SCIREA Journal of Traffic and Transportation

http://www.scirea.org/journal/TTE

October 12, 2020

Volume 3, Issue 1, February 2020

Empirical Study on Intercity Public Transport Efficiency in the Sultanate of Oman

Noorul Shaiful Fitri Abdul Rahman[a*], Zouhaier Slimi[b], Khalid Al-Qasmi[a], Ashwaq Al-Radni[a], Fawaz Al-Zadjali[a], Omar Al-Ghefeili[a], Obaid Al-Kaabi[a]

[a]Department of Logistics Management, International Maritime College Oman, 322 Sohar, Sultanate of Oman

[b]Foundation Department, International Maritime College Oman, 322, Sohar, Sultanate of Oman

* Corresponding author email: noorul@imco.edu.om

Abstract

Up to the end of 2019, Oman has a population of total 4,601,706 of people, based on world meters' elaboration of the latest United Nation data. However, the inefficient intercity public transport service in Oman has been raised by the local recently. Consequently, the main objective of the study is to conduct the empirical study on intercity public transport efficiency in Oman by determining the factors that affect the public transport, to analyze the impact of this issue to the public and to propose recommendation of improvement to the intercity public transport service sector in Oman to a better way. The paper used the qualitative dataset to collect information throughout a questionnaire survey as well as across statistical data on Oman population. The findings found nine main factors that influencing to intercity public transport in Oman with varies values given by the respondents. Besides, people encourage expanding public transport system services to other governorates and using additional modes of public transport, such as the railway.

Keywords: Public Transport, Transport Service Quality, Empirical Study, Transportation, Oman

Introduction

There is a rapid increase in population around the world which increases people density in different countries. Due to the rapid increase of population in some countries, the public transport system plays an essential role to facilitate people transport, reduce greenhouse emissions, and reduce congestion of private cars usage (Jan-Dirk et al. 2010). Sultanate of Oman as one the rapidly developing countries started the public transport system in 1972 under the recommendation of Sultan Qaboos (Gonzalez Jiménez et al. 2016). The major leading operator of public transport in Oman (Mwasalat), which is supported by the government, is the one responsible for public transport development (Gonzalez Jiménez et al. 2016).

However, though the significant role played by the Omani public transport operator, some factors play the role of hinders. Therefore, culture, the easy way of having a private car and the price of the fuel affect the public transport system in Oman (Juan 2016). The idea of developing a developed public transport network is a requirement as economic activities cannot take a secure market place without an excellent infrastructure and transport network (Seitz 2001). Thus, this paper investigates what can be improved and developed in Oman public transport system to maximize its efficiency and sustainability. It is known that the challenges facing any transport system looking for improvement can be transferred into development points based on the awareness of the party dealing with those issues. However, after demonstrating the challenge that prevents public transport system in Oman to be useful many considerable advents can increase the efficiency and effectiveness of the public transport system in Oman according to different studies (Juan 2016).

Belwal (2017) thinks that the regulations and political instructions control the behavior of individuals to create a sustainable system and that improving the policies of Oman government will lead to developing the infrastructure, especially the poor ones (Belwal 2017). Consequently, if the government regulates polices targeting the integration of the infrastructure like the use of the land, protection of the environment and the safety of the roads, that will help create a successful public transport system according to Belwal (2017). Many countries spend heavily on the public transport system to make them more attractive,

greener and more competitive than private cars (Supreme Council for Planning Oman, 2019). Moreover, investing high capital and budget in developing the current public transport system with the establishment of new projects will enable Oman to solve its present issues and bring adequate distinction opportunities to its public transport system (Juan 2016).

Many European countries have applied proper regulations and the liberations of infrastructure management, which led to a change in the whole economy. The development is not limited only to the transportation sector like Germany, but also it affects all levels contributing to the development of the economy (Lodge 2008). By suggesting and recommending proper policies to manage infrastructure, the research paper provides practical historical information on how the Omani infrastructure was before and how it has been changing along with history thanks to the developed regulations (Lodge 2008).

Oman needs more information regarding the stockholders of public transport to develop its services and to identify the reason behind the monopoly of the providers. Besides, Oman requires to have more details about users' requirements. In the same sense, Stark et al. (2019) stresses that the stockholders such as services providers, local authorities and users to provide a better future outlook for public transport system by understanding the need and relation among all stockholders and what each party wants from the other (Stark et al. 2019).

Successful public transport operation relies on the use of land, the design of the network and bus stations stop (Hill et al. 1996). Also, the quality of the services contributes to this success as the performance, by attracting people to use public transportation rather than others alternative. Globally public transportation provided by many agencies, such as Hampshire in the UK around 70% of public bus operated by private companies and 30% owned by local district and some agent serve workers and students with a partnership via an organization to develop the public transportation and increase the social communication (Hill et al. 1996).

