

A Geographical Study on the Distribution of Retail Service Business in Chanayethazan Township

Phyu Zin Ei*, Aye San Win**, Moe Myat Thu***, Nwe Ni Win****

Abstract

This research paper focuses on the spatial distribution of retail service business in Chanayethazan Township. The Township consists of 20 wards and covers a total area of 13.7 square kilometers. It is situated between 26th and 35th Streets from north to south and between 52nd and 92nd Streets from east to west. It is also included the Central Business District (CBD) in the Mandalay City because Zegyo Business Complex Center is situated in the downtown area of the township. In this township, it has 357 of the total number in the retail service business with the ten items. The main aim of this research is to study the distribution of retail service business by wards in the township. Therefore, the spatial distribution levels of these retail service businesses are analysed from the geographical point of view by using the Location Quotient (L.Q) method. The result indicates that the retail service businesses are distributed by the customer desire or population density and market location.

Keywords: retail service business, distribution level, Location Quotient (L.Q), customer desire, market location

Introduction

The title of this research paper is “A Geographical Study on the Distribution of Retail Service Businesses in Chanayethazan Township”. Retail service businesses are businesses that sell intangible value directly to consumers or customers, (<https://simplicable.com/en/retail>). The intangible services like retail banking, private health care, private education, hotel services, spa treatment, salons, etc. are included in the retail service businesses. Chanayethazan Township plays a vital role in the economic activities of Mandalay City. Moreover, it is the one township that it is mostly found the retail shops and retail service businesses in the Mandalay City. Especially, retail service businesses are mostly concentrated in the surrounding area of the central business center. In fact, the retail service businesses stand as the important one in Myanmar’s economic sector because of supporting the GDP (Gross Domestic Product) index. This research paper is studied on the spatial distribution of service businesses depended on their functions. This study is also carried out in relation to the number of shops and the market location and customer desire.

* Lecturer, Department of Geography, Yadanabon University

** Tutor, Department of Geography, Yadanabon University

*** Tutor, Department of Geography, Yadanabon University

**** Tutor, Department of Geography, Yadanabon University

Study Area

The study area, Chanayethazan Township is located in the MahaAungmye District, Mandalay Region. The Township consists of 20 wards and covers a total area of 13.7square kilometers. It is situated between 26th and 35th Streets from north to south and between 52nd and 92nd Streets from east to west. It has the Zegyo Complex Business Center ((which includes Zegyo Taiktangyi, high ranked Zegyo, Shwegantgaw, Myanmar Plaza, and Zegyo Zapping).It is also the downtown area of the Mandalay City, shown in Figure 1 and 2.

