
A New Decision-Making Approach for Riyadh makes up 50 percent of the non-oil economy of Saudi Arabia

Alanoud Bandar Alsaud¹, Harith Yas², Abeer Alatawi³

¹*Administration college, British Institute of Economics and Political Science, UK.*

²*Azman Hashim International Business School, University Technology Malaysia, Johor Bahru, Malaysia,*

³*Department of Nursing, Faculty of Applied Medical Sciences, University of Tabuk, Saudi Arabia,*

e-mail: alanoudbalsaud@gmail.com¹, harith.albayati@yahoo.com², asalatawi@ut.edu.sa³

Abstract

Saudi Arabia's capital, Riyadh, has grown from a small city of half-million people to a city of more than seven million people in the past fifty years. As the capital city of Saudi Arabia, Riyadh contributes significantly to the non-oil economy in the country. As a result, this study focused on reviewing the existing literature to assess the city's role in the nation's non-oil economy in the last fifty years. The included studies had to be cross-sectional studies, reports, government publications, and ecological studies that reported Riyadh's role in Saudi Arabia's non-oil economy for the past five decades. One hundred twenty-three studies were initially screened to identify relevant sources.

Further analysis and exclusion identified fifty relevant sources that were systematically reviewed. The quality of methodological designs was assessed in all the sources reviewed. The results indicate that Riyadh has been the focal city in diversifying the nation's economy. The review depicts that the general proportion of service industries comprised the major developments in the city. Most of the studies pointed out that Saudi Arabian government has pushed hard to make the country and hub for a non-oil and diversified economy. The study's results depict that the government requires a business to have offices in Riyadh even if they may be based in other cities. This move was adopted after the country suffered major economic setbacks every time there was an uncertain and certain fall in oil demand. The city has the largest service industry, manufacturing, construction, and finance in Saudi Arabia.

Keywords: *Riyadh, Saudi Arabia, Non-oil, diversification, Gulf Nations, Economy, and non-oil economy*

1. INTRODUCTION

Saudi Arabia's capital, Riyadh, has grown from a small city of half-million people to a city of more than seven million people in the past fifty years. The city's name was re-drawn from rawadah, which means gardens of meadows. The city was named after natural fertility, which was provided by its location at the juncture of Wadi Hanifah and AlBat'ha. The city's spectacular sight from an aerial view is surrounded and illuminated by the evening city lights. It's appearance entails a reminiscence of a bright sea of dotted lights amid a desert as if fluorescent flower gardens have suddenly blossomed among the dark clouds. It has several bank headquarters, including Saudi Arabia's Central Bank and several national banks. It is the centre to numerous private companies that are required by law to have an office there. One-third of Saudi Arabia's factories and manufacturing companies are located in the city, producing machinery, equipment, metallurgical goods, chemicals, construction materials, food, textiles, furniture, and publications.

The Saudi Arabian government has set up advanced economic diversification policies to reduce the dependency of the kingdom on oil. The country has particularly focused on elevating the service industry in cities such as Riyadh (Almanaa et al., 2021). Additionally, this has been enabled by the growth of other sectors of the economy such as manufacturing, transport, finance, and other services in major cities (Kim, 2020). As Saudi Arabia's capital, Riyadh is home to numerous government ministries and public service headquarters. This has helped the city to emerge as the kingdom's major employer and service provider. According to the Statista Research Department (2020), the city has about 7.2 million people. The population grew rapidly from about half a million people in 1970 to seven million in 2021, with a mixture of foreign workforce and locals' migration from rural areas to the city (Kim, 2020). The government of Riyadh employs more than one-third of the total city's workforce. The government workforce contributes to the largest portion of the city's goods and services (Khudhair, Jusoh, Mardani, & Nor, 2019). According to Aboukorin et al., (2018), Riyadh, for instance, is home to nearly half (46 per cent) of the productive industries in the urban city system and about one third (34 per cent) of the productive industry in the country, which represents 42 per cent of jobs in productive industry in the urban city system and 30 per cent in the kingdom.