Additionally, if we take as an example of how public transport is used correctly. Southampton public transportation university as an example collaborates with Bluestrart to deliver the students to several locations; Airport, Hospital, Railway and surveys them based on their experiences (Rohani et al. 2013). Thus the companies surveying passengers enable the service provider to develop its performance and quality (Rohani et al. 2013). Remarkably, involving such kind of services in Oman in surveying passengers would help the service provider to better the quality of services and increase economic benefits.

It sounds that the inefficiency of public transport service in Oman is the main issue that has been actively debated among the local people as well as expatriates. Especially the frequency of the public transport services, the schedule, the route service and so on. Accordingly, the objectives of this paper are to determine the factors that affect the public transport system efficiency in the Sultanate of Oman, to analyze the impact of this issue to the public and to propose recommendation of improving the public transport service efficiency.

Literature Review

Overview of Population in Sultanate of Oman

The population in Al-Batinah North is approximately 770,541.00 people, while in Al-Batinah South is 425,707 people (Table 1) (Worldometer 2020). The concentration on the regions mentioned is much less than Muscat. However, both areas have a high population with a high number of citizens and residents, which requires efficient public transport (Mwasalat 2019). For this reason, the efficiency of transportation in Muscat is a useful example to decorate the public transportation situation that other places need to be embodying. A differentiation between the existing public transport elements of cities such as in Muscat and the existing elements of public transport in other cities shows that privatization can support in creating a better division of public transport among regions and with better quality (Oman Observer 2020a).

Like many cities on the coastal, and inland areas, the population in the coastal areas are more than the inland areas. Indeed, Figure 1 demonstrates how coastal areas are overpopulated compared to inland areas in Oman which approximately Sohar and Suwaiq are the most populated coastal areas with almost 200,000 and 150,000 people correspondingly. However, the highly inland populated areas are Rustaq, and Wadi Al- Maawil with a population of almost 11,000 and 50,000 correspondingly. Therefore, as shown in Figure 1, the population in Sohar almost doubles the one in Ruastaq. However, Suwiq population almost triples the one at Wadi Al Maawil. Thus, a close study should take place to re-plan public transportation based on the population need per area (Oman Observer 2020b).

TABLE 1. Population in Sultanate of Oman

Governorate	Number of Population citizens	Number of Population residents /arrivals	Total
Muscat	543,930	910,588	1,454,518
Dhofar	217,146	236,237	453,383
Musandam	29,288	15,569	44,857
Al-Buraimi	56,445	59,097	115,542
Ad Dakhiliyah	353,906	118,605	472,511
Al-Batinah North	504,795	265,746	770,541
Al-Batinah South	307,447	118,260	425,707
Al-Sharqiyah South	207,703	108,529	316,232
Al-Sharqiyah North	178,215	102,219	280,434
Al-Dahira	155,801	64,576	220,377
Al-Wusta	24,560	23,044	47,604
Total number of population			4,601,706

Source: Worldometer (2020)