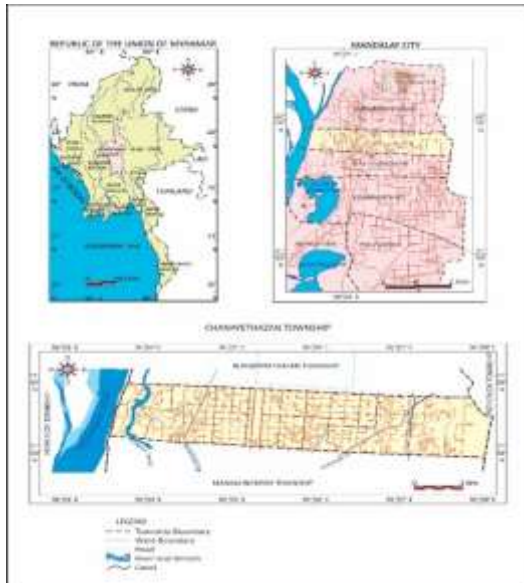


Figure-1 Location of Chanayethazan Township

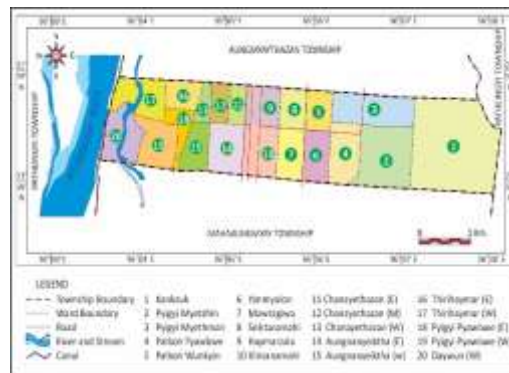


Figure-2 Distribution of Wards in Chanayethazan Township

Human Bases of Chanayethazan Township

Population and population growth drive economic growth of a region by increasing the demand for products, services, and community amenities. *These may be very close relation to distribution* of retail shops. It may also raise the purchasing power along with the increasing population. Since the Chanayethazan Township lies in the central portion of Mandalay City, the population size appears to be larger than other townships of the city. In 2023, the total population was 149,710 persons in Chanayethazan Township. In the study area, people and houses are mostly distributed along the main roads and streets, depending upon accessibility to roads, markets, and business centers. Population distribution differs from one ward to another. Among the 20 wards, the largest population was in Thirihaymar (West) with 15,391 persons, the second largest in Dewun (West) with 14,244 persons, and the smallest in Chanayethazan (West) with 1,011 persons in 2023.

The population density of the study area was 10,205 persons per square kilometer in 2023. The population is found densely in the central portion of the study area, particularly in the area between 26th and 30th Streets, and between 71st and 73rd Streets. Overall, the wards in the western

portion of the study area have high densities than that of the eastern portion in the population density. In Thirihaymar (West) Ward, there are Fish Wholesale Market, Flower Wholesale Market, Strand Road Market, and Mayangyan Jetty. Then, it is easily accessible to Zegyo Market. That is why, Thirihaymar (West) Ward has the highest population density in the study area.

Retail Service Business

According to the human factors, the retail service businesses are distributed depending upon the population density and distribution, and market location in the Chanayethazan Township. Moreover, this retail services are also spatially concentrated by their function or characteristic. The study area has the total number of 357 retail service businesses with ten items. Because the Chanayethazan Township has the urban commercial characteristic, retail service businesses mostly found in this study area. Moreover, these retail service businesses can be identified the two groups according to their qualities and unique value of services: high level services and low level services.

The high level services are included service businesses such as Specialist Clinic & Hospital, Private School & International School, Mobile Phone & Computer Services, Hotel Services, and Banking Services. Beauty Saloon & Spa, Motor Vehicle Services, Vinly, Sticker & Sign-board, Pawn Service, and Airline & Bus Ticket Services are the low level services.

Research Question

Retail service activity is one of the services relating to the distribution of population and market location. Therefore, it is wanted to know whether its geographic distribution pattern depends mainly upon (1) number of consumers or population density and (2) on accessibilities of market location and traffic condition.

Aim and Objectives

The main aim is to do a spatial analysis on distribution of retail service businesses in the Chanayethazan Township.

Major objectives are:

- (1) to identify the types of retail service business,
- (2) to analyse the existing distribution situation of retail service businesses,
- (3) to assess the relationship between retail service locations and population density
- (4) to evaluate the accessibility of market location and traffic conditions influencing on the distribution of retail services.

Data and Method

This research has been done by using primary data and secondary data. Departmental Data on retail service businesses are collected basically from the Mandalay City Development Committee

and then in detail by field observation. Population data of the wards are taken from the respective Immigration and Population Department of Chanayethazan Township. Then, the collected data are processed and transformed into necessary forms. Based on the processed data, the spatial analysis on distribution of retail service businesses has been carried out by means of the Location quotient (L.Q) method. This method is supported to the distribution level of retail service business by ward in the Chanayethazan Township.

Discussion and Results

The study area, Chanayethazan Township is located in the MahaAungmye District, Mandalay Region. The Township consists of 20 wards and covers a total area of 13.7 square kilometers. It is also included the Central Business Center like Zegyo Business Complex Center in the Mandalay City. Mandalay City has the urban commercial characteristic like Yangon City because the retail shops and services are mostly concentrated in the downtown areas of the city. The Chanayethazan Township also plays a crucial role in the economic activities of Mandalay City because it is the downtown area or the Central Business District of that city.

