



Exploring Qibla Accuracy in Coffee Shops: A Study in Padang City

Abdul Hafizh¹, Afrinal²

¹Universitas Islam Negeri Imam Bonjol Padang, Indonesia

²Universitas Islam Negeri Imam Bonjol, Indonesia

abdulhafizh@uinib.ac.id

Abstract

Determining the direction of the Qibla is essential before carrying out worship (prayer). This research, through a qualitative study, aims to determine and explore the accuracy of the Qibla direction in coffee shops in Padang City. Observations were carried out at ten coffee shops selected as research samples using several steps: firstly, the crowd of visitors; secondly, the existence of a prayer place in the coffeeshop; and thirdly, the direction or Qibla coordinates of the coffeeshop. The results of this research are as follows: First, coffee shop managers' understanding of the direction of Qibla varies, and more than half of the sample managers are unsure about the direction of Qibla. Second, calibration (recalculation) carried out at ten research locations indicated that the level of accuracy of the Qibla direction was still low. Calculating the Qibla direction at the coffee shop uses the Qibla azimuth (AK) method with coffee shop location coordinates and a GPS application to measure the accuracy of the Qibla direction and compare it with the Mizwala astronomical instrument. Third, Determining the Qibla direction in the coffee shop does not use accurate Qibla direction measurements. Coffee shop managers often rely on building developers or smartphone applications to determine the Qibla direction. Fourth, analysis of Qibla direction calibration in coffee shops shows two main factors: a lack of understanding and awareness of the importance of Qibla direction accuracy by coffee shop managers and the absence of a method for using accurate Qibla direction measurements.

Keywords: Exploring; Qibla; Accuracy; Coffee Shop

Article Info

Article History:

Received: 10-17-2024 Accepted: 12-21-2024 Publish: 12-31-2024



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: 10.51590/waraqat.v9i2.852

Introduction

The Qibla is the direction towards the Ka'bah (Baitullah). The direction of the Qibla is an important issue for Muslims, especially in performing prayers. The issue of the Qibla is a matter of direction, namely the direction of the Kaaba from every place on the Earth's surface. Therefore, measuring the Qibla direction is essentially knowing and determining in which direction the Ka'bah is seen from a place on the Earth's surface. Thus, the obligation to face the Qibla when performing prayers does not only apply to Muslims close to the Ka'bah building, but this obligation also applies to Muslims worldwide without exception.¹

The development of science and technology directly affects the direction of Qibla. From the classical method that utilizes objects in the universe to modern methods that use sophisticated tools, even now, applications are available on the Play Store that make it easy to find the Qibla direction.² Most people in general use this modern method of determining the Qibla direction, including the managers of coffee shops where Falak science experts still doubt the accuracy of measuring the Qibla direction using these applications.

Currently, in the city of Padang, many new coffee shops have sprung up, ranging from establishing businesses with their names to establishing coffee shops with well-known franchise names. There are more than 20 modern coffee shops in the city of Padang, and the number continues to grow daily. (Source: Otten Magazine, Katasumbar.com) So, competition in the coffee shop market in Padang is quite high. In facing this competition, managers will strive to create a comfortable place, adequate facilities, and a place of worship (prayer) for visitors.

In determining the Qibla direction in coffee shops, they face their prayer place towards the Qibla without knowing precisely whether the intended Qibla is facing the Ka'bah. Most visitors who perform prayers at the coffee shop rarely ask whether the Qibla is facing the Qibla (Ka'bah). Their simple indication is that when a prayer place (salat) in a cafe has faced west, the issue of facing the Qibla is considered finished, even though it is not the case. A deviation of the Qibla direction of only one degree will cause a deviation from the Ka'bah building of tens of kilometers. So, it can be imagined that if the Qibla direction error reaches 5-12 degrees, then the shift will be even further. The role of Falak science is needed in determining the Qibla direction, so activities need to be carried out to educate and increase the understanding of coffee shop owners in determining the Qibla direction in places of worship (prayer).

A study written by Rahma Amir et al. (2020) entitled Calibration of the Qibla Direction of Mosques in Makassar City District.³ According to this study, the two mosques that were sampled, it turned out that two mosques found varying deviations in their Qibla direction, so it can be said that the substantial deviation is 18° because with a deviation of 18° , then the Qibla direction points to the country of Uganda in Africa. This needs attention from various parties so that the congregation when performing prayers in their respective mosques, faces precisely towards the Ka'bah so that Allah valid and accepts the prayers.