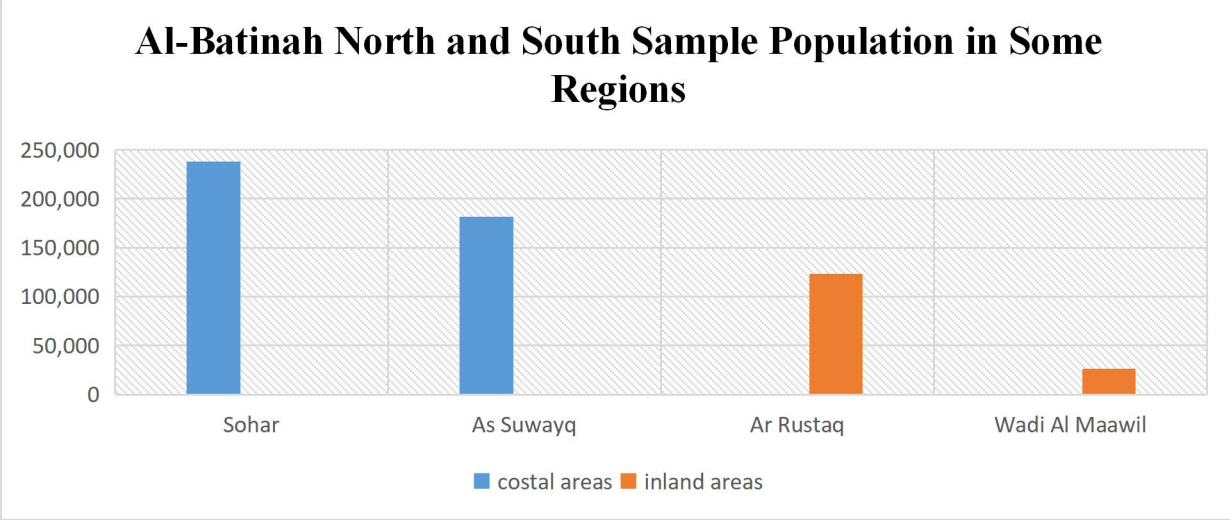

FIGURE 1. Al-Batinah Population

The coastal regions are the homeland to a significant and growing amount of the Omani population, approximately more than 1 million people who live on the coastline. Therefore, the highly populated coastal region makes economic advantages, including improving the transportation link (Ministry of Transport and Communications of Oman 2020). Consequently, currently, there is infrastructure maintenance of roads and streets to secure connectivity between coastal regions and inland regions. For example, using the expressway from inland places, and it has road connectivity to enter coastal regions. There is more than one way from coastal regions to inland from Barka, Rustaq, Musannah, Suwayq, Al-Khabura, Saham, Shinas, Liwa all these networks connect all regions to the capital city Muscat (Ministry of Transport and Communications of Oman 2020).

Al Batinah North is a vast and populated area, particularly the Sohar region, which has about 237,632 people that combining 121,634 citizens and 115,998 residents (Worldometer 2020). Public transport in Sohar has only two routes, the first route is from Sohar port to Sohar royal hospital, and the second route is from Sallan to Al Suwaihrah Roundabout (Oman Observer 2020a). There are six buses which are under services from Sohar port to Sohar royal hospital, and three buses are under services from the Sallan place to Al Suwaihrah Roundabout. Moreover, Sohar has relatively inefficient public transportation which is affecting the foreign resident people who go to workplaces and other areas, because most of them are not using own cars which impacts them negatively while moving to and back from work as private buses and taxis are so expensive (Alsi 2020). Moreover, Industrial areas are essential areas due to industrial activities and the high need for public transport to enter such places, especially for expats without private cars mainly when it comes to entering Sohar Freezone and Sohar Port.

Additionally, Al-Suwayq region has about 181,448 of people which consists of 124,659 of citizens and residents 56,789, which makes it also a vastly populated region. The requires the need for public transport for this region too, especially after the establishment of the port. It is expected that the area will have an increase in the number of people due to the massive investment in the marine sector. However, the poor quality of public transportation still needs to be adequately addressed if the government is willing to make her its investment fruitful (Ministry of National Economy 2019).

On the other hand, Dhofar, especially in Salalah, has a high number of population which is about 368,159 people which consists of 143,085 of citizen and 225,074 of expats and tourists. This considerable population faces a lack of public transportation (Table 2) (Ministry of

National Economy 2019). Salalah has an excellent infrastructure; however, when it comes to transportation, people are facing problem to connect them self with the entire region due to the lack of public transportation. Public transport in Salalah has two routes, the first route from Salalah airport to Salalah port and the second route from City Center-Salalah West to Salalah Airport (Ministry of National Economy 2019).

Indeed, providing a high customer service level in public transport, a sustainable transport system with integration could be a challenge to be implemented for many reasons (UITP 2016). The public transport system suffers for some reasons that are related to the culture and people's traditions, such as being conservative and using private cars (UITP 2016). People tend to use their private cars in Oman for factors that are related to the privacy of transporting the family, traditions and people's ethics, and the wellness of Omani people to drive (Belwal 2017).

TABLE 2. Population Statistics in Dhofar Governorate

Governorate	States	Number of Population citizens	Number of Population residents /arrivals	Total
Dhofar	Salalah	143,085	225,074	368,159
	Taqah	20,567	884	21,411
	Mirbat	15,166	1,774	16,940
	Rakhyut	5,083	98	5,181
	Thumrayt	10,076	6,951	17,027
	Dalkut	3,043	72	3,043
	Al Mazyunah	9,264	311	9,575
	Muqshin	847	74	921
	Shalim wa juzor Al Hallaniyat	3,995	929	4,924
	Sadah	6,020	110	6,130

Source: Ministry of National Economy (2019)

Beirao and Cabral (2007) found that after conducting 24 interviews that the public transport level of service can be a factor for people to use their private cars instead of using public transport. They added that if the service level is high, the public usage transport will increase.