A retail service business provides services directly to consumers for personal use. While business that sell physical products are referred to as merchandise retailers, those offering services are classified as service retailers, (<https://www.genieai.com>). Chanayethazan Township as a whole has a total number of 357 in retail service business. And the Chanayethazan Township has 2029 retail shops in total with the retail service business. Therefore, the percentage of retail service business is 17.59 % of the total number of retail shops in the study area. Retail service business like Specialist Clinic & Hospital, Private School & International School, Mobile Phone & Computer Services, Hotel Services, Banking Services, Beauty Saloon & Spa, Motor Vehicle Services, Vinly, Sticker & Sign-board, Pawn Service, and Airline & Bus Ticket Services are mostly found in this study area.

As regards the spatial distribution of retail service businesses by items, Chanayethazan Township as a whole has a total number of 357 service businesses. These retail service businesses can be identified into the high level services and low level services depending on their quality and unique value of services. In the study area, Haymazala Ward has the highest number in the high level services such as Specialist Clinic & Hospital with the 11 service businesses, accounting for 3.08 %, Banking Services with the 6 service businesses, accounting for 1.68 % and Hotel Services with 14 service businesses, accounting for 3.9% of the total service business. Especially, specialist Clinics such as the Ophthalmology Clinics, Dermatology Aesthetic Clinics, and Dental and Oral Surgery Clinics are mostly found in this ward. The second largest number of service business are found in Kinsanamahi Ward and Seittaramahi Ward both with 8 service businesses in Specialist Clinic & Hospital, accounting for 2.24%, Banking Services with 5 service businesses in Kinsanamahi Ward and 3 service businesses in

Seittaramahi Ward, accounting for 1.40% and 0.84% and Hotel Services with 10 service businesses in Kinsanamahi Ward and 5 service businesses in Seittaramahi Ward, accounting for 2.80% and 1.40% of the total service business respectively. In fact, because these wards are centrally located within the township and are also near the Central Business Area, the high level services are mostly concentrated. Especially, Banking Services and Hotel Services are mostly found in these wards.

Table 1. Items of Retail Service Businesses by ward in Chanayethazan Township 2024

Sr no.	Wards	Items of Retail Service Business										Total
		Specialist Clinic & Hospital	Private School & International	Mobile Phone & Computer	Hotel Services	Banking Services	Beauty Saloon & Spa	Motor Vehicle Services	Vinly, Sticker & Sign-board	Pawn Service	Airline & Bus Ticket Services	
1	Kankauk	7	12	1	7	0	13	3	2	1	1	47
2	Pyigy Myetshin	4	2	1	2	0	4	2	2	1	1	19
3	Pyigy Myetshman	0	0	1	2	0	1	0	0	0	0	4
4	Patkonpyawbwe	3	2	2	1	1	2	2	1	1	1	16
5	Patkonwunkyin	6	3	4	5	3	7	0	0	0	0	26
6	Yanmyolon	2	2	3	4	2	6	2	0	1	0	22
7	Mawragiwa	4	1	3	3	1	4	1	1	1	1	20
8	Seittaramahi	8	2	1	5	3	6	2	0	0	4	31
9	Haymazala	11	2	2	14	6	7	2	0	0	4	45
10	Kinsanamahi	8	2	1	10	5	6	0	0	2	2	36
11	Chanayethazan (East)	2	0	1	3	3	3	0	1	0	1	14
12	Chanayethazan (Middle)	3	0	0	3	2	3	0	3	0	2	16
13	Chanayethazan (West)	0	0	0	2	4	1	0	0	1	0	8
14	Aungnanyektha (East)	2	2	1	4	4	4	2	5	1	3	28
15	Aungnanyektha (West)	1	1	1	2	1	1	0	1	0	0	8
16	Thirihaymar (East)	0	0	0	0	0	0	0	0	0	0	0
17	Thirihaymar (West)	0	0	1	0	0	1	0	0	0	0	2
18	Pyigyipyawbwe (East)	1	0	1	1	0	3	0	0	1	0	7
19	Pyigyipyawbwe (West)	0	0	0	1	1	2	0	0	0	0	4
20	Dewun (West)	0	0	0	3	0	1	0	0	0	0	4
Total		62	31	24	72	36	75	16	16	10	19	357