A study written by Muhammad Ridha Muslih and Rahma Amir (2020) entitled Accuracy of the Qibla Direction of the Public Fuel Filling Station Mosque in Makassar City.⁴ According

¹ Ahmad Izzuddin, *Ilmu Falak* (Tangerang: CV. Ipa Abong, 2006).

² Hajar, *Ilmu Falak: Sejarah, Perkembangan Dan Tokoh-Tokohnya*, ed. Istiqowati (Pekanbaru: PT Sutra Benta Perkasa, 2014).

³ Rahma Amir, "Kalibrasi Arah Kiblat Masjid Di Kecamatan Makassar Kota Makassar," *ELFALAKY: Jurnal Ilmu Falak* 4, no. 2 (2020), <https://doi.org/10.24252/ifk.v4i2.20747>.

⁴ Muhammad Ridha Muslih and Rahma Amir, "Akurasi Arah Kiblat Musala Stasiun Pengisian Bahan Bakar Umum (SPBU) Di Kota Makassar," *HISABUNA: Jurnal Ilmu Falak* 1, no. 1 (2020): 138–47, <https://doi.org/10.24252/hisabuna.v1i1.13164>.

to this study, the method used by the Public Fuel Filling Station in determining the Qibla direction of the mosque is to use an Android-based cellphone software, as well as following the position of the nearest mosque's Qibla direction around the Public Fuel Filling Station Mosque, the rest follows the Qibla direction in general. These two methods cannot be used to determine the Qibla direction of the mosque at the Public Fuel Filling Station.

A study written by Dhiauddin Tanjung (2017) entitled *The Urgency of Qibla Direction Calibration in Perfecting Salat*.⁵ According to this study, the obligation to face the Ka'bah is for people who can see the Ka'bah directly. However, for people far from Mecca who cannot see the Ka'bah directly, most scholars only need to face the direction of the Ka'bah (*jibah al-Ka'bah*). In other words, the Qibla for people who see the Ka'bah is *'ainul Ka'bah*, while the Qibla for people who cannot see the Ka'bah directly is *jibah al-Ka'bah*. Nevertheless, if reviewed, the scholars commit that for people who can see the Ka'bah and people who cannot see the Ka'bah but can do *ijtihad* to find out the direction to the Ka'bah (*jibah al-Ka'bah*), then they must face the Ka'bah building (*'ainul Ka'bah*).

The difference between previous research and this research is that this research deals with the accuracy of the Qibla direction of coffee shop prayer places in the city of Padang, which focuses on the understanding of coffee shop managers on the Qibla direction and calculating the Qibla direction of coffee shops, responding to the Qibla direction in coffee shops, as well as analysis of Qibla direction calibration in coffee shops.

This research is a field research using a qualitative approach.⁶ This study also uses the Participatory Action Research (PAR) method, carried out in a participatory manner among residents (visitors). Data collection techniques were carried out through observation and interviews at ten coffee shops selected as research samples with provisions: first, the crowd of visitors or the most favorite; second, the existence of a prayer place in the coffee shop; third, the direction or coordinates of the coffee shop's Qibla. The main reason for choosing this location is that coffee shops are currently the center of visit for teenagers in Indonesia, especially in Padang. Furthermore, a Focus Group Discussion (FGD) was also conducted with experts in the last stage of the data collection technique to avoid wrong interpretation by researchers when determining the Qibla direction. Data analysis was done qualitatively, and the results were presented in descriptive form.⁷

Result and Discussion

Theoretical Framework

In Arabic, the word Qibla comes from the word *قبلة*, which is one form of *masdar* which means facing. The word Qibla has the exact definition of the words *Jihah*, *Syatrah*, and *Simt*, which means the direction of facing. The Qur'an also mentions that the word *al-Kiblat* can be found four times, which is interpreted as the direction and place of prayer; the number is also the same as the number of the main directions of the compass (Point Of The Compass).⁸ A. Jamil also defines Qibla in his book entitled *Ilmu Falak: Teori dan Aplikasi: (hisab arab kiblat, awal waktu, dan awal bulan)*, defining Qibla as the distance from the north point to the vertical circle through a celestial body or a place measured along the horizon circle in a clockwise direction. The Qibla direction is an issue closely related to the geographical location of a place, namely how many degrees the distance of a place is from the equator, which is then

⁵ Dhiauddin Tanjung. "Urgensi Kalibrasi Arah Kiblat dalam Penyempurnaan Ibadah Salat." *Al-Manahij: Jurnal Kajian Hukum Islam* 11 no. 1 (2018) : 113–32. <https://doi.org/10.24090/mnh.v11i1.1273>.