However, people have different thoughts of public transport service quality due to the variation of service quality provided in each city (Cascajo et al. 2019). For example, the level of public transport service in Al-Batinah is not as efficient as Muscat, which makes people have a different opinion about public transport from one city to another. Another factor is that Some people consider comfort as an essential reason that determines either to use Public transport or not (Ramos et al. 2019). Therefore, some of them use their private cars to be more comfortable and to be independent (Belwal 2017).

TABLE 3. Population Statistics Ad Dakhliah Governorate

Governorate	States	Number of Population citizens	Number of Population residents /arrivals	Total
Ad Dakhliah	Nizwa	86,031	41,149	127,180
	Bahla	68,909	20,934	89,843
	Manah	16,834	5,485	22,319
	Al Hmra	23,832	2,887	26,719
	Adam	19,056	9,626	28,682
	Izki	47,604	12,918	60,522
	Smail	63,312	18,648	81,960
	Bidbid	28,328	6,958	35,286

Source: Ministry of National Economy (2019)

Ad Dakhliah is one of the governorates of Oman with Nizwa town that has a population of 472,511 people, which consist of 353,906 citizens and 118,605 of residents (Table 3). It consists of many provinces, but transportation focuses only on the area of Nizwa. This city is considered as the regional center, and it is the largest city, located on the outskirt of the green mountain. However, due to the lack of public transport, most people do not know the other places of Ad Dakhliah because it is difficult and expensive to use their car or private transport to navigate the place. However, Al-Buraimi is a different case, and it is a small city but with a significant number of population that consists of 115,542 people, 56,445 citizens and 59,097 residences. In this region, everyone prefers to use his car to move around as the geography is easy to access compared to the mountainous areas of Ad Dakhliah. Using private cars caused traffic conjugation, which urged around 50 % of them use public transportation nowadays.

Factors

The major factors impacting Omani public transport services are summed as service frequency problem, punctuality problem, accessibility, traffic congestion, network service issue, availability problem, flexibility, monopoly as well as cultural issues. Also, Belwal (2017) said that some factors that create the challenge of using Omani people their private cars in Oman which are related to comfort, privacy, independence, flexibility, efficiency, accessibility, and traditions. Based on what Belwal (2017) found in some factors, it shows a weak public transport system in Oman, which has a lack of effectiveness and efficiency. Besides, Public transport in Oman has a lack of service frequency and availability due to the concertation in the capital city only. Mwasalat public transport in Oman provides 17 intercity routes and 18 city routes in Muscat, Salalah, and Sohar (Mwasalat 2019). The fleet consists of 500 different types of buses, and it is small compared to the number of residents (Mwasalat 2019). The poor public transport network is one of the factors that force people to use their private cars in order to have better accessibility to multiple areas (Ramos et al. 2019). Besides, Belwal (2017) says that "People believe that personal cars provide them more flexibility".

In addition, the traffic congestion during the peak period when people go to work or return causes inefficiency in reaching stop points at the right time, and it takes a long time (Ramos et al. 2019). For instance, due to the high population in the capital city Muscat, the traffic peak time is generally from 7:00 AM to 9:00 AM and from 2:00 PM to 4:00 PM. Also, Public transport punctuality is a reason for people avoiding the use of public transport because of the inefficiency in Bus scheduling (Ramos et al. 2019). One of the respondents of interviews that were done by Ramos et al. (2019) described that "sometimes I would rather use my private transport because I cannot always be sure of the schedules."

Methodology

The methodology used for this empirical paper is objectivism as the data collected is based on the experiences, feelings, perception and observation. Objectivism as knowledge about the topic chosen exists already and needs only discovery through research (Fuza 2017). Objectivism entails that ontologically speaking objectivism embraces realism which considers social entities as physical entities of the natural world as they exist independently (Saunders et al. 2009). For instance, as the paper seeks to investigate the opinions, feelings, experiences and daily observation, a mixed-method is used as the realistic approach to

studying the phenomena (Rahman 2016). The advantages of using a mixed-method are that it seeks to produce in-depth and robust information to grasp the various dimensions of the issues raised (Ratner 2002).

Therefore, this paper is concerned with the aspects of reality that cannot be quantified, and it is an attempt to explain the dynamics of the social grasp of the phenomena studied (Ratner 2002). Maxwell (2016) argues that qualitative research orbits around a world of motives, aspirations, beliefs, attitudes, values and meanings which stand for a deeper universe of relationships that cannot be reduced to an operational variable (Maxwell 2016). On the other side, qualitative research data can be quantified as the samples are generally large and represent the entire population in Oman (Scribbr 2020). The approach used is inductive, the researchers collected data relevant to the topic studied then steeped back using a bird's view on the whole data collected. Then divided the data into patterns and worked out the theory explaining the patterns. Thus based on a set of observations, the movement from the particular to the general took place along this paper (Scribbr 2020).