Source: Field Survey (August to September, 2024)

On the other hand, Kankauk ward is also found the high level services such as Specialist Clinic & Hospital, Private School & International School, and Hotel Services, except Banking Services. Especially, Private School & International School service business are the numerous number because it has a larger land area and lower land prices, making it an attractive location for Retail service businesses, but it lies outer the downtown area. Next Thirihaymar (East) ward does not has any retail service business because it is situated within the Zegyo Business Center. As a result, the wholesale centers are mostly concentrated in this ward, shown in Table 1.

Regarding the low level services in the study area, Kankauk is the highest number of retail service business such as Beauty Saloon & Spa service with 13 service businesses, accounting for 1.96%, Motor Vehicle Services with 3 service business, and accounting for 0.84% of the total service business. In this ward, especially, Beauty Saloon & Spa service is mostly concentrated between 59th and 62nd Streets and between 26th and 35th Streets because the densely populated condition is usually found along these streets. And then, both Haymazala and Patkonwunkyin wards with 7 service businesses like Beauty Saloon & Spa, accounting for 1.96% of the total stand as the second largest number in retail service respectively. Moreover, Haymazala has also 2 service businesses in Motor Vehicle Service with 0.56% of the total. Next Thirihaymar (East) ward does not totally has in any retail service businesses because it is situated within the Zegyo Business Area.

To be more accurate, the retail service business concentration can be calculated by using Bhatia's Location Quotient Method the following equation:

$$\text{Location Quotient (L.Q)} = (e_1/e) / (E_1/E)$$

e_1 = the number of retail service business in each ward

e = the total number of retail service business in the township

E_1 = the total number of retail business or shops in each ward

E = the total number of retail business or shops in the township

L.Q is used to compare the concentration of particular retail service business in each ward to the concentration of the same retail businesses in the township.

In regard to the spatial distribution of retail service business by ward, the concentration level of retail service business can be categorized into three groups based on their index that is derived from calculating the statistical data by using the Location Quotient method: the high level (> 1.74), the medium level (between 0.34 -1.74) and the low level (< 0.34).

There are four high concentration wards with index value above 1.74 and index ranging from 1.84 to 2.84. These wards, namely, are Dewun (West), Patkonwunkyin, Seittaramahi and Kankauk wards. Among of these wards, Patkonwunkyin, Seittaramahi wards are generally located in the central part of the township where economic, trade and communication conditions are more favorable. Although, on the other hand, Dewun (West) and Kankauk wards are absolutely located in the outskirts

area, the retail service business such as Specialist Clinic & Hospital, Private School & International School, and Hotel Services in high level services are mostly concentrated because these wards have to support an attractive market location for Retail service business.

Table 2. Index value of retail service businesses by Wards in Chanayethazan Township 2024