⁶ Satori Djam'an. "Metode Penelitian Kualitatif". Bandung: Alfabeta (2013)

⁷ Jogiyanto Hartono. "Metoda Pengumpulan dan Teknik Analisis Data". Yogyakarta: Penerbit Andi (2018)

⁸ Ahmad Izzuddin, *Ilmu Falak Praktis: Metode Hisab-Rukyat Praktis Dan Solusi Permasalahannya* (Semarang: Pustaka Rizki Putra, 2012).

better known as latitude, and how many degrees the location of a place is from the longitude of the city of Mecca.⁹

While terminologically, the Qibla direction experts provide definitions, among others: Abdul Aziz Dahlan who interprets the meaning of the Qibla direction as the construction of the Ka'bah or a direction that is the goal of Muslims in carrying out some worship. Then, Harun Nasution defines the Qibla direction as the direction to face during prayer.¹⁰

Ahmad Izzuddin defines the Qibla as the Ka'bah or at least the Grand Mosque, considering the latitude and longitude of the Ka'bah. So, the definition of facing the Qibla is to face the direction of the Ka'bah or at least the Grand Mosque, considering the directional position and the closest position calculated from the desired area.¹¹ Based on some of these definitions, it can be understood that the Qibla direction is a guideline for Muslims in performing prayers because facing the Qibla is one of the conditions for the validity of the prayers.

Slamet Hambali defines the Qibla direction as the direction towards the Ka'bah (Mecca) through the closest path. Thus, every Muslim performing prayers must face that direction. Muhyidin Khazin explains that the Qibla direction is the location of the direction or the closest distance along a large circle that passes through the Ka'bah (Mecca) with the city location in question (Muhajir 2023).¹²

The legal basis regarding the provisions of prayer facing the Qibla is contained in the Word of Allah SWT in the Qur'an surah al-Baqarah verse 144:

قَدْ نَرَى تَقَلُّبَ وَجْهِكَ فِي السَّمَاءِ فَلَنُوَلِّيَنَّكَ قِبْلَةَ تَرْضَاهَا ۚ قَوْلٍ وَجْهِكَ شَطْرَ الْمَسْجِدِ
الْحَرَامِ ۚ وَحَيْثُ مَا كُنْتُمْ فَوَلُّوا وُجُوهَكُمْ شَطْرَهُ ۚ وَإِنَّ الَّذِينَ أُوتُوا الْكِتَابَ لَيَعْلَمُونَ أَنَّهُ
الْحَقُّ مِنَ رَبِّهِمْ ۗ وَمَا اللَّهُ بِغَفِيلٍ عَمَّا يَعْمَلُونَ

"Verily, We (often) see your face looking up to the sky, so We will surely turn you into a Qibla you like. Turn your face towards it. Moreover, indeed those who were given the Book (Jews and Christians) know well that turning to the Grand Mosque is the truth from their Lord; and Allah is never unaware of what they do" (QS al-Baqarah:144).¹³

Apart from the Qur'an, there is also a Hadith of the Prophet narrated by Abu Hurairah:

عَنْ أَبِي هُرَيْرَةَ رَضِيَ اللَّهُ عَنْهُ أَنَّ النَّبِيَّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ: «إِذَا قُمْتَ إِلَى الصَّلَاةِ فَاسْبِغِ
الْوُضُوءَ، ثُمَّ اسْتَقْبِلِ الْقِبْلَةَ، فَكَبِّرْ، ثُمَّ اقْرَأْ مَا تيسَّرَ مَعَكَ مِنَ الْقُرْآنِ، ثُمَّ ارْكَعْ حَتَّى تَطْمَئِنَّ رَاكِعًا،
ثُمَّ ارْزُقْ حَتَّى تَعْتَدِلَ قَائِمًا، ثُمَّ اسْجُدْ حَتَّى تَطْمَئِنَّ سَاجِدًا، ثُمَّ ارْزُقْ حَتَّى تَطْمَئِنَّ جَالِسًا، ثُمَّ اسْجُدْ
حَتَّى تَطْمَئِنَّ سَاجِدًا، ثُمَّ افْعَلْ ذَلِكَ فِي صَلَاتِكَ كُلِّهَا

"From Abu Hurairah radhiyallahu 'anhu, the Prophet sallallahu 'alaihi wa sallam (taught the person whose prayer was bad), "If you want to pray, perfect your ablution. Then, face the Qibla. Then say takbir. Then, recite the verses of the Qur'an that are easy for you. Then, bow until you are calm. Then, rise until you stand upright. Then, prostrate until you are calm while

⁹ A Jamil, *Ilmu Falak: Teori Dan Aplikasi: (Hisab Arab Kiblat, Awal Waktu, Dan Awal Bulan)*, ed. Ade Sukanti, Edisi revu (Jakarta: imprint Bumi Aksara, 2021).

