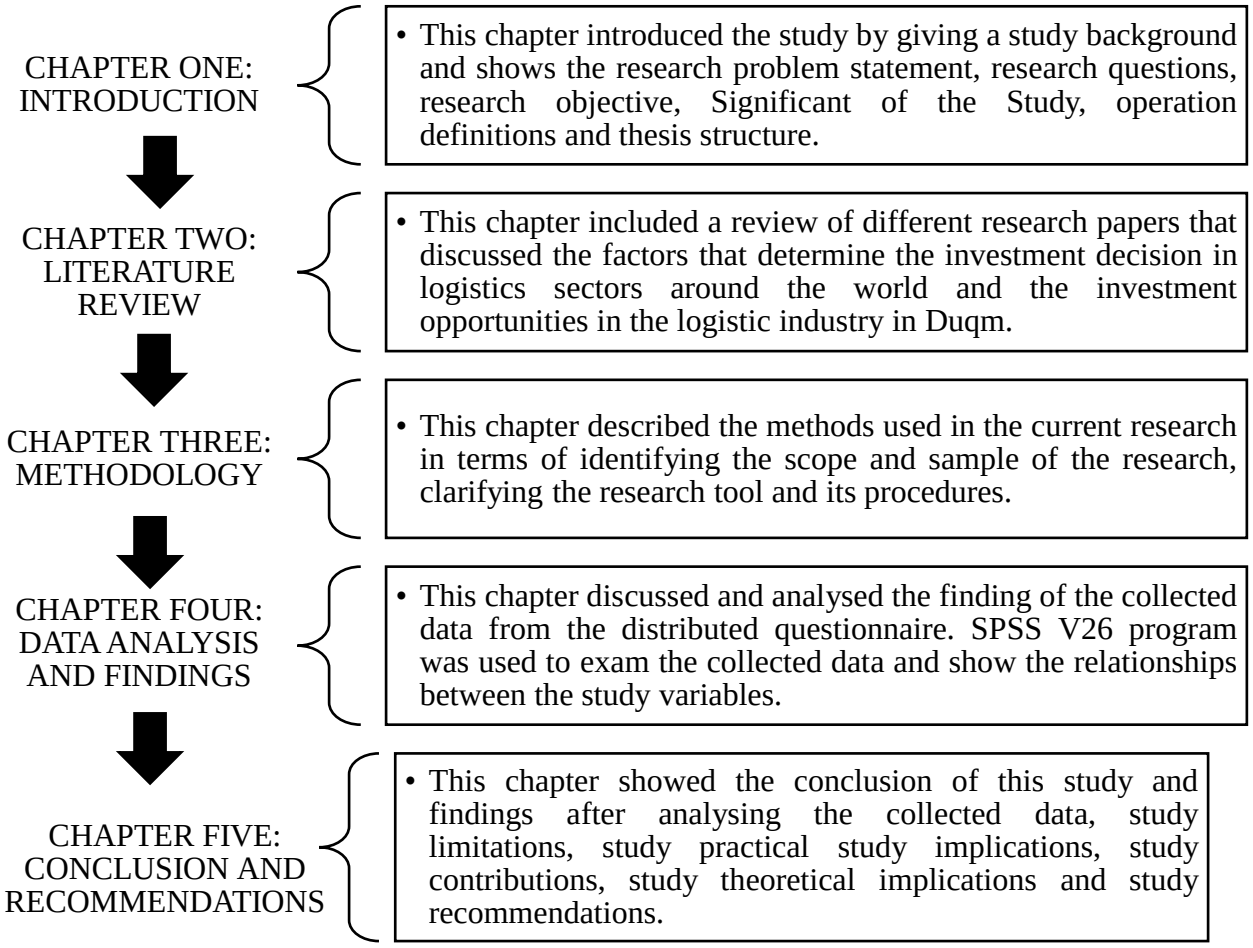

Figure 1: Thesis Structure

Chapter one is an introductory chapter to the thesis introduced the study by giving a study background and shows the research problem statement, research questions, research objective, significance of the study, operation definitions and thesis structure.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter included a review of different research papers that discussed the factors that determine the investment decision in logistics sectors around the world and the investment opportunities in the logistics sector in Duqm. Chapter two presents the research variables and the relationship between the independent variables of Logistic Infrastructure, Government Regulation and Macro-economic Environment and the dependent variable of investment opportunity in the Special Economic Zone at Duqm.

2.2 Logistics Infrastructure

Growth in international trade and its related freight distribution systems requires the development of logistics capabilities in the country. Logistics investments are the allocation of capital to improve the efficiency of freight distribution through infrastructure (terminals, real estate, and telecommunications); operations (transport modes and equipment); and human resources (labor, management, governance, research, and development). Foreign Direct Investment is attracted by better infrastructure (Hooi et al., 2014).

Today, logistics infrastructure is a complex network of physical infrastructure, information technology, logistics services, and government participation. Logistics infrastructure was initially developed to facilitate military movement; it is critical to today's global trade. To attract and increase business, most of today's logistics infrastructure investment is motivated (Ramudhin, 2012). The outcomes of investing in logistics capabilities are numerous. They are mainly related to increased integration with global trade, better utilization of national transport assets, more competitive exports, lower costs for imports, and increased employment opportunities. Ramudhin, (2012) states that the significant government and private investments in infrastructure had improved the connectivity of the port of Los Angles so that it is now accessible to the major population areas of the United States.

Shen, (2004) states that the factors that make Hong Kong a successful trade and logistics-hub are, the strategic location, free port , open economy, the bridging role between mainland China and the world, the quality of a quasi-state with high autonomy, low and simple tax system, non-government intervention, and excellent infrastructure such as seaport and airport. Tongzon, (2004), states there are some factors required to be a logistics hub: firstly, the strategic location,

for example, near to leading shipping and air routes; secondly, availability of an air terminal that can link and connect to the world; thirdly, availability of seaports that can play a focal point of shipping lines with good connections to other ports worldwide; and , fourthly, the availability of capabilities for warehousing and related services. In addition to these facilities, improve the efficient of the logistic infrastructure.

The recent surge of international trade and its related freight distribution systems now requires the development of logistics capabilities, which are supported by both physical (infrastructure) and managerial assets. Globalization has imposed more complex, geographically dispersed, and flexible supply chains that require advanced logistics. Logistics involves a comprehensive set of activities dedicated to the transformation and distribution of goods from raw material sourcing to final market distribution, including related information flows. Logistics investments include the allocation of capital to improve the efficiency of freight distribution through Infrastructure, Operations, and Human resources.

Dubai is one of the largest logistic hubs in the region. The Dubai government worked to develop the logistics infrastructure to provide the requirements of the beneficiaries of these services(Fernandes, 2015). Fernandes, (2015) states, the Free Zone authorities in Dubai gives land at cheaper than market rates to companies and provides accommodation for their workers to attract major logistics players to start their operations in Dubai. Dubai faced a concern of retaining its cost advantages due to the high rate of inflation. This concern pushed a raise in rents and increase in labour costs (Fernandes, 2015). Dubai is excellent in physical logistics infrastructure and on compete with those of an ideal integrated hub (Fernandes, 2015). Jebel Ali Port expansion and the opening of the Dubai World Central Dubai will add to the state of the art infrastructural facilities of Dubai. Fernandes, (2015) states that the free zone authorities should not price these facilities and services at market rates but be aware of the big picture and the overall contribution to the economy of these companies.

The Government of the Sultanate of Oman has invested substantial public funds and executed several strategic projects to unlock the economic potential of the zone including a multi-purpose commercial port, dry-dock facility for ship maintenance, a power plant, a water desalination facility and several connecting roads (SEZAD, 2021a). Duqm is the most significant special economic zone in the Middle East; its large size allows establishing different mega projects (SEZAD, 2021b). The Omani government has taken into consideration to ensure that the area is fit for a vast number of business activities to meet the needs of investors.

Duqm infrastructure is divided into eight main areas that include the port, the dry dock, the oil refinery, the regional airport, the heavy - medium and light industries complex. The infrastructure integration in Oman is the physical connectedness and interoperability of hard infrastructures, such as the ability to move containers efficiently from ship to truck to rail. The transport terminal at Duqm is Duqm port, Duqm airport and road network that connects to all governorates of the country. Necessary measures have been taken while preparing the design to ensure ecological balance and allow residents to move from one area to another smoothly using the main and sub road networks (SEZAD, 2021a). Domestic economic activities drive the road freight in Oman to meet local demand and land-based trade with other GCC countries. Construction of a new link of a 680-km road between Oman and the KSA will provide a more direct route between the two countries as well as reduce the number of border crossings while increasing road transport efficiencies. As international trade gains momentum with the expansion of cargo handling capacities in significant airports, Oman is likely to see steady upward growth in airfreight in 2016. Overall, the Oman logistics industry is expected to grow by 7% in 2016 (ITHRAA, 2016).

2.3 Government Regulation

Government regulation is mainly the form of rules and regulations that apply to the logistics activities of beneficiaries. The government can have a proactive role in developing the logistics sector. Government policies should focus on supporting the logistics companies to improve their commercial competitiveness and vitality and to promote the development of a robust logistics market (ADB, 2012). Regulatory integration is the structuring of regulations to encourage a better-integrated freight distribution system. The government needs to ensure that its public institutions facilitate a conducive business environment. The judiciary is an essential element in resolving trade disputes, and governments have worked to develop the judiciary by creation of additional judicial courts to quickly settle disputes and protect intellectual property rights (Fernandes, 2015). Governmental regulations should promote effective model selection, avoid supported model preferences, and favor harmonization of law across jurisdictions. As supply chain management includes patterns and processes across multiple countries, organizational integration becomes increasingly important as it transcends conventions and jurisdictions (Fernandes, 2015).

Tongzon, (2007) states that the government of Singapore has successfully created a stable, transparent and cost-effective environment for foreign business by investing in world-class infrastructure and offering tax incentives including tax concessions on profits, tax holidays, investment credits, accelerated depreciation, double tax avoidance agreement and tax exemption for venture capital. Furthermore, foreign investors have been attracted to Singapore to base their headquarters for sales, marketing and distribution because of transparent laws on foreign investments and their effective and efficient administration which has made doing business in Singapore more predictable.

The logistics sector in Oman is regulated by The Ministry of Transport, Communications and Information Technology and they make the regulations, rules and structure the industry (MTC, 2021). The Special Economic Zone Authority at Duqm manages, regulates, and develops all economic activities in Duqm. It plans, designs, and implements long-term strategies for infrastructural development and attracts investments to promote a broad spectrum of economic activities (SEZAD, 2021b).

The Omani government signed additional agreements with international organizations to maintain the investment environment in the country, such as:

- World Trade Organization (WTO): Oman has been a member of WTO since 9 November 2000 to protect trade between the country and the other members through attracting multinational investors and by exporting and importing goods and services around the world with low tax and tariffs (WTO, 2021).
- Antidumping agreement: Dumping occurs when foreign manufacturers sell goods in the local market at less than fair value, causing harm to the local trade. It is defined as sales at prices below the home market price for the import in question, or below the cost of production. This agreement helps the government to control the prices of different goods in Oman, and will decrease the risk of change in value (WTO, 2021).
- Free trade agreement (FTA): The United States entered into a Free Trade Agreement (FTA) with Oman on January 1, 2009. The FTA between the United States and Oman spurs investment and trade between the related parties (U.S.Embassy, 2021)

Government regulations and rules can control the barriers and external uncertainty about the host country. Vidal-sua & Lo, (2010), consider the effect of delay coming from the formal host country's environment (political risk) and the informal one (cultural distance). The analysis of the entry mode choice related to foreign direct investments (FDIs) constitutes a classic topic of

study the international entry choice that implies deciding on the degree of commitment that the investment firm wants to assume in the host market. In this sense, the investing company should determine if it will invest alone and own the full equity of the firm in another country without a local partner, or it will share it with a local partner. In general, industries that are difficult for new competitors to enter may enjoy periods of good profitability and little rivalry among competitors. Conversely, sectors that are easy to attract new companies into the industry during periods of profitability.

The external uncertainty associated with the FDI constitutes the primary factor conditioning the entry mode choice. The other point is to establish an investing agreement through a joint venture (JV). These barriers will affect the decision of investment and make the investors avoid investment opportunities. From this perspective, the external uncertainty affecting the internationalization process arises as one of the main factors conditioning the entry mode choice. In such a framework, the cultural distance between the home and the host countries and the host country's political risk become the two primary sources of such external uncertainty (Vidal-sua & Lo, 2010). On the other hand, the investing firm may prefer to invest through a joint venture to gain access to local knowledge and contacts. Since these are specific assets, the local partner in a JV is the bridge that allows the foreign investor to cross the cultural gap between both nations. The foreign company may rely on the local partner by assigning them some control and coordination tasks taking advantage of its familiarity with the host country's culture. For instance, the local employer's management or the development of distribution networks. Regarding the political risk, utilizing investing through a JV, the foreign investor limits its commitment of resources in the host country and shares risk with a second partner. When the formal and informal external environment is highly uncertain, foreign investors will prefer equity joint ventures over wholly-owned subsidiaries (Vidal-sua & Lo, 2010).