Sr no.	Wards	No. of Retail Service Businesses	Total no. of Retail Shops	S	L	Index
1	Dewun (West)	4	8	0.01	0.00	2.84
2	Patkonwunkyin	28	77	0.08	0.04	2.07
3	Kankauk	47	143	0.13	0.07	1.87
4	Seittaramahi	31	96	0.09	0.05	1.84
5	Pyigyimyetshin	19	70	0.05	0.03	1.54
6	Haymazala	48	183	0.13	0.09	1.49
7	Kinsanamahi	36	178	0.10	0.09	1.15
8	Chanayethazan (West)	8	40	0.02	0.02	1.14
9	Yanmyolon	22	114	0.06	0.06	1.10
10	Patkonpyawbwe	16	95	0.04	0.05	0.96
11	Aungnanyektha (West)	8	53	0.02	0.03	0.86
12	Aungnanyektha (East)	26	241	0.07	0.12	0.61
13	Pyigyipyawbwe (East)	7	67	0.02	0.03	0.59
14	Mawragiwa	20	194	0.06	0.10	0.59
15	Pyigyipyawbwe (West)	4	39	0.01	0.02	0.58
16	Chanayethazan (Middle)	16	175	0.04	0.09	0.52
17	Chanayethazan (East)	14	162	0.04	0.08	0.49
18	Thirihaymar (West)	2	38	0.01	0.02	0.30
19	Pyigyimyetshman	1	31	0.00	0.02	0.18
20	Thirihaymar (East)	0	25	0.00	0.01	0.00
Total		357	2029	0.05	1.00	1.04

Source: Field Survey (August to September, 2024)

The medium concentration index value is between 0.34 -1.74 and there are 13 wards, namely, Pyigyimyetshin, Haymazala, Kinsanamahi, Chanayethazan (West), Yanmyolon, Patkonpyawbwe, Aungnanyektha(West), Aungnanyektha (East), Pyigyipyawbwe (East), Mawragiwa, Pyigyipyawbwe (West), Chanayethazan (East) and Chanayethazan (Middle). The concentration index value is ranging from 0.49 to 1.54 in the medium concentration level. In this level, the most of wards are usually found in the surrounding area of the central business center and have also the numerous numbers of Banking

Services and Specialist Clinic & Hospital included in the high level service. This is because the market location of this service business is a great convenience for customers.

Next the low concentration level of retail service business are found in Thirihaymar (West), Pyigyimyetshman, and Thirihaymar (East) wards. This is because Thirihaymar (West) ward is situated within the Zegyo area, and Pyigyimyetshman and Thirihaymar (East) wards are the outskirts area that have no market location, making the attractive to the retail service business, as shown in Table 3 and Figure 3.

Table 3. Retail Services Business's Concentration Index of Chanayethazan Township 2024

No.	Class or Level	Wards	Total
1	Low Concentration (< 0.34)	Thirihaymar (West),Pyigyimyetshman,Thirihaymar(East)	3
2	Medium Concentration (between 0.34 -1.74)	Pyigyimyetshin,Haymazala, Kinsanamahi,Chanayethazan (West), Yanmyolon,Patkonpyawbwe,Aungnanyektha(West), Aungnanyektha (East), Pyigyipyawbwe(East),Mawragiwa, Pyigyipyawbwe (West),Chanayethazan (Middle), Chanayethazan (East)	13
3	High Concentration (> 1.74)	Dewun(West), Patkonwunkyin,Kankauk, Seittaramahi	4
	Total		20