Figure 2 shows the conceptual framework of this study. It begins with identifying the factors that influencing to the Intercity Public Transport Efficiency in Oman. Furthermore, the feedback from the public will be analyzed in order to investigate how the issue is impacting the public in the real scenario. Finally, this study will propose a solution that will be benefitted to all linking back to the raised issue. Data collection was through secondary data as well as survey and interviews. The secondary is used to enhance the sampling size and to speed up the efficiency by using already existing data and sources. The secondary data collected is collected by the Omani government public services such as the ministry of transportation, and Omani censuses (Margaret and Matthew 2017).

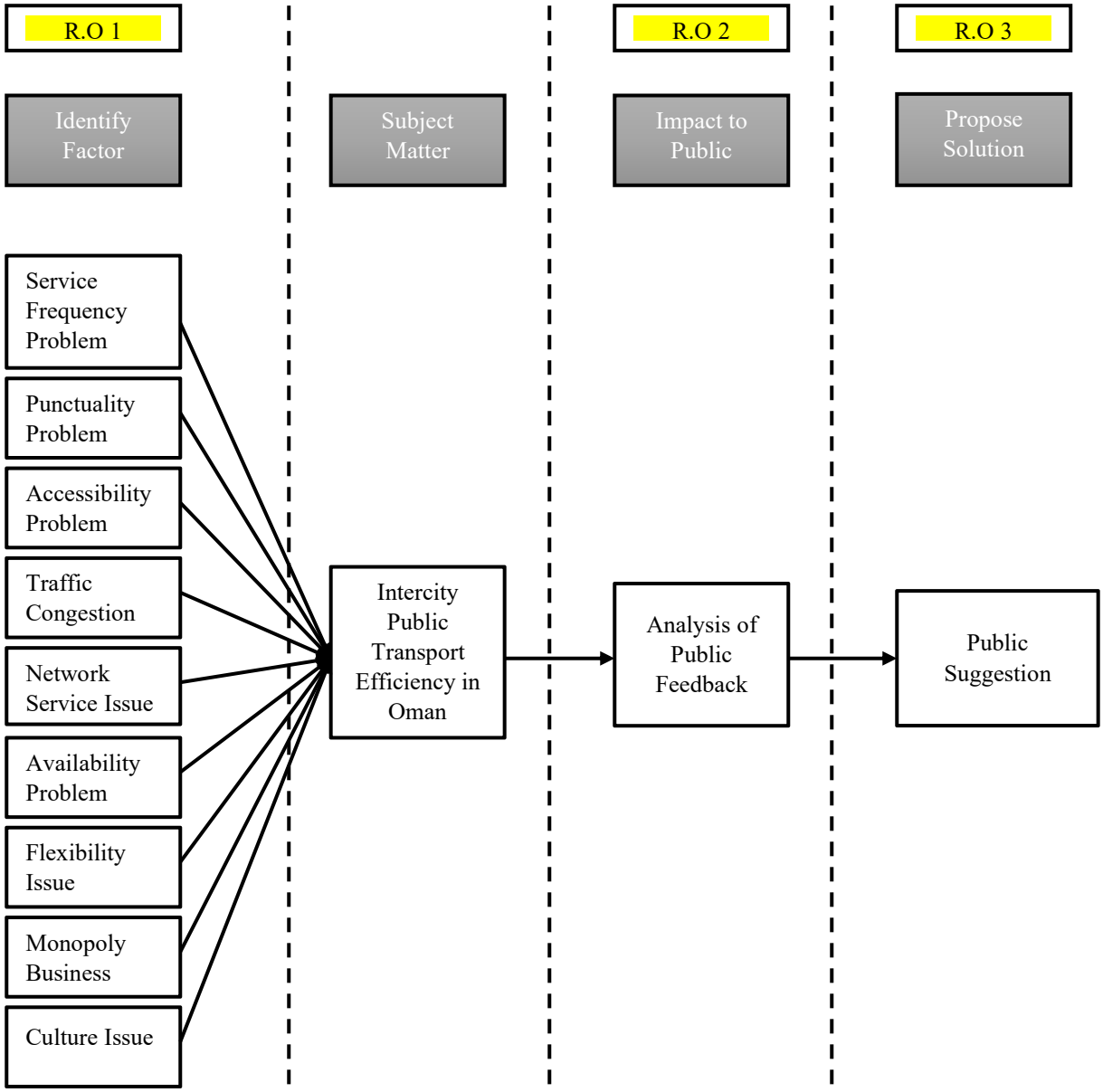

FIGURE 2. Research conceptual framework

Findings

The findings of the survey concerning the intercity public transport efficiency in Oman are divided into two significant parts. The first part is about the factors influencing the intercity public transport efficiency in Oman and the second part is about the possible solutions for these factors. Though the survey targeted a large population, the responses are limited to a population of 59 in total, and the results are the following:

Factors impacting intercity public transport efficiency in Oman

The feedback survey is summarized in Table 4 for all nine questions. The first factor investigated is whether the intercity public transport in Oman suffers from service frequency problem. The results reveal that 37 agree, 19 are neutral, and only 3 disagree with the statement. Factor one reveals that 63% of the participants agree that intercity public transport in Oman suffers from service frequency problem followed by 32% who are neutral and only 5% who think differently that there are no frequency issues that the intercity public transport in Oman faces.

The second factor studied is if the intercity public transport in Oman suffers from punctuality problems. The findings reveal that a significant majority rating 29 of 59 agree, followed by a rate of 27 out of 59 who are neutral, and only 7 out of 59 disagree that public transport in Oman suffers from punctuality issues. Regarding the fact if intercity public transport in Oman suffers from punctuality problems, it is evident that 51% agree that there are issues and 35% are neutral whereas, only 14% disagree with the idea that there are punctuality issues.

The third-factor studies if the intercity public transport in Oman faces accessibility problem. The results show that 27 participants out of 59 are neutral, followed by 25 out 59 who agree, and only 7 out of 59 think that there are no accessibility issues. Investigating the fact if intercity public transport in Oman suffers from accessibility problems, results reveal that 46% are neutral, and 42% agree that there are accessibility problems and only 12% think there are no issues related to accessibility.

TABLE 4. Survey feedback concerning the intercity public transport efficiency in Oman

No.	Question	Feedback from Respondents (in percentage)		
		Agree	Neutral	Disagree
1.	The intercity public transport in Oman suffers from **service frequency problem**	**63**	32	5
2.	The intercity public transport in Oman suffers from **punctuality problem**	**51**	35	14
3.	The intercity public transport in Oman faces **accessibility problem**	**46**	42	12

No.	Question	Feedback from Respondents (in percentage)		
		Agree	Neutral	Disagree
4.	The intercity public transport in Oman faces **traffic congestion**	**44**	29	27
5.	The intercity public transport in Oman faces **route/network service issue**	**44**	37	19
6.	The intercity public transport in Oman and **problems availability**	**44**	**44**	12
7.	The intercity public transport in Oman suffers from **flexibility issue**	34	**53**	13
8.	The intercity public transport in Oman faces **monopoly business issue**	32	**46**	22
9.	The intercity public transport in Oman suffers from the **cultural issue**	**41**	37	22

Concerning the fourth factor that investigates if the intercity public transport in Oman faces traffic congestion, the results are as follow: 26 of 59 are neutral, followed by 17 out of 59 who agree with the fact that intercity pubic transport in Oman faces traffic congestion, and only 16 of 59 think that there are no traffic congestion issues. Studying if the intercity public transport in Oman faces traffic congestion, findings reveal that 44% says yes compared to 29% who think neutral and 27% see that there are no issues related to congestion.

The fifth factor studied is if the intercity public transport in Oman faces route/network service issue, and the responses are as follow: 26 participants agree with the statement, while 22 are neutral as compared to 11 who think oppositely that Oman public transport does not face any issue related to the route and network services. Regarding the fact if intercity public transport in Oman faces route/network service issues, results show that 42% are neutral and 39% think yes as compared to 19% who think no.

The sixth factor is about the intercity public transport in Oman and problems availability. The results reveal that a reasonable majority 26 out of 59 agree with the fact that Oman public

transport suffers from availability problems while 26 are neutral and only 7 disagree that public transport suffers from availability issues. Concerning if the intercity public transport in Oman faces availability problems, the survey results reveal that 44% agree as equally as 44% who are neutral and only 12% who oppositely think that there are no availability issues in public transport.

The seventh factor investigated is regarding this point intercity public transport in Oman suffers from flexibility issue. The findings reveal that the highest majority 31 are neutral, and the second-high majority 20 out of 59 agree with the statement. However, only 7 participants hold a different view that there are no flexibility issues in Omani public transport. Studying if the intercity public transport in Oman suffers from flexibility issues, 53% are neutral, while 34% think yes there are flexibility issues and only 13% who oppose the idea as they think there are no issues of flexibility.