ADB, (2012) states that national government should focus on formulating macro-strategies; harmonizing policies and regulations; establishing standards; and making critical investments to assist in the development of model logistics parks, conduct fundamental research, and formulate measures. Local logistics development planning and management should be based on local logistics needs and guided by national strategies, plans, and policies (ADB, 2012).

Standards are essential for the effective and efficient functioning of a complex system. In a sense, they serve as a universal language among various parties in a logistics system. In the course of moving goods, various transport means are used, different instructions are received, and diverse

regulations are enforced. For the process to function well, technical standards must be in place (ADB, 2012).

Oman is a developing country, and it is working to reduce the entry and exit barriers. This barriers affect the investors decision either to invest or not because it will reduce the investment attractiveness for external or internal investors. Oman is a free trade country; it is easy to enter and exit thru the simple process of investing (ITHRAA, 2016). This process will make a competitive market between firms and attract the international firms to start a business within Oman.

SEZAD is the government agency responsible for developing and administering the zone. It is working on inviting qualified private sector companies of either Omani or foreign nationality to participate in the development of the area. SEZAD participates in the field of "site development, promotion and management" to enhance the readiness of the zone and its business offer towards end-users and in targeted economic sectors as industrial estates, warehousing and logistics villages, tourist villages and resorts, commercial, office and residential complexes (SEZAD, 2021b).

SEZAD, (2021b)states that the Duqm Special Economic Zone Authority worked to reduce barriers through the following:

1. Authority including 100% freehold by foreigners.
2. Tax exemption for up to 30 years renewable for a similar period
3. Easy recruitment of expatriate manpower for projects in the area, issuance of entry visas and residency permits for expatriate manpower and their families in addition to the facilitation of customs procedures.
4. The land usufruct in the region is for 50 years renewable for similar periods.
5. The Special Economic Zone Authority at Duqm (SEZAD) manages, regulates, and develops all economic activities in Duqm. It plans, designs, and implements long-term strategies for infrastructural development and attracts investments to promote a broad spectrum of economic activities.
6. The one-stop station provides all the necessary services for the enterprises. Through this window, investors can obtain all the required permits, licenses, approvals and visas as well as registration of enterprises and implementing all rules and regulations related to the area and decisions taken by the SEZAD.

7. Speedy and efficient processing of expatriate manpower applications. The process shall not take more than five working days from the date of applying.
8. No import duties.
9. No personal income tax.

2.4 Macro-economic Environment

The logistics sector is an inherently crucial factor in supporting economic activities as well as providing opportunities for economic development. In (Hooi et al., 2014) their study results show a positive relationship between the logistics industry and regional economic growth. This relationship was not mutually exclusive but interactive. In other words, logistics supported and promoted the development of the economy.

In contrast, economic development required a growth in logistics and thus pushed forward the improvement of the logistics industry. ADB, (2012) states that the current logistics system around the world still has significant shortcomings regarding its efficiency, safety, and sustainability. These constrain a country's economic development and therefore need to be resolved. The structural conditions of the industry determine the conduct of firms within the industry, which in turn determines firm performance. Behaviour is seen, however, as an implicit result of industry structure. Therefore, this theoretical perspective is concerned with identifying structural characteristics of industries, such as the degree of rivalry between firms within the industry, that affect the performance of firms within the industry and lead to differential performance between sectors.

Christmann, Day, & Yip, (1999) used cross-country data of four large multinationals in a single industry; they estimate the relative importance of country characteristics in addition to industry structure, corporate features and subsidiary strategy as determinants of subsidiary performance by using multiple regression analysis. This analysis contributes to the discussion on environmental determinism versus strategic choice. Country and industry characteristics are mainly outside the control of management, whereas corporate features and subsidiary strategy are under management's control. Results show that country characteristics are the most important to satisfy the investor's needs and wants, and to make it easy to invest between countries. The Country conditions are a significant determinant of firm performance.

ADB, (2012) states that the macro view focuses on the contribution to a country's economic and social development, and the satisfaction of public needs. From macroeconomic and social

perspectives, however, logistics is concerned with more than just achieving economic efficiency. It also reduces external costs (e.g., safety hazards and pollution), conserves energy, and optimally utilises a country's resources.

The logistics industry in Oman earned revenues of US$7.87bn in 2013 which, at that time, was forecast to reach US$12.02bn in 2017 (ITHRAA, 2016).Oman's logistics sector is competitive, contributing 4.9% to the sultanate's GDP in 2015 (ITHRAA, 2016). The industry is led by multinationals offering a comprehensive range of sophisticated logistics services, down to smaller national freight forwarders offering the simple storage and shipping of merchandise. Oman's logistics industry was expected to grow at a CAGR of 7% between 2015 and 2020 (ITHRAA, 2016). In addition to national economic diversification and job creation for Omanis, SEZD has long been projected as the place that balances regional development in Oman by reviving Al-Wusta governorate. The Government of Oman established SEZD, and it is trying to achieve the following national objectives from establishing such economic zones: firstly, economic diversification; secondly, sustainable economic growth; thirdly, securing job opportunities; fourthly, balancing Oman's regional development; and finally, increase private sector contribution to GDP (Al-Muharrami & Al-Zaidi, 2019).

The Gulf Cooperation Council (GCC) is an economic union consisting of Bahrain, Kuwait, Oman, Saudi Arabia, Qatar and UAE. The GCC has significantly expanded the market size for companies in the United Arab Emirates with the total population of GCC countries being estimated at 35.65 million (Fernandes, 2015). In addition to this, due to efficient logistical facilities and customs inspections, many goods are routed through Dubai. Policymakers are aggressively pursuing the proposed monetary union to enhance the benefits of being part of the GCC (Fernandes, 2015).

2.5 Investment opportunities in the logistic sector in the Special Economic Zone at Duqm

The logistics industry provides essential support for regional economic development and competence. Some scholars have studied local logistics from the perspective of regional economics and industrial. The Special Economic Zone Duqm (SEZD) in Oman is the largest special economic zone in the Middle East and North Africa Region, allowing it to host various big projects (SEZAD, 2021b). 'To ensure that the area is fit for a wide number of business activities to meet the needs of investors, the area is divided into eight main areas: the heavy-

medium and light industries complex, the port, the ship dry dock, the oil refinery, the tourism area, the logistic services area, the regional airport, and the residential/commercial area' (Al-Muharrami & Al-Zaidi, 2019).

Al-Muharrami & Al-Zaidi, (2019) state, 'SEZD has many competitive advantages to be a logistic and marine hub for Arab countries outside Strait of Hormuz. The zone hosts an advanced petrochemical industries complex that will use secured oil and natural gas supplies. It has an integrated manufacturing industry area that utilizes the available natural resources. Moreover, SEZD is qualified to become a hub for fish processing industries and aquaculture projects as it has abundant fish resources. With 70 km of coastline along the Arabian Sea and a total land area of 2,000 km2, SEZD is considered to be the largest economic zone in the Middle East and North Africa, and it is ranked among the largest zones in the world'.

The SEZD enjoys a set of comparative and competitive advantages that qualify it to become a regional hub for maritime transport and a logistics supply gateway for the GCC region. Other features of SEZD include enormous fishery wealth and proximity to the oil and gas production areas. Al Wusta Governorate also has many minerals that can be invested in the establishment of industrial projects. Therefore, this qualifies SEZD to be an integrated platform for industries that rely on natural raw materials available in the Governorate. Moreover, the construction of the refinery and the establishment of the grave and petrochemical industries projects are vital for attracting other medium and small projects. The Special Economic Zone Authority at Duqm supports these advantages with a package of incentives, benefits and facilities (SEZAD, 2021b).

2.6 The relationship between Logistics Infrastructure and Government Regulation

The developments of physical infrastructure of logistics hub is important . However, emphasis also needs to be given to containing inflation, developing professionals' skills, expanding the financial sector and ensuring that government regulation is conducive to business (Fernandes, 2015). The Customs authorities have to extend the pre-clearance of cargo facility to logistics companies, thus reducing lead times and attracting more investment in the logistics industry. The Free Zone authorities have targeted a 4 hours' time from the port in Jebel Ali onto a cargo aircraft at the Dubai World Central Al Maktoum Airport, and this will involve pre-clearance of cargo (Fernandes, 2015).

Developing the logistics infrastructure is key to attracting foreign companies. The efficient policies and related regulations for logistical infrastructure will positively impact economic growth (Saidi & Hammami, 2011). In host countries, facilitating training and education for

logistics professionals can further enhance their resources and dynamic capabilities associated with the key factors. The beneficial implications for the governments of these countries is that host countries expand their investment in logistical infrastructure to generate FDI inflows. These investments will surely boost economic growth and entry of multinational investment (Saidi & Hammami, 2011).

The growing impact of transportation on economic development is pushing governments to improve the sustainability of transportation and logistics services through a global and integrated approach. In addition, governments in the selected countries can look to establish freight lanes, and facilitate the same with modern information and communication technology and logistical infrastructures (such as warehouses, and connection to other domestic and international ports). Since the results show a positive relationship between foreign direct investment, logistics and transportation infrastructure, they point to the fact that it is indeed the government's responsibility to develop urban logistics centers to encourage delivery and collection of goods in cities and city centers, while reducing congestion and the environment negative external factors (Saidi & Hammami, 2011)

2.7 The relationship between Logistics Infrastructure and Macro-economic Environment

Gunasekera, Anderson, & Lakshmanan, (2008) state that the logistics infrastructure leads to economic growth through the following mechanisms. First, investment in infrastructure increases the demand for goods and services. Second, logistics infrastructure improvement reduces travel time, and passenger and freight transporters gain directly from time and cost savings. The provision of transport infrastructures is a shared priority in capital investment. This focus can be perceived as a bias as it overlooks the complex structure and organization of freight flows that characterize global supply chains. While transport infrastructure remains a fundamental component of economic development strategies, the approach must be expanded to consider the freight distribution requirements for both domestic, commercial activities and the global economy. This means that transport infrastructure capacity may have limited value if not supported by a proportional level of reliability and timeliness in freight distribution supported by transport services.

2.8 The relationship between Government Regulation and Macro-economic Environment

Many developing countries fall into a vicious circle in which current interests use the distribution of goods as a mechanism for extracting rent, where regulatory burdens and complex procedures (customs, taxes, inspections, etc.). The lack of investment incentives limit market forces in new facilities and services. Moving away from this vicious circle often requires reforms, such as market liberalization, shift into a benign cycle, leading to more open markets, incentives for capital investment, building economies of scale, higher-quality services, and more efficient supply chain management. The deadlock is hard to break, but the national benefits of moving into a benign cycle can be worth the effort (Rodrigue, 2012)

Host countries need to remove legal and political barriers and create a positive environment to facilitate the entry of foreign capital. Moreover, they can improve the investment climate for foreign and domestic investors by developing laws and establishing reasonable industrial policies to guide the industrial distribution of FDI stocks. In addition, they may also be looking to advance their investment policies by providing easy access to inputs, technology, and financing, and by simplifying procedures associated with relative infrastructure. In other words, governments have to apply a combination of economic, financial, regulatory and technological tools to control the drivers of economic growth (Saidi, Mani, Mefteh, Shahbaz, & Akhtar, 2020).

2.9 The relationship between Logistics Infrastructure and Investment opportunities in the logistic sector in the Special Economic Zone at Duqm

Infrastructure integration is the physical connectedness and interoperability of hard infrastructures, such as the ability to move containers efficiently from ship to truck to rail (SEZAD, 2021a).The transport terminal – port, rail or airport – is the critical infrastructure where the physical flows are reconciled with the requirements of supply-chain management. Facilities such as distribution centers often play a significant role in supply- chain management when they act as more than buffers (warehousing), but as active elements in the physical flows. SEZAD,(2020b) stated that the SEZD is divided into eight main zones which include the oil refinery, the port, the regional airport, the ship dry dock, the heavy-medium and light industries complex, the logistics service area, tourism area, in addition to residential/commercial space. While preparing the design of SEZD, necessary measures were taken to ensure ecological balance to allow residents and their families to live and work in a safe environment.

Ramudhin, (2012) states that the outcomes of investing in logistics capabilities are numerous. Still, they have mainly increased integration with global trade and supply chains, better utilisation of national transport assets, competitive exports, and lower costs for imports, as well as increased employment opportunities. For freight distribution, the conventional approach of investing in infrastructure alone is now perceived to be insufficient. Preferably investment should be made in a broader framework that includes the supporting activities of logistics.