Source: Based on Table 2

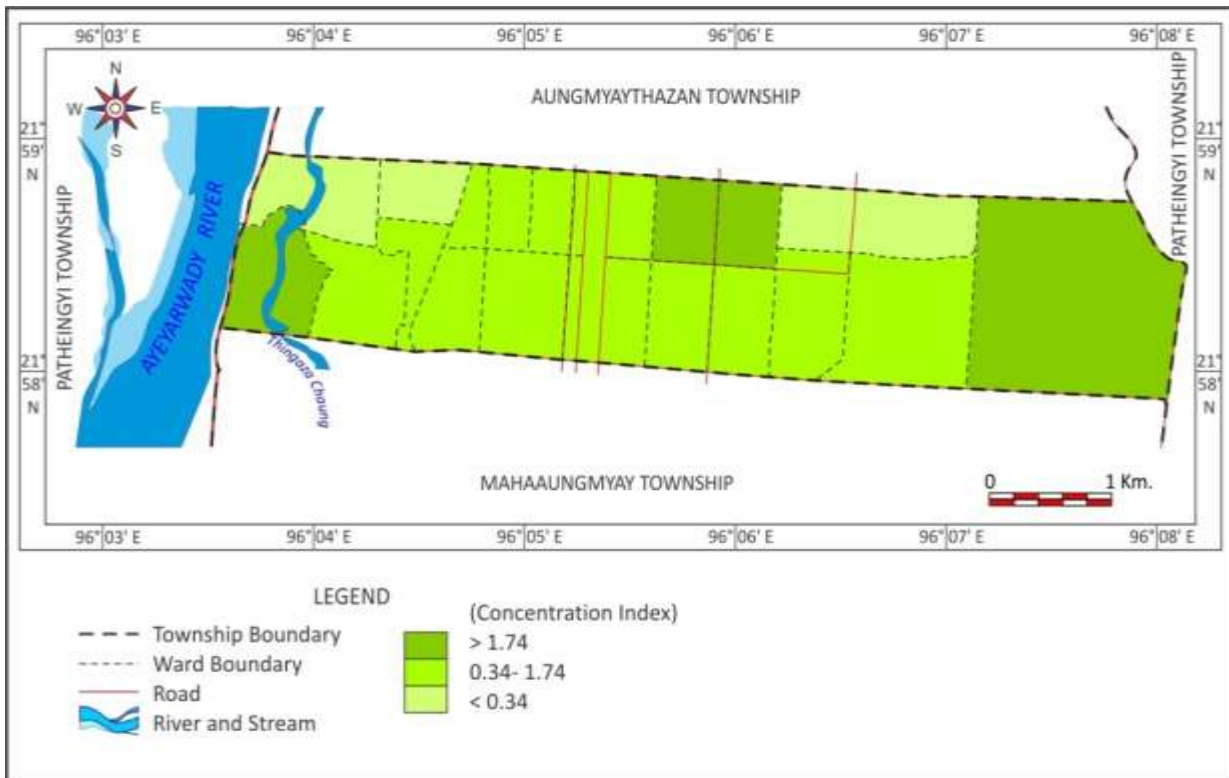


Figure 3 Retail Services Business's Concentration Index by ward of Chanayethazan Township 2024

Source: Based on Table 3

Conclusion

Currently, retail business and service business sector in Myanmar is pointed out that it is supporting to the country's gross domestic product (GDP). In the past decade, convenience stores, grocery supermarkets and retail service businesses have rapidly expanded across larger cities in Myanmar, especially in the commercial cities. Generally, the retail business and service sector can be identified into the formal retail business and informal retail business, (<http://www.ppms.in/blog/retail-stores/.com>). The formal retailing and service comprises sales generated by a registered and licensed retailers and also pays tax in authorized channels. In contrasts, the informal retailing and services no tax in paid on sale by the retailers and is also operated sales generated by an unregistered and unlicensed retailers. In fact, retail business and service businesses that is registered and licensed are certainly recognized as a small scale business supporting GDP for the country. As a result, the informal retail business and service business is excluded from the retailing sector or small scale business.

The study area, Chanayethazan Township is located in the Mahaaungmye District, Mandalay Region. Chanayethazan Township consists of 20 wards and covers a total area of 13.7 square kilometers. It is home to the oldest and most significant wholesale market, Zegyo. This township plays a vital role in the economic activities of Mandalay City. Consequently, retail shops and service business are heavily concentrated in the surrounding area of the Zegyo Business Center and in the market zone

where it is suitable for the high level services such as Private School & International School, and Hotel Services. Because the Chanayethazan Township has also the urban commercial characteristic, retail service business such as high level services and low level services are mostly found.

According to analyzed, the ward-wise concentration of retail service business can be divided into high concentration, medium concentration and low concentration wards. There are four high concentration wards, namely Dewun (West), Patkonwunkyin, Seittaramahi and Kankauk wards. The three wards are generally located in the central Business Zone, with the exception of Kankauk ward, which is situated far from the downtown area. The highest population number is also found in the three wards, especially along the main streets. Patkonwunkyin has only the smallest number of population because a lot of governmental buildings and the religious lands are found in this ward. Although, on the other hand, Dewun (West) and Kankauk wards are absolutely fallen in the outskirts area, the retail service businesses such as Specialist Clinic & Hospital, Private School & International School, and Hotel Services are mostly concentrated because these wards have to support an attractive market location for the high level service business. The market locations of these wards give the good conditions for the customers because it is easily accessible to the service market by using the various type of motor vehicle, but it is traffic congestion along the main streets and in the central business areas.