According to Aboukorin et al., (2018), Riyadh witnessed an expansive growth period between 2015 to 2018. The government has established a public transport system to reduce the congestion caused by the increasing number of car owners. This was accompanied by expansive transport roads connecting major Riyadh and other major cities such as the Riyadh Jeddah corridor. In (2018) roads accounted for 40% of all construction costs in the city with the government allocating 14.50 billion US dollars to the infrastructure sector. Currently, Riyadh contributes approximately 29% of the total kingdom's GDP. The Oxford Business group (2018) reports that Riyadh witnessed rapid changes towards the end of 2017 due to an increase in Oil barrel to \$60. Further the authors reports that indicators suggest an improving position for the real estate and construction sectors into 2018, partly thanks to a more stable economic environment.

In its transport sector, Riyadh is connected internationally by the King Khalid International airport located about 22 miles (35 km) north of the city and handles both domestic and international flights. The city has well-developed a thousand miles of paved roads such as King Fahd and Mecca highways, which entail the city's two main axes. The city was designed as an automobile-oriented city. For instance, taxis are a significant form of transportation in Riyadh. Local buses are used to transport low-income workers from their servant quarters and around the City center to workplaces in other city areas. The city is connected to Al-Dammam, an eastern seaport by a rail line. The city is an administrative center that controls large portions of the country. It has various government and public offices. Given the role played by Riyadh city in Saudi Arabia's desire to diversify its economy, the current study will review the existing literature to identify how Riyadh has contributed to the enhancement of a non-oil economy in Saudi for the past fifty years, as well as the role played by the city in maintaining and promoting the non-oil-based economy.

2. LITERATURE REVIEW

The existing literature proves that Saudi Arabia and the entire gulf region significantly reduced oil and petroleum dependence in the last decade. According to Ahmed (2015), this significant change was brought about by using economic diversification strategies. These strategies are the best tools that support economic and business aspects while increasing their competitive advantage (Yas, Jusoh, Abbas, Mardani, & Nor, 2020). In Riyadh, the administration has adopted strategies that encourage the growth of services, manufacturing, and finance sectors as the non-oil economy. Even though the city has experienced rapid economic growth in the past fifty years, a blueprint of the non-oil economy was laid in the late Twentieth Century. According to Heydreich (2017), research results between 2015 to 2021 depict that economic diversification based on economic variables leads to superior geographic diversification. Riyadh's development as a non-oil-dependent economy has been challenging. The government attempts to utilize a cluster-based, collaborated, and liberalized approach between the government, industries, and foreign investors in the oil, depending on the nation. According to Ahmed (2015), Riyadh was built on the fundamental role of lowering the financial dependency by making it a viable non-oil modern economy that can sustain a relatively high-income rate.

Additionally, setting the city was essential as it protects the impact that would be caused a riskier disaster in the oil sector. Hydit (2013) noted that income generated on hydrocarbons is finite, easily fluctuates, and is practically the only source of wealth in Saudi Arabia. This fact has placed economic diversification a political issue in the country. According to Hemrit & Benlagha (2018), the annual data covering the period from 1970 to 2008 shows that Saudi Arabia's government has been increasing its expenditure in the non-oil economy. This has been an attempt to diversify its economy from the normal oil dependency since natural resources drawn from hydrocarbons can be exhausted. Riyadh, being the capital city, has been a focal point in ensuring that it diversifies its economy. The findings of the study depict an overall growth of agricultural and service sectors due to government expenditure. This result concurs with what Hassanov et al. (2020) mention as the kingdom's

main goal to increase its private sector from 40% to 50% of the total Gross Domestic Product. This will be achieved by reducing unemployment, increasing government investment in the non-oil sector, and encouraging local content maximization by \$70 billion US dollars at the end of 2030. These economic strategies have been encouraged to capture the major economic sectors of the city.