2.10 The relationship between Government Regulation and Investment opportunities in the logistic sector in the Special Economic Zone at Duqm

Government Regulation can play the leading role in attracting more investors to the country. Tongzon, (2007) states that 'Singapore has one of the most liberal laws and regulations for foreign investment'. Being an open economy with more reliance on foreign capital than any other country in Southeast Asia, Singapore has the most liberal policies on foreign ownership of a business with no specific rules and regulations for foreign investors except in banking and brokerage. These liberal policies can motivate and attract international investors. However, quite recently, Singapore has embarked on a system of liberalisation and relaxation on foreign investment in banking. In Singapore, there are no restrictions on foreign participation in telecommunication and public utilities. This means that Government regulation can support investment opportunities in the logistics sector and will help investors to create and innovate a different kind of business.

(Al-Muharrami & Al-Zaidi, 2019) state that 'SEZAD has prepared a comprehensive plan to accommodate a variety of investment opportunities in SEZD. The plan is prepared for both investors' orientation and needs. There are many investment opportunities in SEZD as per the eight zones. There are many incentives and advantages to investing in SEZD'.

2.11 The relationship between Macro-economic Environment and Investment opportunities in the logistic sector in the Special Economic Zone at Duqm

ASYAD, (2017) states that the Omani national logistics strategy is based on three main axes to achieve. First, the commercial facilitation that aims to create more flexibility in the movement of goods between local and global markets. Second, the intensification of activities to promote competitive advantages and added values provided by the Omani logistics sector. Third, human

capital to develop skills and competencies to keep pace with requirements of logistic sector and related technology to study and adopt the best logistical techniques. ASYAD Group seeks to implement these pillars in partnership with all government parties and the private sector so that the sultanate will take the lead in global indicators to be one of the top 10 countries around the world in the global logistics performance index by 2040 (ASYAD, 2017).

Al-Muharrami & Al-Zaidi, (2019) state that the Government of Oman attracts many international companies to invest in Duqm's projects to diversify the economy and it is working on finalising the entire critical infrastructure project to attract more investments. SEZAD is also working in supporting small and medium enterprises (SMEs) in projects established by them. They found special registrar for registering and creating a database for SMEs to share it with companies that start working Duqm projects. At least 10% of total purchases and tenders of Government-owned companies and government projects at SEZD are obligated to allocate for SMEs. The aim is to enhance the skills and capabilities of SMEs to contribute to economic diversification.

The tourism sector is considered as one of the main areas that contribute to economic diversification. India and SEZAD signed an agreement to develop Integrated Tourism Complex (ITC) that includes an integrated residential complex, five-star hotel, resort, commercial space and yacht marina with an investment of 288 million Omani Rials (SEZAD, 2021a)

2.12 Summary of Literature Review

A summary of the literature review and how it contributes to the conceptual framework is highlighted in **Table 1.**

Table 1: Summary of Literature Review

Variable	Source	Contribution to the study
Logistics Infrastructure	Hooi et al., (2014)	Foreign Direct Investment attracted by infrastructure.
	Ramudhin, (2012)	To attract and increase business, most of today's logistics infrastructure investment is motivated

Variable	Source	Contribution to the study
	Ramudhin, (2012)	The significant government and private investments in infrastructure had improved the connectivity of the ports so that it is now accessible to the major population areas.
	Tongzon, (2004),	There are some factors to be a logistics hub. First, the strategic location. Second, availability of an air terminal that can link and connect the world. Third, availability of seaports that can play a focal point of shipping lines with good connections to other ports worldwide. Fourth, availability of capabilities of warehousing and related services.
Government Regulation	ADB, (2012)	Government policies should focus on supporting the logistics companies to improve their commercial competitiveness and vitality and to promote the development of a robust logistics market
	Fernandes, (2015).	Regulatory integration is the structuring of regulations to encourage a better-integrated freight distribution system. The government needs to ensure that its public institutions facilitate a conducive business environment
	SEZAD, (2021b)	SEZAD is participating in the field of "site development, promotion and management" to enhance the readiness of the zone and its business offer towards end-users and in targeted economic sectors as Industrial estates, warehousing and logistics villages, tourist

Variable	Source	Contribution to the study
		villages and resorts, commercial, office and residential complexes
	Vidal-sua & Lo, (2010)	Government regulations and rules can control the barriers and external uncertainty about the host country. Consider the effect of delay coming from the formal host country's environment (political risk) and the informal one (cultural distance).
	SEZAD, (2021b)	Duqm Special Economic Zone Authority manages, regulates, and develops all economic activities in Duqm. It plans, designs, and implements long-term strategies for infrastructural development and attracts investments to promote a broad spectrum of economic activities
	ADB, (2012)	The national government should focus on formulating macro-strategies; harmonizing policies and regulations; establishing standards; and making critical investments to assist in the development of model logistics parks, conduct fundamental research, and formulate measures. Local logistics development planning and management should be based on local logistics needs and guided by national strategies, plans, and policies

Variable	Source	Contribution to the study
Macro-economic Environment	Hooi et al., (2014)	The study results showed a positive relationship between the logistics industry and regional economic growth
	ADB, (2012)	The current logistics system around the world still has significant shortcomings regarding its efficiency, safety, and sustainability.
	ADB, (2012)	The macro view focuses on the contribution to a country's economic and social development, and the satisfaction of public needs. From the macroeconomic and social perspectives, however, logistics is concerned with more than just achieving economic efficiency. It also reduces external costs (e.g., safety hazards and pollution), conserve energy, and optimally utilise the country's resources.
	ITHRAA, (2016)	The logistic industry in Oman was earning revenues of US$7.87bn in 2013 that were forecast to reach US$12.02bn in 2017. Oman's logistics sector is competitive, contributing 4.9% to the sultanate's GDP in 2015.
	Al-Muharrami & Al-Zaidi, (2019)	Government of Oman established SEZD, and it is trying to achieve the following national objectives from establishing such economic zone: first, economic diversification; second, sustainable economic growth; third, securing job opportunities; fourth, balancing Oman's

Variable	Source	Contribution to the study
		regional development; finally, increase private sector contribution to GDP
Investment opportunities in the logistic sector in The special economic zone at Duqm	SEZAD, (2021b)	The Special Economic Zone Duqm (SEZD) in Oman is the largest special economic zone in the Middle East and North Africa Region, allowing it to host various large-scale projects.
	Al-Muharrami & Al-Zaidi, (2019)	SEZD is divided into eight main areas: the heavy-medium and light industries complex, the port, the ship dry dock, the oil refinery, the tourism area, the logistic services area, the regional airport, and the residential/commercial area'
	Al-Muharrami & Al-Zaidi, (2019)	SEZD has many competitive advantages to be a logistic and marine hub for Arab countries outside Strait of Hormuz. The zone hosts an advanced petrochemical industries complex that will use secured oil and natural gas supplies. In addition to which, it has an integrated manufacturing industry area that utilizes available natural resources.
	SEZAD, (2021b)	The Special Economic Zone Authority at Duqm supports these advantages with a package of incentives, benefits and facilities
The relationship between Logistics Infrastructure	Fernandes, (2015)	The developments of physical infrastructure of logistics hub is important. However, emphasis also needs to be given to containing inflation, developing professionals' skills, expanding the

Variable	Source	Contribution to the study
and Government Regulation		financial sector and ensuring that government regulation is conducive to business
	Saidi & Hammami, (2011)	Efficient policies and related regulations for logistical infrastructure will positively impact economic growth
The relationship between Logistics Infrastructure and Macro-economic Environment	Gunasekera, Anderson, & Lakshmanan, (2008)	Logistics infrastructure leads to economic growth through the following mechanisms. First, investment in infrastructure increases the demand for goods and services. Second, logistics infrastructure reduces travel time, and passenger and freight transporters gain directly from time and cost savings.
	Gunasekera, Anderson, & Lakshmanan, (2008)	While transport infrastructure remains a fundamental component of economic development strategies, the approach must be expanded to consider the freight distribution requirements for both domestic, commercial activities and the global economy
The relationship between Government Regulation and Macro-economic Environment	Saidi et al., (2020)	Host countries need to remove legal and political barriers and create a positive environment to facilitate the entry of foreign capital
	Saidi et al., (2020)	Governments have to apply a combination of economic, financial, regulatory and technological tools to control the drivers of economic growth
The relationship between	SEZAD, (2021b)	SEZD is divided into eight main zones which include the oil refinery, the port, the regional

Variable	Source	Contribution to the study
Logistics Infrastructure and Investment opportunities in the logistic sector in The Special Economic Zone at Duqm		airport, the ship dry dock, the heavy-medium and light industries complex, the logistics service area, tourism area, in addition to residential/commercial space
	Ramudhin, (2012)	The outcomes of investing in logistics capabilities are numerous. Still, they have mainly increased integration with global trade and supply chains, better utilization of national transport assets, competitive exports, and lower costs for imports, as well as increased employment opportunities
The relationship between Government Regulation and Investment opportunities in the logistic sector in The Special Economic Zone at Duqm	Tongzon, (2007)	Being an open economy with more reliance on foreign capital than any other country in Southeast Asia, Singapore has the most liberal policies on foreign ownership of a business with no specific rules and regulations for foreign investors except in banking and brokerage
	Al-Muharrami & Al-Zaidi, (2019)	'SEZAD has prepared a comprehensive plan to accommodate a variety of investment opportunities in SEZD. The plan is prepared for both investor's orientation and needs. There are many investment opportunities in SEZD as per the eight zones'.
	Al-Muharrami & Al-Zaidi, (2019)	There are many incentives and advantages to investing in SEZD
The relationship between Macro-	Al-Muharrami & Al-Zaidi, (2019)	The Government of Oman attracts many international companies to invest in Duqm's

Variable	Source	Contribution to the study
economic Environment and Investment opportunities in the logistic sector in The Special Economic Zone at Duqm		projects to diversify the economy and it is working on finalizing the entire critical infrastructure project to attract more investments
	SEZAD, (2021b)	The tourism sector is considered as one of the main areas that contribute to economic diversification. India and SEZAD signed an agreement to develop Integrated Tourism Complex (ITC) include integrated residential complex, five-star hotel, resort, commercial space and yacht marina with an investment of 288 million OMR.
	Al-Muharrami & Al-Zaidi, (2019)	At least 10% of total purchases and tenders of Government-owned companies and government projects at SEZD are obligated to allocate for SMEs. The aim is to enhance the skills and capabilities of SMEs to contribute to the economic diversification

2.13 Developing the study Conceptual framework

The conceptual framework represents the beliefs as to how these variables related to each other. This model showed the theory flow from the documentation of research in the same area and Integrates the researcher beliefs with the published study to develop a scientific basis for investigating the research problem (Sekaran & Bougie, 2016).

Based on the research questions, research objectives and the literature review the research discussed and examined the primary relationships between Logistics Infrastructure, Government Regulation, Macro-economic Environment and Investment opportunities in the logistics sector in the Special Economic Zone at Duqm, the conceptual framework of this research is shown in **Figure 2.** The independent variables are Logistics Infrastructure, Government Regulation and

Macro-economic Environment. The dependent variable is an investment opportunity in the Special Economic Zone at Duqm

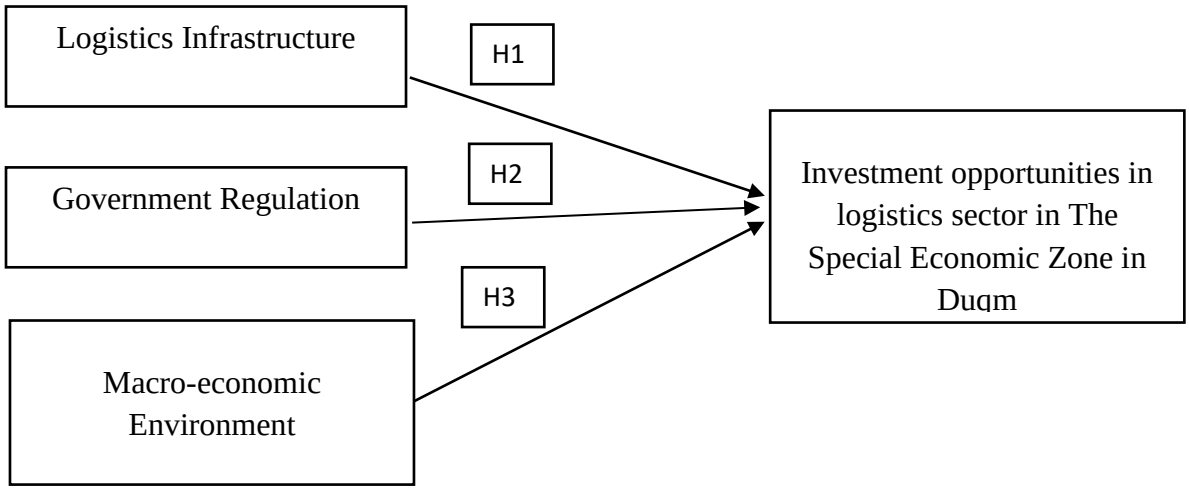

Figure 2: Conceptual framework

2.14 Research Hypotheses

According to the conceptual research framework, the hypotheses are:

H1: There is no significant relationship between logistics infrastructure and investment opportunities in the logistics sector in the Special Economic Zone at Duqm

H2: There is no significant relationship between government regulation and investment opportunities in the logistics sector in the Special Economic Zone at Duqm

H3: There is no significant relationship between macro-economic environment and investment opportunities in the logistics sector in the Special Economic Zone at Duqm

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The following chapter is a description of the methods used in the current research in terms of identifying the scope and sample of the study, clarifying the research tools and its procedures. This chapter includes research design, research strategy, sample of population and data collections, questionnaire design, questionnaire validation, pilot study and reliability analysis

3.2 Research Design

The research design is intended to provide an appropriate framework for a study. 'A very significant decision in the research design process is the choice to be made regarding research approach since it determines how relevant information for a study will be obtained; however, the research design process involves many interrelated decisions' (Jilcha Sileyew, 2020).