The medium concentration wards are 13 in total number. In this level, the most of wards are usually found in the surrounding area of the central business center and have also the numerous number of banking services and Specialist Clinic & Hospital included in the high level service. These wards have the higher population number, except the wards having a lot of governmental offices. Especially, the highest population distribution is found the surrounding area of the Central Business Zone and along the main streets. The traffic accessibility to the market makes to support for customers in the local and neighboring areas.

Next the low concentration level are found in Thirihaymar (West), Pyigyimyetshman, and Thirihaymar (East) wards. This is because Thirihaymar (West) ward is situated within the Zegyo area, and Pyigyimyetshman and Thirihaymar (East) wards are the outskirts area that have no market location, making the attractive to the retail service business. The population number of these wards is the smallest, except Thirihaymar (West). Thirihaymar (West) has the numerous number of the wholesale center because it lies in the Central Market, but it has the highest number of population. As this point, the retail service business in Chanayethazan Township is really depended on the population density or consumers demand and the market location, making an attractive for the retail service businesses.

To conclude, the formal retail service businesses play an important role in Myanmar economic sector to support GDP (Gross Domestic Product) for the country. Therefore, the concentration of retail service business such as Specialist Clinic & Hospital, Mobile Phone & Computer Services, Banking Services, Beauty Saloon & Spa, Motor Vehicle Services, Vinly, Sticker & Sign-board in the surrounding area of central business district (CBD) like Zegyo Business Center highlights a need for efficient urban design to support high foot traffic and accessibility for customers. This clustering suggests the potential benefits of integrated public transport systems or pedestrian-friendly zones. In less central areas such as Dewun (West), Pyigyimyetshman and, Thirihaymar (West), Pyigyipyawbwe(East), and Pyigyipyawbwe(West) wards, the limited presence of retail service businesses, especially in items such Specialist Clinic & Hospital, Private School & International School, and Banking Services indicates a gap in retail infrastructure in the study area. Thirihaymar (East) ward does not has any retail service businesses because it is situated within the Zegyo Business Center. As a result, the wholesale centers are mostly concentrated in this ward. This suggests opportunities for urban planners to encourage retail service business growth in underserved areas through zoning incentives. The outskirts with lower retail service business densities could be targeted for development initiatives. Policies encouraging mixed-use development could stimulate economic activity in these zones.

Acknowledgements

First and foremost, I would like to express my truthful thanks to Dr Tint Moe Thuzar, Rector, Dr Thwe Lin Ko, Pro-rector, Dr Win Naing, Pro-rector, and Dr Khin Maw Maw Soe, Pro-rector, Yadanabon University for their permission to conduct this paper. I am greatly indebted to Dr Khin Win, Professor and Head, Department of Geography, Yadanabon University and Dr Kan Tun, Professor, Department of geography, Yadanabon University for their encouragement to do this research and constructive guidance, comments supervision and suggestion.

References

- Davies, R.1 (1976): Marketing Geography, Methuen, London
- Kyu Kyu Zin, Ma: Land Use Geography of Chanayethazan Township, M.A Thesis, Department of Geography, Mandalay University
- Mandalay City Development Committee: Mandalay Directories (2020, 2022, 2023)
- Shadab Ahmad, Mr. (2020): Study of the Rise and Growth of the Indian Retail Industry, International Journal, Volume 2, Issue 1, www.cms.ac.in/journals-cms.php
- Yeates, M.A (1968): An introduction to Quantitative Analysis in Economic Geography, copy right, Mc Grawtill, U.S.A