The eighth factor investigated is if the intercity public transport in Oman faces monopoly business issue and the findings are as follow: the first highest majority representing 27 out of 59 are neutral, followed by 19 out 59 who think Omani public transport faces monopoly business issues in contrast with a minority representing 13 out of 59 who think there are no issues linked to monopoly. Concerning the idea, if intercity public transport in Oman faces monopoly business issues, findings reveal that 46% are neutral compared to 32% who think that monopoly business issues are facing Omani public transport. However, 22% of participants think that there no issues related to business monopoly.

The ninth factor is about the intercity public transport in Oman suffers from the cultural issue between men and women and the findings reveal that the highest majority representing 24 out of 59 think yes, followed by a 22 who are neutral while 13 participants think no cultural issues are impacting public transport. As far as if gender cultural issues are impacting the intercity public transport in Oman, findings reveal that 41% agree that there are cultural issues linked to gender impacting public transport, while 37% are neutral regarding this factor and 22% think that there are no issues linked to culture and gender impacting the public transport.

In a nutshell, it is remarkable throughout this survey that the number of neutral participants is also high because this phenomenon can be interpreted based on the following factors: the first factor is financial and cultural impacts as the majority of Omani are using private cars due to their excellent financial status. Besides, due to cultural reasons, as Omani are conservative,

females do not use public transport, and their families either provide private cars, carpooling or minibuses when it comes to schools/universities as well as for other business/personal purposes.

Furthermore, those who are using public transport usually are expatriates who are belonging to the lower-income society or a minority of those who do not have driving licenses. Finally, the weather condition is also one of the essential factors that are no really encouraging the public to use the public transport, especially during the summer season due to the high temperature between 40 degrees Celsius and 50 degrees Celsius.

Recommendation

Additionally, open-ended questions have been distributed to the respondents concerning the other possible factors influencing intercity public transport efficiency; then respondents raised the issue of cost, inefficiency, timing, network, and the quality of service. Furthermore, regarding the impacts of public transport in Oman, findings show that the majority of answers are either I do not know, there is no remarkable impact, added congestions and the minimal number of the vehicle used.

Finally, concerning the recommended solutions for the intercity public transport efficiency in Oman, the findings revealed several points of view as follow: participants suggested the increase of the number of intercity public transport, better punctuality, better network, to involve more companies in this service, efficiency, minimize time and cost as well as introduce train services, to involve civil airports, as well as to increase the number of trips. Moreover, participants suggested to introduce trips between cities and increase them, then asked to introduce technology to the public transport service to make a better plan and find useful strategies for improvement.

Conclusion

This study investigated the significant issues facing the intercity public transport in Oman by studying the factors, impacts and suggesting possible solutions for these issues based on a survey as well as data collected from previous research. The findings revealed that Oman intercity public transport faces issues of monopoly, quality of services, limited network among cities, punctuality and timing as well as cultural issues related to society and gender.

Additionally, the findings were impacted by the overuse of private cars by Omani citizens, and the climate features as the temperature is high through the year, which requires the use of private means of transport. Likewise, the facilitates provided by the government when it comes to taking loans to buy cars. The study targeted three objectives which are to conduct the empirical study on intercity public transport efficiency in Oman by determining the effect factors, analyzing the impact on public transpiration and suggesting a possible solution.

This study contributes to providing data about the Omani intercity public transport efficiency and highlighted the factors that impacting this issue, and it also suggests a possible solution to develop the intercity public transportation in Oman. It is recommended that future studies should put more investigate more the population using public transport in Oman and study the possibility of extending the network of transportation to involve educational institutions and other public facilities and services. Besides, it is recommended that future study should investigate monopoly, cultural and economic factors impacting the use of public transport in Oman.

Acknowledgement

The most profound appreciation is to all those who provided the possibility to complete this paper mainly to our dear team from the Department of Logistics Management, International Maritime College Oman, Sultanate of Oman.

References

[1] Alsi. 2020. Logistics and Transportation Industry in Oman - Challenges. Retrieved January 14, 2020, from https://www.alsioman.com/logistics-transportation-challenges/

[2] Beira, G. and Cabral, J.A.S. 2007. “Understanding Attitudes Towards Public Transport and Private Car: A Qualitative Study” Transport Policy 14: 478–489

[3] Belwal, R. 2017. "Public Transportation In Oman: A Strategic Analysis." Advances in Transportation Studies 42 (3): 99-116.

[4] Cascajo, R., Lopez, E., Herrero, F., and Monzon, A. 2019. "User Perception of Transfers in Multimodal Urban Trips: A Qualitative Study." International Journal of Sustainable Transportation 13 (6), 393–406.