A research design is the set of methods and procedures used in collecting and analysing measures of the variables specified in the research problem research. This study is a descriptive study that used a case study from the Special Economic Zone at Duqm and a questionnaire to measure four variables, as shown in **figure 2**. Three of the variables are independent variables, which are logistics infrastructure, government regulation, macro-economic environment, and one dependent variable, which is investment opportunities in the logistics sector in the Special Economic Zone at Duqm. This research questionnaire employees and investors in the logistics sector in Duqm to examine the relationship between the variables and used the questionnaire in **Appendix I**.

3.3 Research strategy

The research strategy is a systematic plan of action that gives direction to thoughts and efforts, enabling the researchers to conduct research systematically on schedule to produce quality results and detailed reporting (Sekaran & Bougie, 2016). Research strategy helps to meet the research objectives and answer the research questions (Sekaran & Bougie, 2016). The theoretical

approach requires very intensive textual investigation and the empirical approach requires extensive communication and interaction with people. This research aimed to present a practical study, which is based on available literature. This study followed the deductive approach by starting to define the problem statement, develop a hypothesis, determine measures, data collection and data analysis. The study reviewed the literature in a theoretical frame of reference and tried to define a theoretical foundation. The study used the descriptive type to find the needed data about investment opportunities and their relationship with the variables. This study used a questionnaire to collect data from employees and investors in the logistics sector in Duqm. There are two types of research: basic and applied (Sekaran & Bougie, 2016). Applied research is specialized research that focuses on the problem of real-life situations to deal with it, and basic research is non-specific research that aims to expand knowledge to verify or disprove a specific theory or try to discover more about specific topics (Sekaran & Bougie, 2016). This study is basic research as it examined the relationship between the factors that can affect investment opportunities in SEZD.

3.4 Data collection

Collecting data by applying a different process of gathering and measuring information related to the research variables that can help to answer research questions, test hypotheses, and evaluate the outcome. This study follows the quantitative analysis as a questionnaire was distributed among employees and investors in the Special Economic Zone at Duqm as show in **Appendix I** . The questionnaire is one of the most important techniques to collect data and it is a common experience that many studies focus on similar objectives and themes but have entirely different questionnaires' (Kazi, 2012). For this research, primary and secondary data were used in this study. The secondary data was based on reviewing literature, and the primary method is distributing a questionnaire.

3.5 Study population and sampling

'In statistics, a population is an entire group about which some information is required to be ascertained' (Banerjee & Chaudhury, 2010). 'A sample is any part of the fully defined population' (Banerjee & Chaudhury, 2010). 'A representative sample is one in which every member of the population has an equal and mutually exclusive chance of being selected' (Banerjee & Chaudhury, 2010). This study used the nonprobability sampling method where the sample is selected based on non-random criteria, and not every member of the population has a

chance of being included. The study population are the employees and investors in the logistics sector in Duqm, and the sample size is 305.

3.6 Questionnaire design

This study has four variables to be measured. Three of the variables are independent variables, namely Logistics Infrastructure, Government Regulation, Macro-economic Environment, and one dependent variable, which is investment opportunities in the logistics sector in the Special Economic Zone at Duqm. The questionnaire was developed by the researcher based on existing literature reviews and existing questionnaires. The questionnaire has two main parts; the first part focused on demographic information of the respondents, comprising the gender, nationality, age, education level and the current working status of the respondents. The second part is about the research variables questions. 'Likert scale is applied as one of the most fundamental and frequently used psychometric tools in educational and social sciences research' (Joshi, Kale, Chandel, & Pal, 2015). The research variables questions were tested into 5 a points Likert scale (Strongly agree, agree, natural, disagree and strongly disagree).

3.7 Questionnaire Validation

The questionnaire validation is the step that the researcher distributes and discusses the questioner items with academic researchers and experts in the same field of the research to modify the questions. 'If a new questionnaire is to be developed, it should be pilot tested and validated to evaluate if it is measuring what it is supposed to measure and if it is doing it reliably' (Kazi, 2012). The study's questionnaire was distributed and discussed with five academic researchers and six experts in the investment and logistics sector. The questionnaire items used the English language and it was translated to Arabic language by the help of a translator to ensure the accuracy of the translation. The modified questionnaire used two languages English and Arabic to give a chance to reach a larger population of the selected sample. The modified questionnaire was shared to the academic researchers and the experts with 30 items. They accepted 29 out of 30, and shared their comments, strengths and weaknesses of the questionnaire items and gave suggestions about how to improve the items to be valid for the study.

3.8 Pilot Study

A pilot study is a 'small sample, quantitative study conducted as a prelude to a larger scale study or clinical trial'(Jairath, Hogerney, & Parsons, 2000). A pilot study has numerous purposes, such as developing and testing the adequacy of research instruments, assessing the feasibility of comprehensive research, designing and testing the protocols for the more extensive study, establishing and testing the sampling and recruitment strategies, collecting preliminary data, obtaining effect size information, and training research assistants' (Connelly, 2008). A pilot study was made for 31 employees and investors in the Duqm Free Zone from the required population before distributing the questionnaire to all in the selected sample. The pilot study helped to collect respondent feedback about the questionnaire to improve it before final distribution.

3.9 Reliability analysis

Reliability analysis, this step checks the correlation between items in the same variables. It is a measure of reliability that corresponds to whether the responses are consistent. 'Lack of reliability is a serious drawback of an outcome measure as it indicates errors in measurements' (Spiliotopoulou, 2009). 'The reliability of a measure is an indication of the stability and consistency with which the instrument measures the concept and helps to assess the "goodness" of a measure' (Sekaran & Bougie, 2016). 'Measures of internal consistency are a popular set of assessments with Cronbach's alpha being the most favored' (Ferketich, 1990). Cronbach's alpha is commonly used when the items have multiple Likert questions in the questionnaire that form a scale and wish to determine if the scale is reliable. Cronbach Alpha values range from 0 – 1.0.

The acceptable alpha coefficient of at least 0.70 to be adequate for an instrument in early stages of development and a coefficient of at least .80 to be sufficient for a more developed instrument. 'Very high alpha coefficients are difficult to obtain in test development and may be indicative of redundancy among items' (Ferketich, 1990). The research items tested into 5 points Likert scale (Strongly agree, agree, natural, disagree and strongly disagree).

This research used SPSS V26 to measure reliability. **Table 2** shows that the research variables and the results of Cronbach's alpha test. All items Cronbach's Alpha value is 0.932 for 29 articles. The items of the variable Macro-economic Environment got the highest Cronbach's alpha value 0.862, which means that there is a high correlation between items. The items of the Logistic Infrastructure got the lowest Cronbach's alpha value 0.781. The Cronbach's Alpha for

questionnaire items representing values between 0.781 and 0.862, indicating right internal consistency in the responses and good correlation between items and the range of Cronbach Alpha for all items was acceptable, and none of them were excluded.

Table 2: Cronbach's Alpha for variables

No.	Variables	Number of Items	Cronbach's Alpha
1	Logistic Infrastructure	7	0.781
2	Government Regulation	8	0.820
3	Macro-economic Environment	7	0.862
4	Investment opportunities in The Special Economic Zone at Duqm	7	0.836
All variables		29	0.932

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter discussed and analysed the finding of the collected data from the distributed questionnaire. SPSS V26 program was used to exam the collected data of the study and the relationships between independent variables, which are logistics infrastructure, government regulation, macro-economic environment, and the dependent variable, which is investment opportunities in the logistics sector in the Special Economic Zone at Duqm. The distributed questionnaire was modified and tested for its validation and reliability. The questionnaire was distributed to employees and investors in the Special Economic Zone at Duqm through an electronic link via Google Forms and shared by various social media applications. 305 questionnaire responses were received and analyzed through the SPSS V26 program. This chapter presents the normality, reliability and hypothesis tests. The summery of the hypothesis finding is presented at the end of the chapter.

4.2 Demographic questions responses analysis

This section describes the responses of demographic questions of employees and investors in the Duqm Free Zone. The demographic questions focused on gender, nationality, age, education level and the current working status of the respondents**.**

4.2.1 Respondents' Gender

The responses in **Table 3** indicate that 77.7% (237 of 305) were male and 22.3% were female. The results show that most employees and investors in the Duqm Free Zone are men. The main reason for this result is the industrial environment that can attract more men than women and also the distance between Muscat (the capital of Oman) and Duqm of around 560 km.

Table 3: Respondents' Gender

No.	Gender	Frequency	Percent %
1	Female	68	22.3
2	Male	237	77.7
Total		**305**	**100.0**

4.2.2 Respondents' Nationality

The responses in **Table 4** indicate that 94.4% (288 of 305) were Omani nationals were 5.6% for Non-Omani nationals (17 of 305). The results show that most of the employees and investors in the Duqm Free Zone are Omani nationals. The investment and working environment in the Special Economic Zone at Duqm (SEZAD) attract more Omanis than non-Omanis.

Table 4: Respondents' Nationality

No	Nationality	Frequency	Percent %
1	Non-Omani	17	5.6
2	Omani	288	94.4
Total		**305**	**100.0**

4.2.3 Respondents' Age

The responses in **Table 5** indicate that 53.8% were from employees and investors with an age range of (25-34) years old and 31.5% of responses were from employees and investors with an age range of (35-44) years old. The lowest age range of responses from employees and investors was for those ages 55 years and above at 1% (3 of 305). The results show that most of employees and investors in the Duqm Free Zone are adults.

Table 5: Respondents' Age

No.	Age	Frequency	Percent %
1	18-24	23	7.5
2	25-34	164	53.8
3	35-44	96	31.5
4	45-54	19	6.2
5	55 and above	3	1.0
Total		**305**	**100.0**

4.2.4 Respondents' Education Level

The responses in **Table 6** indicate that 57.7% were for employees and investors holding a Bachelors Degree with 15.4% of responses for employees and investors holding a Diploma. The lowest rate of response regarding Education Level was for those employees and investors who chose 'Other' at 3%.The results show that most employees and investors in the Duqm Free Zone are educated and skilled.

Table 6: Respondents' Education Level

No.	Education Level	Frequency	Percent %
1	Bachelor	176	57.7
2	Diploma	47	15.4
3	High School	28	9.2
4	Master	45	14.8
5	Other	9	3.0
Total		**305**	**100.0**

4.2.5 Respondents' current working status

The responses in **Table 7** indicate that 84.3% (257 of 305) were for employees and 15.7% were for investors (48 of 305). The results show that most respondents are employees in the Duqm Free Zone.

Table 7: Respondents' current working status

No.	The current working status	Frequency	Percent %
1	Employee	257	84.3
2	Investor	48	15.7
Total		**305**	**100.0**

4.3 Descriptive analysis

Descriptive Statistics deals with the presentation of numerical facts, or data, in either tables or graph form, and with the methodology of analysing the data (Kaushik, Mathur, & Wotton, 2014). The descriptive analysis gives essential information about variables to be explored.

This analysis measure of dispersion include variance, standard deviation and range. Mean, median, and mode measure the central tendency of the variables. This study has four variables to be measured. Three of the variables are independent variables, which are logistics infrastructure, government regulation, macro-economic environment, and one dependent variable, which is investment opportunities in the logistics sector in The Special Economic Zone at Duqm. The variables were examined through different adapted items cited from (Fernandes, 2015) and (Yang & Chen, 2016). These items were tested into a 5 points Likert scale (Strongly agree, agree, natural, disagree and strongly disagree). The below **Table 8** shows the 5 points Likert scale interval, and **Table 9** shows Descriptive Statistics.