The capital of Saudi Arabia has been the imitator of this strategy since the oil crises of 1970. currently, the country focuses on putting non-oil economic diversification at the heart of development. According to Hassanov et al. (2020), the non-oil sector is less volatile, more sustainable, and generates more employment opportunities than the oil sector; therefore, investing in the non-oil sector is a viable investment. The employment capability of the non-oil sector can be seen in Riyadh. The city has the largest service sector in the country (Yas, Mardani, Albayati, Lootah, & Streimikiene, 2020). Saudi Arabia's government has invested in the city's manufacturing, transport, finance, and construction sector. The city has the largest number of government employees. The government employs more than one-third of the total service workforce in Riyadh. This workforce accounts for approximately half of Riyadh's total production of goods and services.

According to Nelson and Nelson (2003), the need for diversification and adoption of the manufacturing and service industry was aimed at reducing the systematic risk that may arise due to high dependency on oil energy. According to Karolin (2017), the Twenty-First Century's onset marked an important turning point for Riyadh as the government embarked on a sustainable economic development indecent from oil energy. Riyadh adopted a diversification strategy that encouraged manufacturing, finance, and services (Almughairy, 2019). Recently, the path to a non-oil economy has been seen in Riyadh and the whole country and the surrounding GCC states. According to the World Trade Report (2020), statistics indicate that in 2015 alone, manufacturing, finance, and the service sector, in general, accounted for more than 40% of Riyadh's Gross Domestic Product (GDP). This has made Riyadh and the whole Saudi Arabia region a major manufacturing and service hub globally. The ULRICHSEN (2011) reports that the Gulf States became the world-leading center of production for a variety of industries ranging from petrochemicals, aluminum, and construction materials (Porter, 2010).

Riyadh has witnessed great economic growth and development over a short period— from 1980-1990 up to 2019-2020 (Kim, 2020). The International Journal of Business Development (2020) reported that governments at multiple levels, companies, teaching, and research institutions collaborate to enhance sustainable economic development (Yas et al., 2021). The generative and productive use of natural resources to establish a sustainable and long-term economic sector resulted from an enhanced economic model for growth. Riyadh's establishment as a major non-oil center with industrialization, urbanization, and modernization is a rare example of a city whose economy made consistent developments towards diversification over a short period 1970s to late 1990s). Riyadh has been a rare and successful city in the world whose economy was developed using returns from a natural resource. According to Ahamed (2015), The Saudi Arabian National Strategic Goals are driven from the VISION 2021 "To enable Saudi Arabia to become one of the most competitive

countries in the world."Through knowledge economy supported by the sustainable and diversified economy. The Oxford Group (2018) reports that the period from the second half of 2017 fostered an increase in the rate of real estate development among other sectors in Riyadh. This stable business environment was favored by the increase of global oil prices to above \$50 per barrel. Aboukorin et al., (2018), noted that in 2017 half of all capital expenditure in the city increased towards the end of 2017 and grew steadily in the year 2018. The city officials , pushed ahead on major construction projects, further boosting growth and market confidence. Further indicators of expanding economic growth were indicated by the reinstatement of financial allowances to all civil servants and military personnel. This was enabled and interpreted as an easing austerity measures in the wake of rising oil prices and unexpected strong budget figures in 2017-2018 years. The construction industry registered a continuous increase since the 2017 contributing approximately SR78.1bn (\$20.8) to the economy. The Oxford Group (2018) reports that the cement and steel industry marked continuous growth in the city between 2017 and 2018. factors such as timely government payments to contractors unlike previously where there were delays and bottlenecks. Additionally, the city rolled out tens of thousands of affordable units which boosted real estate investment and diversification from newly established estate investments.

3. METHODS

3.1 Systemic Review

A systematic review was conducted by searching databases such as Scopus, Web of Science, Google scholar, Ebscohot, and the National control board (NCIB). The search was intended to identify all the papers relevant to the topic study from 2015-2021. The search strategy used the following keywords. Riyadh, Saudi Arabia, Non-oil, diversification, Gulf Nations, Economy, and non-oil economy, United Arab Emirates (UAE). The references in the identified papers were also screened to identify other sources that might have failed to be detected in the databases. The titles and the references of the identified studies were reviewed separately to identify the most relevant papers. Additionally, the full text of the sources identified was screened to pinpoint epidemiological studies that met the following criterion,

3.2. Inclusion Criterion

The included studies had to be cross-sectional studies, reports, government publications, and ecological studies that reported Riyadh's role in Saudi Arabia's non-oil economy for the past five decades. Secondly, they had to have compared or investigated a variable related to non-oil economic diversification in the United Arab Emirates. The study also focused on those papers which discussed future economic trends that would foster sustainable economic development. Studies that estimated the extent and role of Riyadh in Saudi Arabia's non-oil economy were also included.