[5] Fuza, A. F. 2017. "Objectivism/Subjectivism in Scientific Articles From Different Fields: the Heterogeneity of Academic Writing." Alfa: Revista de Linguistica VO 61 (3): 629.

[6] Gonzalez Jiménez, J., Hitado Hernández, E., and Sanz Pecharromán, C. 2016. Planning the Public Transport System in Muscat (Oman). https://doi.org/10.4995/cit2016.2016.3457

[7] Hill, R. J., Brillante, S., and Leonard, P. J. 1996. Transactions on the Built Environment vol 18 © 1996 WIT Press, www.witpress.com, ISSN 1743-3509, 18.

[8] Juan, G. (2016). Oman hops on the bus | ITRANSPORTE. Retrieved March 14, 2020, from https://www.revistaitransporte.com/oman-hops-on-the-bus/

[9] Jan-Dirk, S., Michael, G. H. B., and William, H. K. L. 2010. "Importance of Public Transport", Journal of Advanced Transportation 38 (I): 1-4.

[10] Lodge, M. 2008. "Regulation, the regulatory state and European politics". West European Politics 31 (1–2): 280–301.

[11] Margaret, R., and Matthew, H. 2017. What is secondary data? - Definition from WhatIs.com. Retrieved January 13, 2020, from https://whatis.techtarget.com/definition/secondary-data

[12] Maxwell, J. A. 2016. Qualitative Research Design : An Interactive Approach. In Applied Research Design : 214–250.

[13] Ministry of National Economy. 2019. Oman Population 2020 (Demographics, Maps, Graphs). Retrieved January 14, 2020, from http://worldpopulationreview.com/countries/oman-population/

[14] Ministry of Transport and Communications of Oman. 2020. Al Batinah Expressway Oman. Retrieved January 9, 2020, from https://www.roadtraffic-technology.com/projects/al-batinah-expressway/

[15] Mwasalat 2019. All routes running on daily service. Retrieved January 9, 2020, from https://mwasalat.om/en-us/Services/City

[16] Oman Observer. 2020a. Mwasalat Announces Routes for Public Transport in Suhar, Salalah. Retrieved January 14, 2020, from https://www.omanobserver.om/mwasalat-to-launch-city-services-in-suhar-salalah-on-december-28/

[17] Oman Observer. 2020b. Oman Mulls Privatisation of Public Transport Services. Retrieved January 14, 2020, from https://www.omanobserver.om/oman-plans-privatization-of-public-transport/

[18] Rahman, M. S. 2016. "The Advantages and Disadvantages of Using Qualitative and Quantitative Approaches and Methods in Language “Testing and Assessment” Research: A Literature Review." Journal of Education and Learning 6 (1): 102

[19] Ramos, S., Vicente, P., Passos, A. M., Costa, P., and Reis, E. 2019. "Perceptions of the Public Transport Service as a Barrier to The Adoption of Public Transport: A Qualitative Study." Social Sciences 8 (5): 1-16.

[20] Ratner, C. 2002. "Subjectivity and Objectivity in Qualitative Methodology." Forum Qualitative Sozialforschung 3 (3): 1-8.

[21] Rohani, M. M., Wijeyesekera, D. C., and Karim, A. T. A. 2013. "Bus Operation, Quality Service and the Role of Bus Provider and Driver." Procedia Engineering 53: 167–178.

[22] Saunders, M., Lewis, P. and Thornhill, A. 2009. "Understanding Research Philosophies and Approaches." Research Methods for Business Students 4: 106-135.

[23] Seitz, H. 2001. "Infrastructure Investment and Economic Activity: Theoretical Issues and International Evidence." In Investing Today for the World of Tomorrow (pp. 85–124). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-56601-1_8

[24] Scribbr. (2020). Qualitative vs Quantitative Research | Differences & Methods. Retrieved March 14, 2020, from https://www.scribbr.com/methodology/qualitative-quantitative-research/

[25] Stark, K., Gade, K., and Heinrichs, D. 2019. "What Does the Future of Automated Driving Mean for Public Transportation?." Transportation Research Record: Journal of the Transportation Research Board 2673 (2): 85–93.

[26] Supreme Council for Planning Oman. 2019. National Transport Survey. Retrieved January 9, 2020, from https://www.scp.gov.om/en/Page.aspx?I=39

[27] UITP. 2016. In Dakar, the transport sector’s formalisation began with the renewal of rolling stock | UITP. Retrieved January 9, 2020, from http://www.uitp.org/news/dakar-transport-formalisation

[28] Worldometer. 2020. Oman Population (2020) - Worldometer. Retrieved January 13, 2020, from https://www.worldometers.info/world-population/oman-population/