Table 8: Likert scale interval

5 points Likert scale	Scale	Lower Limit	Upper Limit
Strongly Disagree	1	1.0	1.80
Disagree	2	1.81	2.60
Natural	3	2.61	3.40
Agree	4	3.41	4.20
Strongly Agree	5	4.21	5.00

Table 9: Descriptive Statistics

Variables	Mean	Std. Deviation	Frequency
Logistic Infrastructure	3.8206	0.75824	305
Government Regulation	3.8016	0.77673	305
Macro-economic Environment	3.5705	0.82204	305
Investment opportunities in the logistic sector in The Special Economic Zone at Duqm	4.0628	0.76402	305

4.3.1 Logistics Infrastructure

The Logistics Infrastructure factors that affect investment opportunities in the logistics sector in the Special Economic Zone at Duqm were examined through 7 adapted items cited from (Fernandes, 2015) and (Yang & Chen, 2016). These items were tested into 5 Likert scales (strongly agree, agree, natural, disagree, strongly disagree). The items are examining the infrastructural facilities, rents and costs of operation, geographical space, stability of the political, economic, social system and professional logistics skills. The below **Table 10** shows

the Logistics Infrastructure items' Descriptive Statistics. There were 305 respondent for all items. The results show the standard deviation of the Logistics Infrastructure variable is 0.75824 and the Mean 3.8206. The highest mean is 4.14 for the item 1.3 (Geographical space has an impact on Duqm as a transport and logistics hub). The lowest Mean is 3.58 for item 1.4 (There is a shortage of professional logistics skills in Duqm). The majority Mean of the responses were between 3.4 and 4.2, which means that the respondents agreed with the variable items.

Table 10: Logistics Infrastructure Descriptive Statistics

Questionnaire Items	Mean	Std. Deviation
1.1 Duqm has good infrastructural facilities for it to be considered as a transport and logistics hub.	3.82	1.168
1.2 Costs of operation including rents adversely affect Duqm standing as a transport and logistics hub.	3.89	1.114
1.3 The geographical space has an impact on Duqm as a transport and logistics hub.	4.14	1.135
1.4 There is a shortage of professional logistics skills in Duqm	3.58	1.144
1.5 The collaboration between different players of the supply chain will affect the growth of the logistics hub in Duqm.	4.02	1.163
1.6 Duqm has a sound corporate legal system that will assist the development of the logistics hub.	3.70	1.222
1.7 Efficiency of port and logistics operations in Duqm	3.59	1.124
Logistics infrastructure	3.8206	0.75824

4.3.2 Government Regulation

The Government Regulation factors that affect investment opportunities in the logistics sector in the Special Economic Zone at Duqm were examined through 8 adapted items cited from (Fernandes, 2015) and (Yang & Chen, 2016). These items were tested into 5 Likert scales (Strongly agree, agree, natural, disagree, strongly disagree). The items examined the incentives , warehouse regulations ,pre-clearance of cargo, the regulation of dangerous goods, the regulation of labor, corporate and local taxes, custom duties and financial assistance for investing companies. There were 305 respondents for all items. **Table 11** shows the standard deviation of the Government Regulation variable is 0.77673 and the Mean 3.8016. The highest mean is 4.16 for the item 2.4 (The government should review the regulation of dangerous goods. These should be product specific rather than category –specific licenses.). The lowest mean is 3.13 for item 2.1 (Special incentives which allow trusted logistics companies to break-bulk (i.e., deconsolidate both local and transshipment cargo) close to their own factory premises outside the Free Trade Zone). The majority Mean of the responses were between 3.8 and 4.16, which means that the respondents agreed with the variable items, which means that the respondents agreed with the variable items

Table 11: Government Regulation Descriptive Statistics

Questionnaire Items	Mean	Std. Deviation
2.1 Special incentives which allow trusted logistics companies to break-bulk (i.e., deconsolidate both local and transshipment cargo) close to their own factory premises outside the Free Trade Zone	3.13	1.145
2.2 Review bonded warehouse regulations to ensure maximum utilisation of warehouse space.	3.87	1.093
2.3 Allow pre-clearance of cargo.	3.96	1.100

Questionnaire Items	Mean	Std. Deviation
2.4 The government should review the regulation of dangerous goods. These should be product specific rather than category –specific licenses.	4.16	1.017
2.5 The government should liberalise its policy on regulation of labor to logistic companies	4.15	1.077
2.6 Exemption from or reduction of corporate and local taxes	3.86	1.251
2.7 Exemption from or reduction of customs duties for cargo	3.73	1.293
2.8 Financial assistance for investing companies	3.56	1.322
Government regulation variable	3.8016	0.77673

4.3.3 Macro-economic Environment

The Macro-economic Environment factors that affect investment opportunities in the logistics sector in the Special Economic Zone at Duqm were examined through 8 adapted items cited from (Fernandes, 2015) and (Yang & Chen, 2016). These items tested into 5 Likert scale (Strongly agree, agree, natural, disagree, strongly disagree)**.** The items examining the Soundness of Banks, Venture Capital Availability, Ease of Access to Loans, Existence of hidden trade barriers, Openness of Customs regime, Economic scale of market, Soundness of investment system and incentive measures. There were 305 respondent for all items. **Table 12** shows that the standard deviation of the Macro-economic Environment variable is 0.82204 and the Mean 3.5705. The highest Mean is 3.76 for the item 3.6 (Deregulation of international trade in Duqm). The lowest Mean is 3.28 for item 3.4 (Existence of hidden trade barriers in Duqm). The majority Mean of the responses were between 3.28 and 3.76, which means that the respondents agreed with the variable items.

Table 12 : Macro-economic Environment Descriptive Statistics

Questionnaire Items	Mean	Std. Deviation
3.1 Banks have a good reputation in Duqm	3.73	1.023
3.2 Venture Capital Availability in Duqm	3.55	1.117
3.3 Ease of Access to Loans in Duqm	3.39	1.198
3.4 Existence of hidden trade barriers in Duqm	3.28	1.154
3.5 Openness of Customs regime in Duqm	3.66	1.074
3.6 Deregulation of international trade in Duqm	3.76	1.136
3.7 Integration of customs and port logistics information in Duqm	3.63	1.075
Macro-economic Environment variable	3.5705	0.82204

4.3.4 Investment opportunities in the logistics sector in the Special Economic Zone at Duqm

The dependent variable used in this study was examined in 7 adapted items cited (Fernandes, 2015) and (Yang & Chen, 2016) those items were tested into 5 Likert scales (Strongly agree, agree, natural, disagree, strongly disagree). The items examined the attractiveness of services and facilities for ship management and operations, Duqm competitiveness, Stability of the political, economic and social system, Soundness of investment system and incentive, seaport dues, land premium and quit rentals and Technological advances. There were 305 respondents for all items. **Table 13** shows that the standard deviation of Investment opportunities in the logistics sector in the Special Economic Zone at Duqm variable is 0.76402 and the Mean 4.0628. The highest Mean is 4.51 for the item 4.3 (Stability of the political, economic and social system is necessary for development into a logistics hub). The lowest Mean is 3.43 for item 4.6 (Remove land premium and quit rentals for companies leasing land in the free trade zones in Duqm). The majority Mean of the responses were above 3.4, which means that the respondents agreed with the variable items.

Table 13 :Investment opportunities in the logistics sector in the Special Economic Zone at Duqm Descriptive Statistics

Questionnaire Items	Mean	Std. Deviation
4.1 Duqm is an international maritime center attracting shipping companies by providing all-round services and facilities for ship management and operation	4.34	0.954
4.2 Duqm is an organised effort to improve competitiveness	4.17	1.044
4.3 Stability of the political, economic and social system is necessary for development into a logistics hub	4.51	0.932
4.4 Soundness of investment systems and incentive measures in Duqm	4.15	1.074
4.5 Reduction of seaport dues to remain competitive	3.98	1.070
4.6 Remove land premium and quit rentals for companies leasing land in the free trade zones in Duqm	3.43	1.306
4.7 Technological advances such as the increase in size of ocean liners and jetliners will result in ships and aircrafts preferring other trading routes rather than Duqm.	3.87	1.108
Investment opportunities in the logistics sector in the Special Economic Zone at Duqm variable	4.0628	0.76402

4.4 Normality Test

A Normality Test was used to determine whether the data is normal and, accordingly, this assumption in the data fulfills statistical tests. SPSS V26 was used to test the normality of responses. There are three common procedures in assessing whether a random sample of independent observations of size n come from a population with a normal distribution: graphical methods (histograms, boxplots, Q-Q plots) numerical methods (skewness and Kurtosis indices) and formal normality tests (Razali & Wah, 2011). 'The skewness coefficient for a sample of data indicates whether the data distribution is symmetric (skewness=0) or has a more pronounced tail in 1 direction than the other (left tail, skewness<0; right tail, skewness>0)(Larson, 2006). For data with skewness=0, the mean and median are equal, but a right skewed distribution has its mean value greater the median' (Larson, 2006). **Table 14** shows the results from four tests of normality, namely Skewness test, Kurtosis test, Kolmogorov-Smirnova test and Shapiro-Wilk test. In order to graphically determine the normal test, the research used the Q-Q Plot. If the data is distributed normally, the data points will be close to the diagonal line. If the data points deviate from the line in a clear non-linear manner, the data will not be distributed normally.

Table 14 shows that the Kolmogorov-Smirnov and Shapiro-Wilk values for all variables > 0.05 indicate that the data are normal. Skewness and kurtosis have values between –2.0 and +2.0. These values are within the acceptable range of skewness and kurtosis for normal distribution of data.

The figures in **Appendix II** show that the data points in the Q-Q Plot are close to the diagonal line and that means the data was distributed normally.

Table 14: Normality Test

Variables	Test	Statistic
Logistics Infrastructure	Skewness	-0.698
	Kurtosis	0.766
	Kolmogorov-Smirnov[a]	0.076
	Shapiro-Wilk	0.96
Government Regulation	Skewness	-0.565
	Kurtosis	0.148
	Kolmogorov-Smirnov[a]	0.085
	Shapiro-Wilk	0.96

Variables	Test	Statistic
Macro-economic Environment	Skewness	-0.416
	Kurtosis	0.191
	Kolmogorov-Smirnov[a]	0.058
	Shapiro-Wilk	0.974
Investment opportunities in logistics sector in the Special Economic Zone at Duqm	Skewness	-0.905
	Kurtosis	1.207
	Kolmogorov-Smirnov[a]	0.11
	Shapiro-Wilk	0.922

4.5 Hypothesis Testing

Hypothesis testing is the way to examine and analyze the research hypothesis to find the relationship between the variables. The purpose of hypothesis testing is to determine accurately if the null hypothesis can be rejected in favor of the alternate hypothesis (Sekaran & Bougie, 2016) The research used the SPSS V26 program to test and analyze the research hypothesis. The below tests give a correlation matrix, displaying how each variable correlates to all of the others.

4.5.1 Pearson Correlation

Pearson correlation analysis was conducted to examine whether there is a significant relationship between the research variables. It ranges from negative (-1) to positive (+1) coefficient values. A negative correlation indicates that high values on one variable are associated with low values on the other. A positive correlation means that high importance on one variable is associated with high values of the other.

According to the Research Hypotheses,

H1: There is no significant relationship between logistics infrastructure and investment opportunities in the logistics sector in the Special Economic Zone at Duqm

Table 15 shows that a Positive relationship between logistics infrastructure and investment opportunities in the logistics sector in the Special Economic Zone at Duqm and the Pearson Correlation value is 0.639.

Table 15: Pearson Correlation

		Investment opportunities in logistics sector in the Special Economic Zone at Duqm
Logistics Infrastructure	Pearson Correlation	0.639**
	Sig. (2-tailed)	0.000
	N	305
**Correlation is significant at the 0.01 level (2-tailed).		

H2: There is no significant relationship between government regulation and investment opportunities in the logistics sector in the Special Economic Zone at Duqm

Table 16 shows that a positive relationship between government regulation and investment opportunities in the logistics sector in the Special Economic Zone at Duqm and the Pearson Correlation value is 0.711.

Table 16: Pearson Correlation

		Investment opportunities in logistics sector in the Special Economic Zone at Duqm
Government Regulation	Pearson Correlation	0.711**
	Sig. (2-tailed)	0.000
	N	305
**Correlation is significant at the 0.01 level (2-tailed).		

H3: There is no significant relationship between the macro-economic environment and investment opportunities in the logistics sector in the Special Economic Zone at Duqm

Table 17 shows that a positive relationship between the macro-economic environment and investment opportunities in the logistics sector in the Special Economic Zone at Duqm and the Pearson Correlation value is 0.543

Table 17: Pearson Correlation

		Investment opportunities in logistics sector in the Special Economic Zone at Duqm
Macro-economic Environment	Pearson Correlation	0.543**
	Sig. (2-tailed)	0.000
	N	305
**Correlation is significant at the 0.01 level (2-tailed).		

The results of the Pearson Correlation test show a significant and positive relationship between the dependent variables and independent variables. The Pearson Correlation value of all hypotheses is above 0.50, which means that the correlation is a strong relationship/high correlation.

4.5.2 Chi-Square Tests

Mchugh, (2013) stated, Chi-square test gives useful statistics for testing hypotheses when the variables are nominal (also known as the Pearson Chi-square test, or simply the Chisquare). A Pearson chi-square test was conducted to examine whether there was a relationship between logistics infrastructure and Investment opportunities in the logistics sector in the Special Economic Zone at Duqm. The results in **Table 18** revealed that there was a significant relationship between the two variables Chi square value = 1428.955, df =528.