3.3 Data collection

Data were extracted from studies that met the inclusion criteria. Data relating to the study design, setting, definition of outcomes measure, the inclusion and exclusion criteria of

the source population, and the methodological design quality using the Newcastle Ottawa Scale (NOS) (Wells et al., 2019). The outcomes of the screening were further extracted independently using a standardized data extraction form. In assessing the studies' methodological quality, the sources were classified as per classes with scores of seven or higher showing a high-quality methodology and less than seven figures indicating lower methodological quality. Some primary factors, such as factors leading to affecting the non-oil economy, were classified under one category or ignored. The factors were described into three distinct groups, cultural, economic, and social factors.

3.4 Data analysis

The extracted data were analyzed descriptively. Primary factors (economic, Social, Cultural, and political) were entered in STATA version 10 for statistical analysis. The data was then used to conduct a meta-analysis to summarize the prevalence of each outcome where possible. The levels of heterogeneity were examined among the studies statistically using meta-analysis to obtain an I-square value. The current review combined data from written sources; therefore, it is essential to consider that the I-square is expected to be high due to sampling, the methodological and statistical variation of the sources used. To account for the anticipated heterogeneity, the study utilized the random effect method to combine the measure of effect (DerSimonian and Laird model). The subgroups were analyzed when the need to investigate the reasons for similar cases between the studies.

4. RESULTS

The current study search identified 123 research sources published between 2015 to 2021. After a further review of the titles and abstracts, 60 were obtained for a full-text review, while 63 were excluded. Fifteen studies were excluded after reviewing each full text, while two studies were included after reviewing the reference list of the papers, as shown in Figure 21 below.

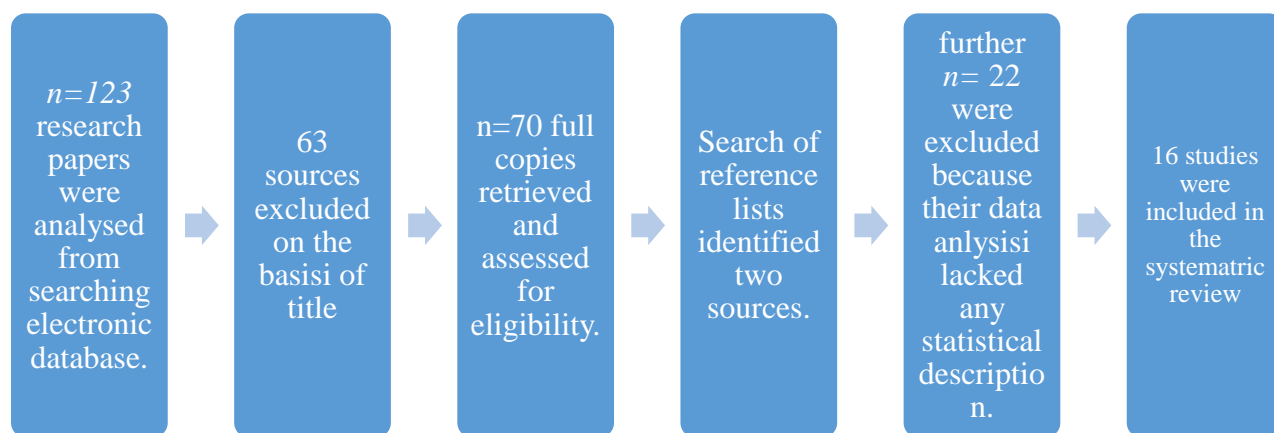


Figure 1: Summary of the systematic Literature Review

4.1 Characteristics of the Studies Included

The study papers included in the current review were conducted in Riyadh and major cities of Saudi Arabia. Two studies were conducted in Riyadh and the other four cities in the GCC area. There were no research studies from regions outside the GCC area, or that country's economy was not as dependent on natural resources as the United Arab Emirates. The majority of the studies were cross-sectional and quantitative. Only eight studies of the 16 included in the current review were given a high score in their methodological quality assessments. According to NOS, most of these studies had inadequate methods of data reporting. The remaining studies were given a low score, but they were included in the review to avoid bias.