Table 18 :Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1428.955[a]	528	0.000
Likelihood Ratio	571.145	528	0.095
Linear-by-Linear Association	124.180	1	0.000
N of Valid Cases	305		
a. 574 cells (99.8%) have expected count less than 5. The minimum expected count is .00.			

A Pearson chi-square test was conducted to examine whether there was a relationship between Government Regulation and Investment opportunities in the logistics sector in the Special Economic Zone at Duqm. The results in **Table 19** revealed that there was a significant relationship between the two variables Chi square value = 1582.952, df =594.

Table 19:Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1582.952[a]	594	.000
Likelihood Ratio	571.005	594	.744
Linear-by-Linear Association	153.707	1	.000
N of Valid Cases	305		
a. 644 cells (100.0%) have expected count less than 5. The minimum expected count is .00.			

A Pearson chi-square test was conducted to examine whether there was a relationship between Macro-economic Environment and Investment opportunities in logistics sector in the Special Economic Zone at Duqm. The results in **Table 20** revealed that there was a significant relationship between the two variables Chi square value = 1153.489, df =550

Table 20 :Chi-Square Tests

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1153.489[a]	550	.000
Likelihood Ratio	551.255	550	.477
Linear-by-Linear Association	89.629	1	.000
N of Valid Cases	305		
a. 598 cells (100.0%) have expected count less than 5. The minimum expected count is .00.			

4.5.3 Summary of Findings

In conclusion, **Table 21** shows the results and findings.

Table 21: Summary of the Findings

No. of Hypothesis	**Hypothesis**	**Significant of the test**	**Remark**
H1	There is no significant relationship between logistics infrastructure and investment opportunities in the logistics sector in the	Positive relationship between logistics infrastructure and investment opportunities in the logistics sector in	The null hypothesis is rejected, as there is a relationship between logistics infrastructure and investment opportunities in the

No. of Hypothesis	Hypothesis	Significant of the test	Remark
	Special Economic Zone at Duqm	the Special Economic Zone at Duqm	logistics sector in the Special Economic Zone at Duqm
H2	There is no significant relationship between government regulation and investment opportunities in the logistics sector in the Special Economic Zone at Duqm	Positive relationship between government regulation and investment opportunities in the logistics sector in the Special Economic Zone at Duqm	The null hypothesis is rejected, as there is a relationship between government regulation and investment opportunities in the logistics sector in the Special Economic Zone at Duqm
H3	There is no significant relationship between macro-economic environment and investment opportunities in the logistics sector in the Special Economic Zone at Duqm	Positive relationship between macro-economic environment and investment opportunities in the logistics sector in the Special Economic Zone at Duqm	The null hypothesis is rejected, as there is a relationship between macro-economic environment and investment opportunities in the logistics sector in the Special Economic Zone at Duqm.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter showed the conclusion of this study and findings after analyzing the collected data. The chapter presented the study conclusion, study limitations, study implications and study recommendations.

5.2 Conclusion

The logistics sector in the Sultanate of Oman is one of the most promising sectors that will contribute to the diversification of the national economy. The Omani government is conducting continuous reviews of the various stages it has developed to continue implementing ambitious development plans for the sector. The government's interest in this sector came through its implementation of several infrastructure projects such as airports, ports and roads, to complete the logistical system. The logistical industry is also a sector tributary to the national economy; it takes a strategic position to form an essential resource of state revenues, especially after the global oil crisis.

This study aimed to investigate the factors affecting investment opportunities in the logistic sector in the Special Economic Zone at Duqm through testing the relationship between the independent variables logistics infrastructure, government regulation and macro-economic environment and the dependent variable investment opportunity in the Special Economic Zone at Duqm.

The results showed a significant positive relationship between logistics infrastructure, government regulation and macro-economic environment and the dependent variable investment opportunity in the Special Economic Zone at Duqm.

These variables can affect investment opportunities in the logistics sector in the Special Economic Zone at Duqm. Investing in the logistics industry will obtain more flexibility in the movement of goods, especially to the markets of neighboring countries, which rely heavily on road transport. This will also be achieved by the strengthening of the air and maritime link paths by the targeting of new navigation markets and companies, by intensifying promotional activities, competitive advantages and added values provided by the Omani logistics sector. The

country with good government regulation that can support investment activities, which will attract more investors to start their businesses. The attractive macro-economic environment will give good indicators to those investors with an unclear vision about the country.

In conclusion, SEZD has massive infrastructural developments designed to position it as a global logistics hub. Along with physical infrastructure developments, progress has been made in developing financial markets, improving the system of corporate governance, education and research related to logistics services that will significantly change the logistics landscape for the better. Duqm is on its way to becoming a global logistics hub. Physical infrastructure is in place, human resources need to be improved, and the government regulatory system should help the company's needs.

5.3 Recommendations

Based on the study findings and the hypothesis test results, this study provides several recommendations to the decision-makers in The Public Authority for Special Economic Zones and Free Zones in Oman (OPAZ). The main recommendations are: reduce the costs of operation in SEZD including the related registration and administration fees and licenses; improve the professional logistics skills of human resources in Duqm; increase collaboration between different players of the supply chain in the logistics hub in Duqm; establish a corporate legal system that can assist the development of the logistics hub which can help and protect investors and employees; review bonded warehouse regulations to ensure maximum utilization of warehouse space; allow pre-clearance of cargo to minimize the clearance time; liberalize the government policies and regulations of labor for logistic companies which will allow the easy mobilization of labor; reduce of customs duties for cargo; reduce land premium and quit rentals for companies leasing land in the free trade zones in Duqm; and improve technological advances such as the increase in the size of ocean liners and jetliners.

5.4 Limitations and Future Studies

This study determined the factors affecting investment in the logistic sector in the Special Economic Zone at Duqm through testing the relationship between the variables logistic infrastructure, government regulation, macro-economic environment and investment opportunity in the Special Economic Zone at Duqm.

The limitations of this study, which may be taken into consideration on a similar study in the future, include more participants for the study to get more responses about the tested variables.

The second limitation is the study and questionnaire was limited to only one special economic zone in Oman, and it will be more effective if it is applied to all economic zones in Oman.

5.5 Study implications

This study provides both a framework and an analysis, which contributes to further research of the factors affecting investment opportunities in the logistics sector in the Special Economic Zone at Duqm and help decision makers make the right decisions.

Practical implications provided for logistics researchers and practitioners dealing with investment opportunities in the logistics sector in the Special Economic Zone at Duqm. This study can be a guidance for further development in factors that can affect the sector and create more attractive investment opportunities to attract more investors and provide a more accurate image of the nature of logistics and investment opportunities in the logistics sector in the Special Economic Zone at Duqm.

This study contributes to further development in investment opportunities in the logistics sector in the Special Economic Zone at Duqm and together with more logistics research and practices by providing analysis and discussions to develop the logistics sector at Duqm.

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Appendix I

Questionnaire

الافاضل/ المستثمرين والعاملين بالمنطقة الاقتصادية الخاصة بالدقم

السلام عليكم ورحمة الله وبركاته، وبعد،

تعد هذه الدراسة اكمالاً لمتطلبات الحصول على درجة الماجستير في إدارة الاعمال وتهدف هذه الاستبانة الى إجراء دراسة حول العوامل التي تؤثر على الاستثمار في القطاع اللوجستي بالمنطقة الاقتصادية الخاصة بالدقم وذلك لقياس مدى تأثير البنية التحتية اللوجستية والتنظيم الحكومي والبيئة الاقتصادية الكلية على فرص الاستثمار في القطاع اللوجستي في المنطقة الاقتصادية الخاصة بالدقم.

مساهمتكم بالإجابة على الأسئلة سيساهم في اثراء الدراسة ، حيث يستغرق الاجابة على الاستبانة حوالي ٣-٥ دقائق. تركز الاستبانة على المستثمرين والعاملين بالدقم ، كما تجدر الإشارة انه سيتم استخدام المعلومات لأغراض البحث العلمي فقط.

شاكرين لكم حسن تعاونكم

لمزيد من المعلومات ارجو التواصل

مجاهد الحجري

1706197@asu.edu.om

Dear Investors and Employees in The Special Economic Zone at Duqm,

I would like to appreciate your willingness to participate to the questionnaire in which we conduct a study on the factors that affect investment in the logistics sector in The Special Economic Zone at Duqm to obtain a master's degree in business administration. This questionnaire has been developed to measure the impact of Logistic Infrastructure, Government Regulation and Macro-economic Environment in investment opportunities in The Special economic zone at Duqm. This questionnaire directed to investors and employees in the Special economic zone at Duqm. Completing The questionnaire will take around 3-5 minutes. The information will be used for scientific research purposes only.

Thanks and Regards;

For more information, please contact

Mujahid Al Hajri

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Questionnaire					
Demographical Questions أسئلة عامة **Please choose one of the following for each question.**					
Gender الجنس	Male ذكر		Female أنثى		
Nationality الجنسية	Omani عماني		Non-Omani غير عماني		
Age العمر	18-24	25-34	35-44	45-54	55 and above
Education Level المستوى التعليمي	High School الشهادة الثانوية	Diploma الدبلوم	Bachelor البكالوريوس	Master الماجستير	Other أخرى
Did you visit Duqm هل قمت بزيارة الدقم	Yes نعم		No لا		
You are now انت حالياً	Employee موظف		Investor مستثمر		
Variable 1 المتغير الأول **Logistic Infrastructure البنية التحتية اللوجستية** **The Logistic Infrastructure factors that affect the investment opportunities in the logistic sector in The Special Economic Zone at Duqm. Those items will be**					

examined into 5 Likert scales (strongly agree, agree, natural, disagree, strongly disagree). The items are examining the infrastructural facilities, rents and costs of operation, geographical space, Stability of the political, economic, social system and professional logistics skills.

عوامل البنية التحتية اللوجستية التي تؤثر على فرص الاستثمار في القطاع اللوجستي في المنطقة الاقتصادية الخاصة بالدقم. سيتم فحص هذه العناصر في مقياس ليكرت ذو ٥ درجات (أوافق بشدة ، أوافق ، محايد، لا أوافق ، لا أوافق بشدة). ستركز هذه العناصر على فحص مرافق البنية التحتية وإيجارات وتكاليف التشغيل والمساحة الجغرافية واستقرار النظام السياسي والاقتصادي والاجتماعي والمهارات اللوجستية المهنية.

Items	**Strongly Disagree** **لا أوافق بشدة**	**Disagree** **لا أوافق**	**Natural** **محايد**	**Agree** **أوافق**	**Strongly Agree** **أوافق بشدة**
1.1 Duqm has good infrastructural facilities for it to be considered as a transport and logistics hub. تمتلك الدقم مرافق بنية تحتية جيدة لكي تعتبر مركزًا للنقل واللوجستيات.					
1.2 Costs of operation including rents adversely affect Duqm standing as a transport and logistics hub. تكاليف التشغيل بما في ذلك الايجارات تؤثر على الدقم					

كمركز للنقل والخدمات اللوجستية.					
1.3 The geographical space has an impact on Duqm as a transport and logistics hub.المساحة الجغرافية لها تأثير على الدقم كمركز للنقل والخدمات اللوجستية.					
1.4 There is a shortage of professional logistics skills in Duqm هناك نقص في المهارات اللوجستية المهنية في الدقم.					
1.5 The collaboration between different players of the supply chain will affect the growth of the logistics hub in Duqm. يؤثر التعاون بين مختلف الجهات الفاعلة في سلسلة التوريد على نمو المركز اللوجستي في الدقم.					
1.6 Duqm has a sound corporate					

legal system that will assist the development of the logistics hub. تمتلك الدقم نظامًا قانونيًا سليمًا للشركات يساعد على تطوير مركز الخدمات اللوجستية.					
1.7 Efficiency of port and logistics operations in Duqm هناك كفاءة في عمليات الميناء والخدمات اللوجستية في الدقم					

المتغير الثاني Variable 2

التنظيم الحكومي Government Regulation

The Government Regulation factors that affect the investment opportunities in logistic sector in The Special Economic Zone at Duqm. Those items will be examined into 5 Likert scale (Strongly agree, agree, natural, disagree, strongly disagree). The items examining the incentives , warehouse regulations ,pre-clearance of cargo, the regulation of dangerous goods, The regulation of labor, corporate and local taxes, custom duties and Financial assistance for investing companies.

العوامل التنظيمية الحكومية التي تؤثر على فرص الاستثمار في القطاع اللوجستي في المنطقة الاقتصادية الخاصة بالدقم. سيتم فحص هذه العناصر في مقياس ليكرت ذو ٥ درجات (أوافق بشدة ، أوافق ، محايد، لا أوافق ، لا أوافق بشدة). ستركز هذه العناصر على فحص الحوافز ، أنظمة المستودعات ، التخليص المسبق للبضائع ، تنظيم البضائع الخطرة ، تنظيم العمل ، ضرائب الشركات والشركات المحلية ، الرسوم الجمركية والمساعدة المالية للشركات المستثمرة.