Table 1: Characteristics of the Studied Included

Characteristics of Included Studies		
Year of Publication	Selected Area of Study	Type of Study
2018	<ul style="list-style-type: none"> Asymmetric impacts of public and private investments on the non-oil GDP of Saudi Arabia. Riyadh: The Metamorphosis of a City From Centerless to Polycentric Developing the Riyadh strategic microsimulation model as a novel means of exploring policy transfer and future transport scenarios Introducing public transport and relevant strategies in Riyadh City, Saudi Arabia: A stakeholders' perspective 	Systematic review Cross-sectional study Mixed method study

	<ul style="list-style-type: none"> • The impact of government spending on non-oil-GDP in Saudi Arabia (multiplier analysis). • The transition towards sustainable energy production–A review of the progress for solar energy in Saudi Arabia. • Urban Regeneration to Reclaim Sustainability in Cities: The Case of Down Town Riyadh, KSA 	Systemic review
2015	<ul style="list-style-type: none"> • Effects of oil and non-oil exports on the economic growth of Saudi Arabia 	Systemic review
2016	<ul style="list-style-type: none"> • A survey on the implementation of Total Quality Management (TQM) at manufacturing industries in the north region, Kingdom of Saudi Arabia • Forecasting and analysis of energy consumption for transportation in the Kingdom of Saudi Arabia. • Income diversification for a future stable economy in Saudi Arabia: An overview of the tourism industry • The vulnerability of flash flooding in Riyadh, Saudi Arabia 	Quantitative study Systemic review Cross-sectional study
2017	<ul style="list-style-type: none"> • The transformation from an oil-based economy to a knowledge-based economy in Saudi Arabia: the direction of Saudi vision 2030 	Systemic review
2019	<ul style="list-style-type: none"> • The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomized studies in meta-analyses • Knowledge management (KM) practices in education and learning: Establishing a knowledge economy in Saudi Arabia 	Qualitative study
2020	<ul style="list-style-type: none"> • Riyadh, National Capital Saudi Arabia. 	

Table 2: Major Results and Conclusions Drawn from the studies Included

Results and Conclusions	
Results	Conclusion
Three studies reveal that increased public investment increases non-oil GDP in both the short term and long term. It also reveals that positive and negative inflation shocks impact non-oil GDP positively and negatively, respectively.	The government of Saudi Arabia should focus on increasing and implementing the identified variables which influence non-oil GDP positively
five studies reveal that the TOD major plan for the development of Riyadh has impacted the city positively	The study concludes that the administration of Riyadh

in changing its physical appearance and creating room for service and manufacturing industries	should strive to enact more sustainable and employment providing opportunities in an attempt to maintain its role in promoting non-oil economy
Studies reveal that Riyadh is home to manufacturing, finance, construction, and other service industries	The Riyadh administration should focus on enacting controls and checks that enhance the establishment of the service sector.
Four studies reveal that the lack of well-developed public transport hampers Riyadh's development as a non-oil economic hub.	The studies conclude that Riyadh's administration should focus on establishing public transport to help transport its service workers to their quarters.

4.2 The Role of Riyadh in fostering Economic Diversification in Saudi Arabia

The study papers included in the research focused on extensive cultural, administrative, service, and social factors as the non-oil economy supporters in Riyadh. Some studies reported that a combination of government-initiated and market demand characteristics was the major supporter of Riyadh's non-oil economy. Given that Riyadh stands as the capital of Saudi Arabia, it boasts of a large population that supports its growth in transport, manufacturing, finance, and construction industries. The following table shows the population of Saudi Arabian cities.