Items	Strongly Disagree لا أوافق بشدة	Disagree لا أوافق	Natural محايد	Agree أوافق	Strongly Agree أوافق بشدة
2.1 Special incentives which allow trusted logistics companies to break-bulk (i.e., deconsolidate both local and transshipment cargo) close to their own factory premises outside the Free Trade Zone هناك حوافز تسمح لشركات الخدمات اللوجستية الموثوقة بتفكيك البضائع (أي تفكيك البضائع المحلية وشحنات الترانزيت) بالقرب من مباني المصنع الخاصة بها خارج منطقة التجارة الحرة					
2.2 Review bonded warehouse regulations to ensure maximum utilisation of warehouse space. مراجعة لوائح المستودعات الجمركية					

لضمان أقصى استفادة من مساحة المستودع.					
2.3 Allow pre-clearance of cargo. السماح للتخليص المسبق للبضائع.					
2.4 The government should review the regulation of dangerous goods. These should be product specific rather than category –specific licenses. يجب على الحكومة مراجعة تنظيم البضائع الخطرة. يجب أن تكون هذه المنتجات محددة بدلاً من تراخيص محددة للفئات.					
2.5 The government should liberalise its policy on regulation of labor to logistic companies يجب على الحكومة تحرير سياستها في تنظيم العمل للشركات اللوجستية					
2.6 Exemption from or reduction of corporate and local					

الإعفاء أو تخفيض taxes ضرائب الشركات والضرائب المحلية					
2.7 Exemption from or reduction of custom duties for cargo الإعفاء أو تخفيض من الرسوم الجمركية وتخفيض على البضائع					
2.8 Financial assistance for investing companies المساعدة المالية للشركات المستثمرة					

المتغير الثالث Variable 3

بيئة الاقتصاد الكلي Macro-economic Environment

The Macro-economic Environment that affect the investment opportunities in logistic sector in The Special Economic Zone at Duqm . Those items will be examined into 5 Likert scale (Strongly agree, agree, natural, disagree, strongly disagree). The items examining the Soundness of Banks, Venture Capital Availability, Ease of Access to Loans, Existence of hidden trade barriers, Openness of Customs regime, Economic scale of market, Soundness of investment system and incentive measures.

البيئة الاقتصادية الكلية التي تؤثر على فرص الاستثمار في القطاع اللوجستي في المنطقة الاقتصادية الخاصة بالدقم. سيتم فحص هذه العناصر في مقياس ليكرت ذو ٥ درجات (أوافق بشدة ، أوافق ، محايد، لا أوافق ، لا أوافق بشدة). ستركز هذه العناصر على فحص سمعة البنوك ، وتوافر رأس المال الاستثماري ، وسهولة الوصول إلى القروض ، الحواجز تجارية ، وانفتاح النظام الجمركي ، و نظام الاستثمار والتدابير المحفزة.

Items	Strongly Disagree لا أوافق بشدة	Disagree لا أوافق	Natural محايد	Agree أوافق	Strongly Agree أوافق بشدة
3.1 Banks have a good reputation in Duqm البنوك ذات سمعة طيبة في الدقم					
3.2 Venture Capital Availability in Duqm توفر رأس المال الاستثماري في الدقم					
3.3 Ease of Access to Loans in Duqm سهولة الوصول إلى القروض في الدقم					
3.4 Existence of hidden trade barriers in Duqm وجود حواجز تجارية مخفية في الدقم					
3.5 Openness of Customs regime in Duqm انفتاح النظام الجمركي في الدقم					
3.6 Deregulation of international trade in Duqm تحرير أنظمة التجارة الدولية في الدقم					

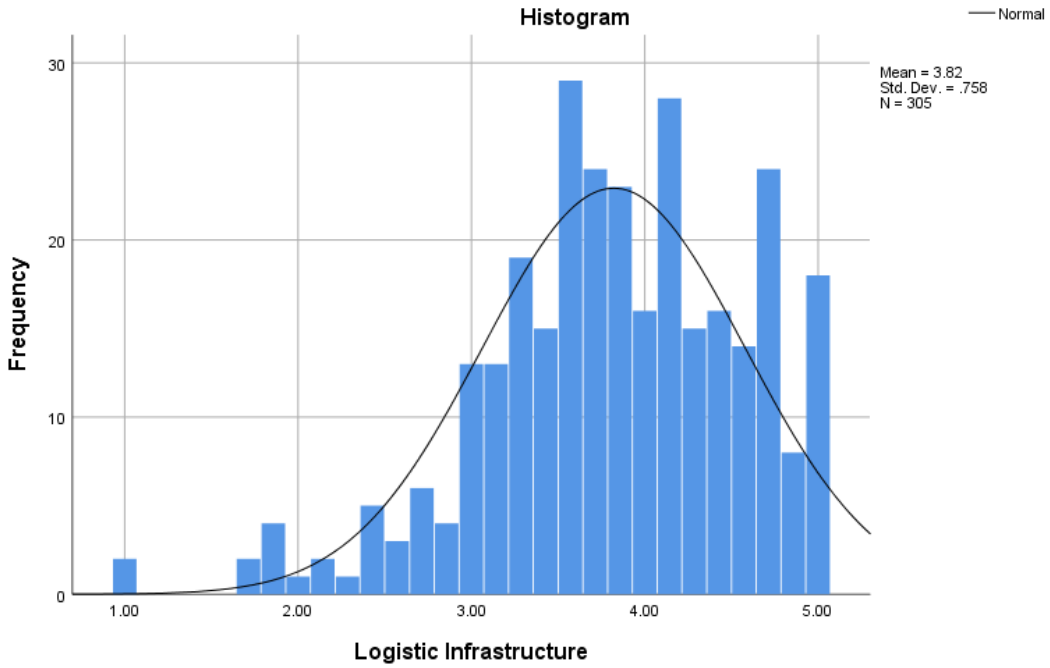
3.7 Integration of customs and port logistics information in Duqm تكامل المعلومات الجمركية واللوجستية للموانئ بالدقم					
4.1 Duqm is An international maritime center attracting shipping companies by providing all-round services and facilities for ship management and operation تعد الدقم مركز بحري دولي يجذب شركات النقل البحري من خلال توفير الخدمات والتسهيلات الشاملة لإدارة وتشغيل السفن					
المتغير الرابع Variable 4 **Investment opportunities in logistic sector in The Special Economic Zone at Duqm فرص الاستثمار في القطاع اللوجستي في المنطقة الاقتصادية الخاصة بالدقم**					
Items	**Strongly Disagree لا أوافق بشدة**	**Disagree لا أوافق**	**Natural محايد**	**Agree أوافق**	**Strongly Agree أوافق بشدة**

4.2 Duqm is organized effort to improve competitiveness تعمل الدقم على تعزيز التنافسية					
4.3 Stability of the political, economic and social system is necessary for development into a logistics hub استقرار النظام السياسي والاقتصادي والاجتماعي ضروري للتنمية للمركز اللوجستي					
4.4 Soundness of investment system and incentive measures in Duqm سلامة نظام الاستثمار والتدابير المحفزة في الدقم					
4.5 Reduction of seaport dues to remain competitive تخفيض رسوم الميناء البحري لتظل قادرة على المنافسة					
4.6 Remove land premium and quit rentals for					

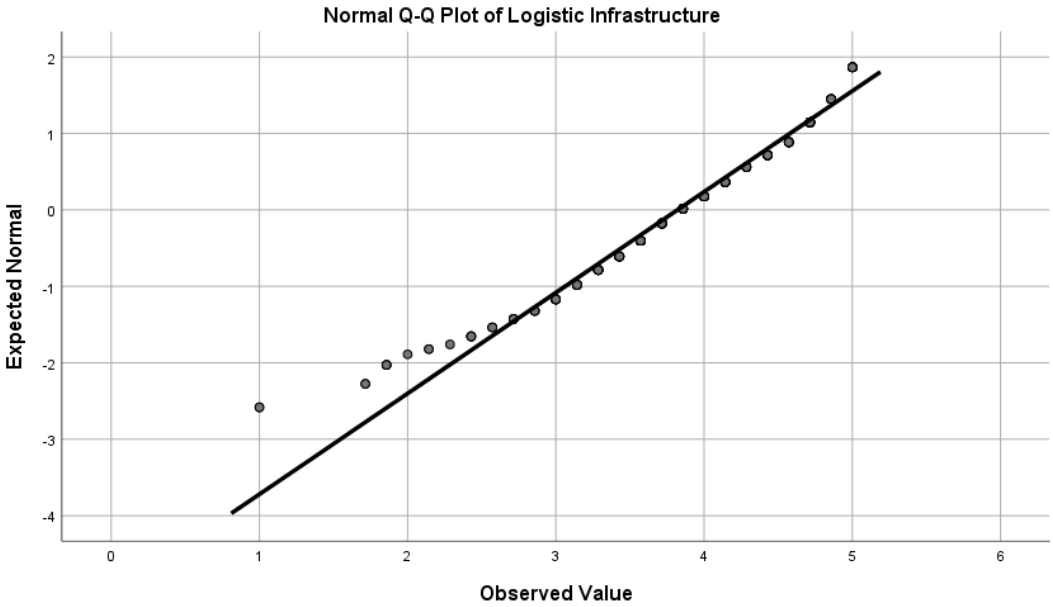
companies leasing land in the free trade zones in Duqm إزالة رسوم الأراضي والاستئجار للشركات المستأجرة في مناطق التجارة الحرة في الدقم					
4.7 Technological advances such as the increase in size of ocean lines and jetliners will result in ships and aircrafts preferring other trading routes rather than Duqm. إن التقدم التكنولوجي مثل زيادة حجم خطوط المحيطات والطائرات النفاثة سيؤدي إلى تفضيل السفن والطائرات على طرق تجارية					