Table 3: Population Size of Saudi Arabian Cities

Cities	Population (Millions)	Population Density
Riyadh	7.677	443
Medina	1.30	24
Mecca	1.32	25
Dammam	0.768	324

According to Mensi et al. (2018), the real non-oil economy in Saudi Arabia has witnessed growth in the last decade. For instance, Alodadi&Benhin,(2015) argue the non-oil domestic product growth (GDP) in the first quarter of 2014 amounted to 2.1 percent and 2.9% in the second quarter of the Year. The rise and growth of the non-oil economy in Riyadh are pioneered by improved economic activities and the rapid development of non-oil revenue projects such as the construction sector that observed growth after a lapse of three years (Tong &Baslam, 2019).

Table 4: Quarterly non-oil sector GDP in Saudi Arabia from the 1st quarter of 2016 to the second quarter of 2019

The first quarter of each Year	Real non-oil GDP growth
2019	2.9%
2018	2.1%
2017	2.2%
2016	2%
2015	2.5%
2014	2.1%

The group that focused on manufacturing and finance was under the service role of the non-oil economy in Riyadh and Saudi Arabia at large. The meta-analysis showed that the manufacturing industry's average growth rate was at 47% and construction at 56%, with a high and low I-square, respectively (Way et al., 2016). The summarized estimate of the construction industry growth rate stood at 2.5% with an I-square measure of 38%. Among the primary factors that have pushed Riyadh to diversify its economy is the service industry, with the government employing more than two-thirds of the city's workers. This has been a growing phenomenon since the oil crises of the 1970-1990s. Given that Riyadh witnessed large numbers of non-oil growth due to an influx of rural areas, immigrants, and foreign workers, it had to have a well-developed transport system. According to Abdullah et al. (2015); Alshehry & Belloumi (2017), the development of Riyadh's transport sector was a prerequisite for diversification. The government adopted policies that enhanced the growth of a modern automobile city.

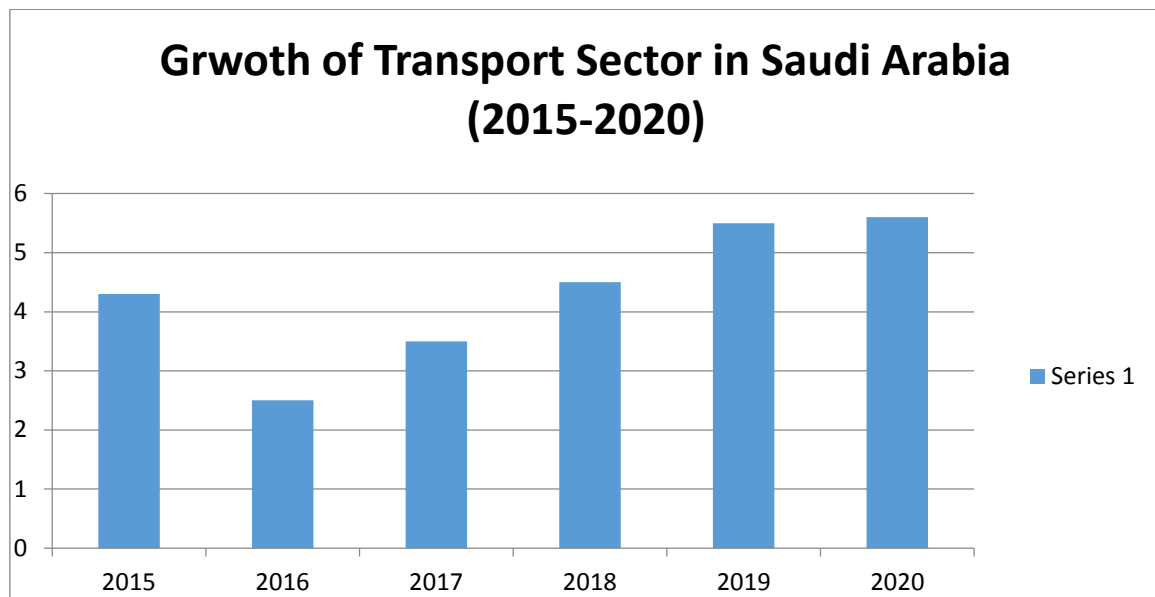


Figure 2: The growth of the Transport Sector Since 2015 in Saudi Arabia

An estimated summary of the metanalysis data on the development of the transport sector in Riyadh showed a continuous increase in transport channels in the country (Sherbini et al., 2016). Studies reported a 2.5% percentage growth of the transport sector in 2015, followed by 3.4% in 2016, 4.6 in 2018, 5.5%, and a growth of 5.5 % in 2020 (Tylarn & Demilbars, 2017).

5. DISCUSSION

The current review provides a comprehensive understanding of the distribution and contribution of the non-oil economy in the capital of Saudi Arabia. The review depicts that the general proportion of service industries comprised the major developments in the city (Tayeh, 2018). Most of the studies pointed out that Saudi Arabian government has pushed hard to make the country and hub for a non-oil and diversified economy (Bakryet al., 2019). To some extent, the government requires a business to have officiates in Riyadh even if they may be based in other cities. This move was adopted after the country suffered major economic setbacks when there was an uncertain and certain fall in demand for oil (Mohsen, 2015). The results obtained from data analysis provide that Riyadh is home to manufacturing, finance, and other services. Given that it is the country's capital, the city has numerous government and public offices (Albalooshi, 2017; Lawrence, 2017). More than one-third of the city's total workers are employed by the government, which is the source of approximately half of the city's total goods and services (Al-Hassan & Al-Qahtani, 2019). The largest population of workers in the city is the Saudis, who make up 90% of the total employees. In the private sector, the foreign workforce is the major labor source (Hassock, 2019). According to the study results, more than two-thirds of the total workforce is employed in the service sector, one-fourth in construction, about one-fifth in trade, and one-tenth in the industry sector.