Appendix II

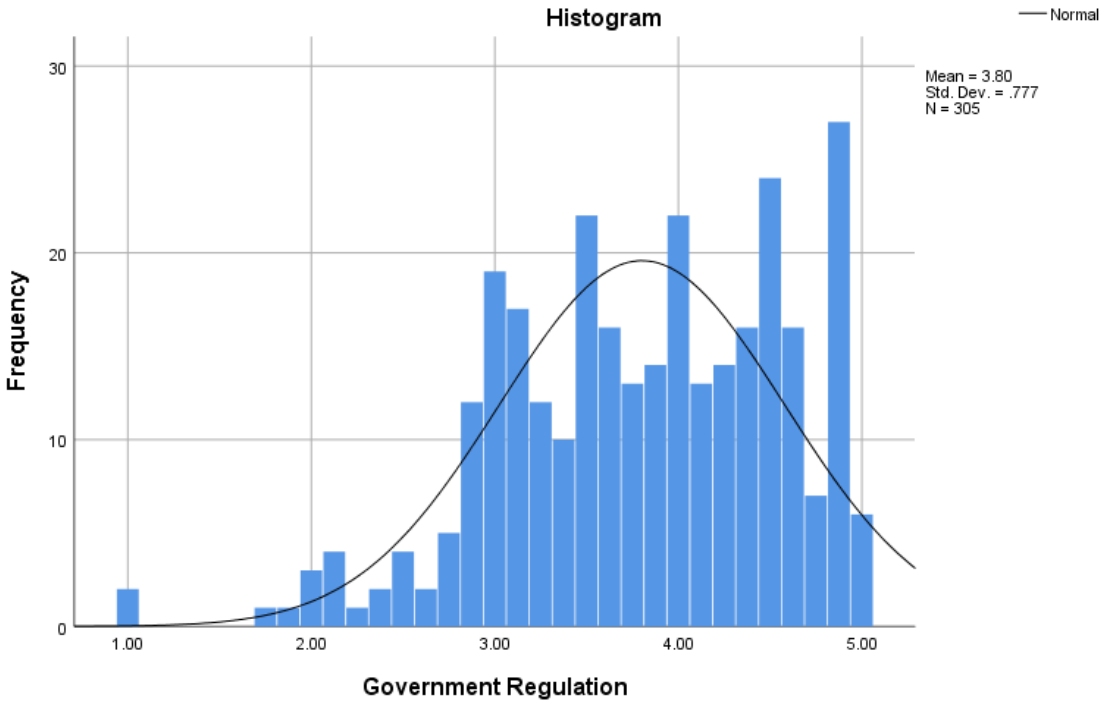
Histograms and Q-Q Plots



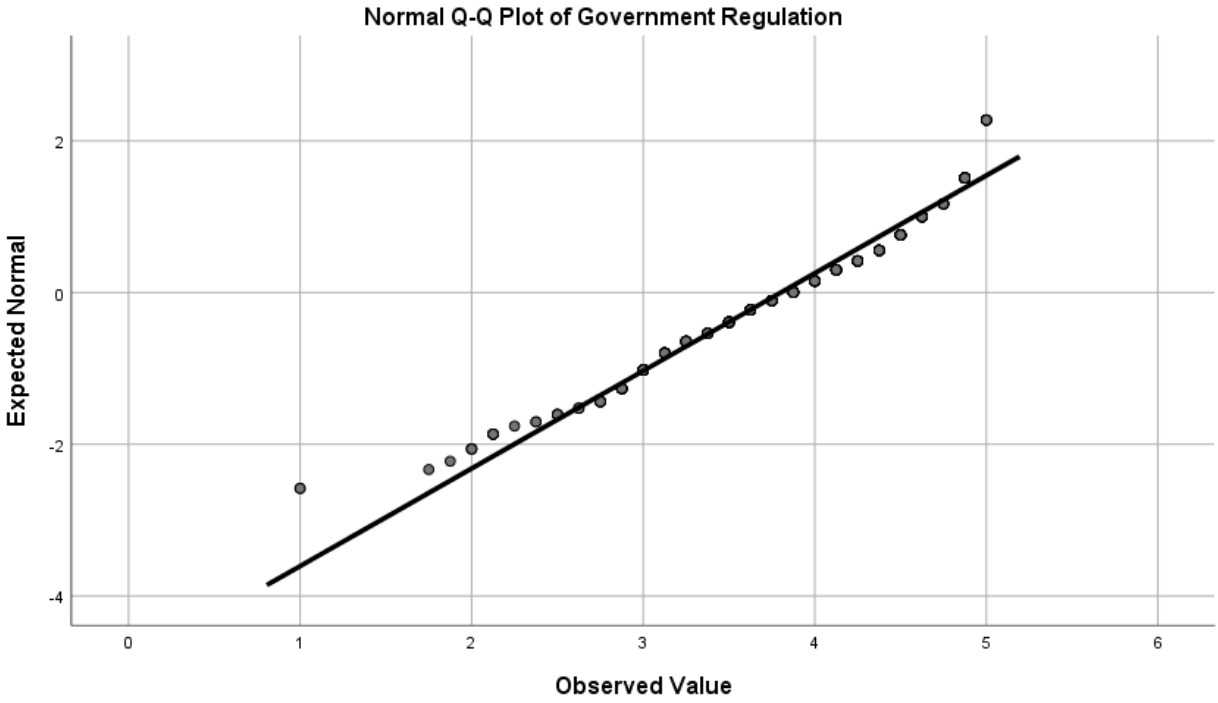
Histogram of Logistic Infrastructure



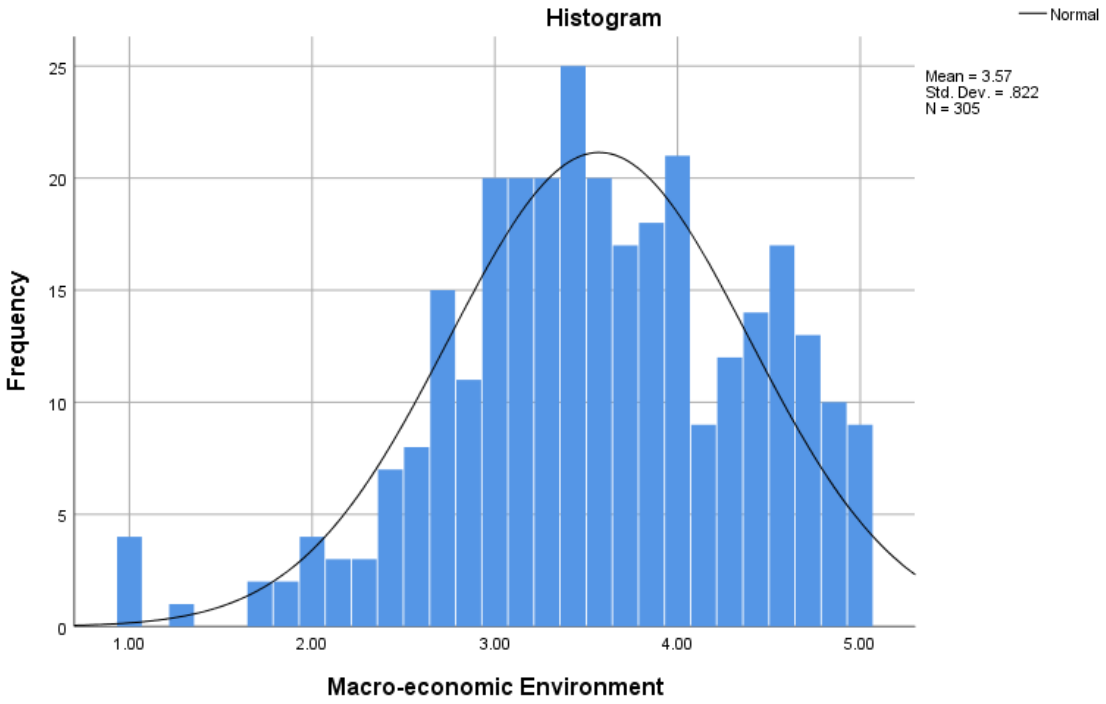
Q-Q Plot of Logistic Infrastructure



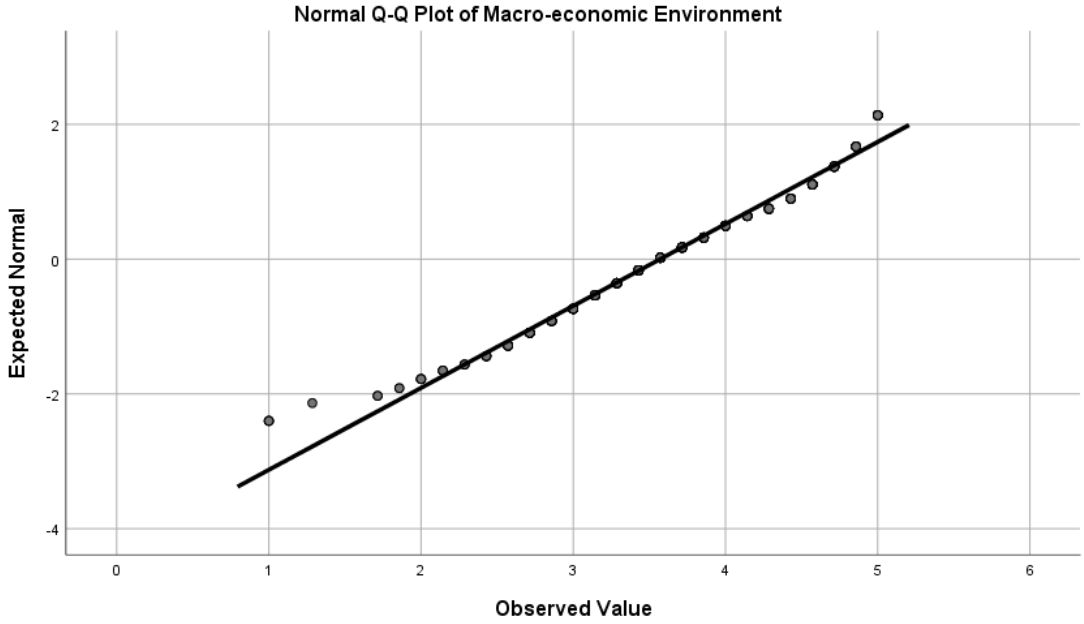
Histogram of Government Regulation



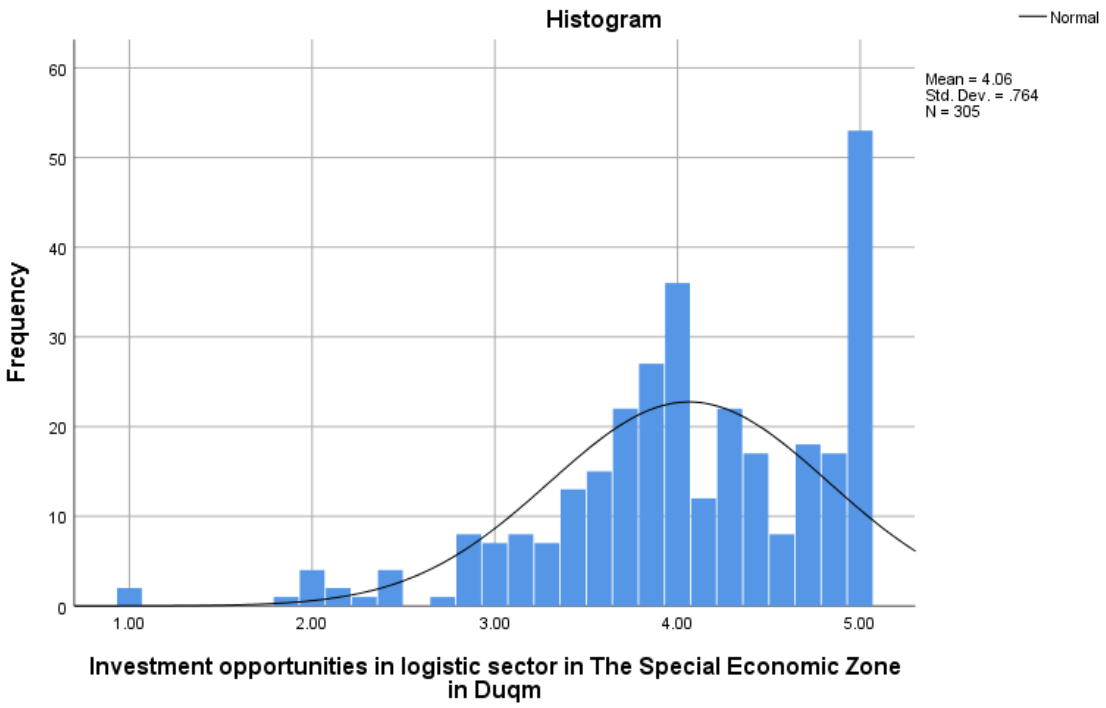
Q-Q Plot of Government Regulation



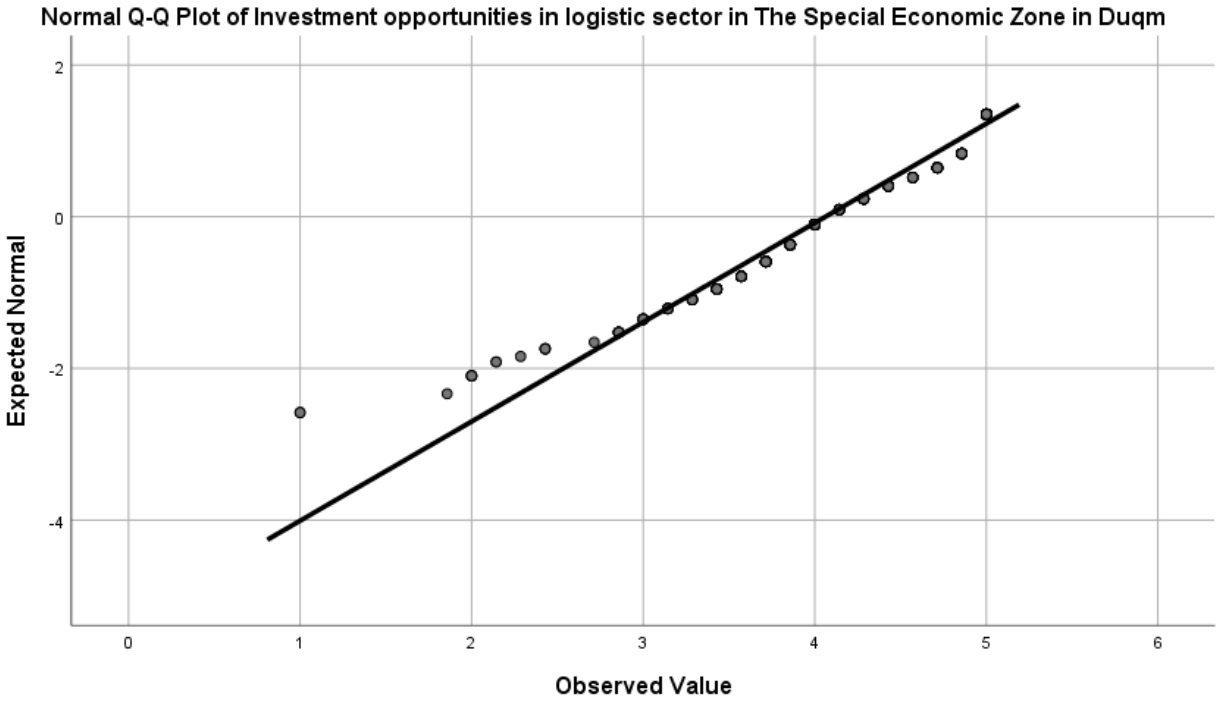
Histogram of Macro-economic Environment



Q-Q Plot of Macro-economic Environment



Histogram of Investment opportunities in logistic sector in The Special Economic Zone at Duqm



Q-Q Plot of Investment opportunities in logistic sector in The Special Economic Zone at Duqm