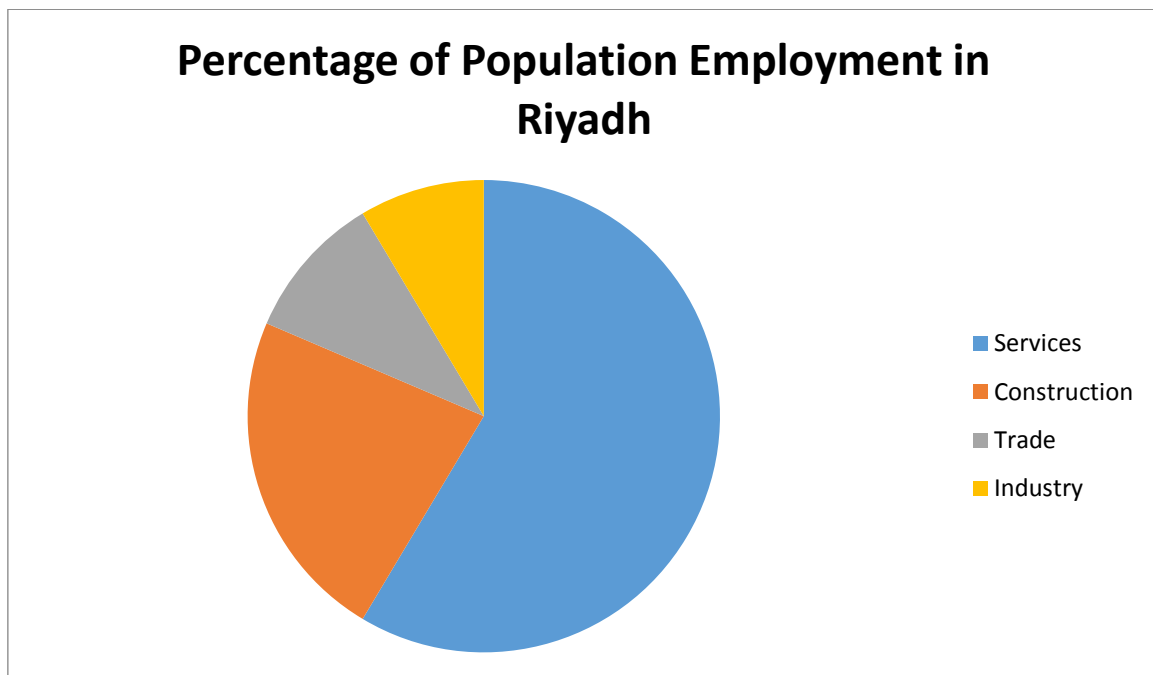


Figure 3: The growth of the population Employment in Riyadh

The city is an important hub for manufacturing, construction, and financial services. The city has several large financial institutions that control trade in the country and the whole Gulf region. For instance, Alshuabi (2017) argues that the city has several banks, including the Saudi Arabian Central Bank and other national financial institutions. Salam and Khan (2018), Saudi Arabia has many private and public-owned industries. However, a large portion of the industries is found in Riyadh (Al-Hathloul, 2017). The City is moderately dominated by industries producing machinery, equipment, metallurgical goods, chemicals, construction materials, food, textiles, furniture, and publications (Amran et al., 2020; Korsheed, 2015).

The development of a non-oil-based economy in Riyadh has been reported having been associated with government administration, cultural and transport factors. Being located in the Riyadh Province, one of the thirteen provinces in the country controls the country's largest portion of the non-oil economy (Alotaibi, 2017). The study's findings depict that most of the highest GDP in the city was simultaneously accompanied by a significantly higher GDP in the entire emirate (Aldusari, 2015). Additionally, much of the economic diversification policies are strictly followed in Riyadh. This has seen the city grow as a non-oil economic hub in the country. Through the government, the high commission for the development of Riyadh sets the city's economic development branch (The Arryadh Development Authority(ADA) (Aldalbahi, 2018; Pérez, 2018). The ADA is responsible for socioeconomic, cultural, and environmental developments in the city. Besides, the executive branch also devises plans and procedures to enhance the city's standards (Aldalbahi& Walker, 2016).According to Al-Hathluol (2017), the past fifty years have been an essential portion of Riyadh's development in its urban and physical environment. During the early days, the well-established building plans stretched the city towards its future organizational growth (Alotaibi &Potoglou, 2018). Firstly, the walls could no longer act as barriers to urban growth,

which allowed most of its developments to move northwards. These developments came with anew model of transport that is the motor vehicle, which is the major form of transport even to date (Aina et al., 2017)

6. RECOMMENDATIONS AND FUTURE RESEARCH

The current study offers enlightening findings on the development of Riyadh's non-oil economy for the past fifty years. The study gave the major factors that have fostered the fast milestones achieved in the country's attempt to diversify its economic activities. As a result, this paper recommends that the city's government should develop a public transport system. Almahmood et al. (2017) has posited that private entrepreneurs highly own the major mode of transport in the city; therefore, developing a public transport system will enhance revenue collection from the sector. Rahman et al. (2016) argue that this is not to state that that the country has never had plans to develop a public transport system; however, there has been a reluctance to adopt the MedStar proposal of 2012, which recommended the development of a well established public transport (Alghamdi & Cummings, 2019). The current study also proposes that the city's administration should develop new sub-urban cities that can cater to more than one million inhabitants. According to Bartsch (2015), this will reduce congestion and pollution in the city. It is recommended that future research should focus on assessing how the country has sustained its growth in the service, manufacturing, and construction sector in the last five decades.

7. CONCLUSION

The capital city of Saudi Arabia—Riyadh, had grown from a small town to a large city in the past fifty years. The rate and speed of transformation of Riyadh city have had a few parallels during the half-century developments. After the commissioning of the first city master plan in the 1960s, Riyadh has expanded to become one of the world's admired modern cities. Given that the city has endured and adopted many changing circumstances and agendas throughout the fifty years. The development of strong service industry was pioneered by the influx of local and foreign workers. Even though Saudi workers occupy almost ninety percent of the workplaces, the foreign workforce contributes enormously to the private sector. Therefore, Riyadh's city has seen its growth over the past fifty years with a core aim of embracing other economic sectors rather than dependency on oil.

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