¹⁰ Mutmainnah, "Kiblat Dan Kakbah Dalam Sejarah Perkembangan Fikih," *Ulumuddin: Jurnal Ilmu-Ilmu Keislaman* 7, no. 1 (2017): 1–16, <https://doi.org/10.47200/ulumuddin.v7i1.180>.

¹¹ Izzuddin, *Ilmu Falak*.

¹² Khazin, Muhyiddin. 2005. *Ilmu Falak Dalam Teori dan Praktek*. Yogyakarta: Buana Pustaka.

¹³ Al-Qur'an dan Terjemahannya

prostrating. Then, rise until you are calm while sitting. Then, prostrate again until you are tranquil while prostrating. Then do that in all your prayers".¹⁴

The Indonesian Ulema Council Fatwa Commission deems it necessary to establish a fatwa on the Qibla direction to guide the community. The views and opinions at the MUI Fatwa Commission meeting on Monday, February 1, 2010, and July 1, 2010, decided that in the first stipulation, the legal provisions conveyed that First, the Qibla for people who pray and can see the Ka'bah is to face the Ka'bah building ('ainul Ka'bah). Second, the Qibla for people who pray and cannot see the Ka'bah is the direction of the Ka'bah (jihāt al-Ka'bah). Thirdly, the Qibla of Indonesian Muslims faces the northwest, with a position that varies according to the location of each region.

The scholars of the schools of thought have agreed that facing the Qibla is one of the conditions for the validity of prayer. Regarding facing the Qibla direction, the madhab imams have different opinions, such as the difference of opinion between Imam Shafi'i and Imam Hanafi, where Imam Shafi'i divides it into two ways. First, people who can see the Ka'bah or those in Mecca must face the Qibla correctly. For people who cannot see the Ka'bah or are outside Mecca, then it is not permissible for them when they want to perform prayers, to leave performing ijtihad to find the true Ka'bah, with the guidance of the stars, the sun, the moon, the mountains, the direction of the wind and everything in it that can be used as a guide for the Qibla.¹⁵

Meanwhile, Imam Hanafi argues that if a person who wants to perform prayers can do it (facing the Qibla), he must pray to face the Qibla. If he is one of the people who can see the Ka'bah building, then the Qibla is the physical Ka'bah building itself. Consequently, if he deviates from the physical Ka'bah building without facing one of the parts of the building, then his prayer is not legally valid.

Then, suppose a person does not see the Ka'bah building, which is caused by distance or other reasons. In that case, he is obliged to face his body according to the direction of the Ka'bah (jihāt al-ka'bah), namely to the walls of the mihrab (prayer place), which are made with signs that lead towards the Ka'bah, not facing the Ka'bah building. In other words, the Qibla for people who do not see the Ka'bah building is the direction of the Ka'bah, not the Ka'bah building.¹⁶

Each place has a different Qibla angle. Data on the latitude and longitude of the place in question and the coordinates of the Ka'bah must be found. The direction to be searched is expressed by the magnitude of the angle from where the angle is measured and in which direction it rotates. In astronomy, azimuth measurements are taken from the North with a clockwise rotation because the rotation is adjusted to the direction of movement of the clock hands. Taking measurements from the North has a practical reason, namely because the north direction can be immediately known with a magnetic compass needle compared to the east-west direction.¹⁷

For Muslims whose countries are located far outside the city of Mecca, the implementation of prayers as a form of realization of Allah's commands by facing the correct Qibla requires precise and accurate calculations. The calculation of the Qibla direction can be done with a formula derived from Sphere Trigonometry or the Science of Triangle Measurement, which

¹⁴ Muhammad Abduh Tuasikal, "Manhajus Salikin: Hadits Musii' Fii Shalatihi Tentang Rukun Shalat," Rumaysho.Com, 2019.

¹⁵ Mutmainnah, "Kiblat Dan Kakbah Dalam Sejarah Perkembangan Fikih."

¹⁶ Sayful Mujab, "Kiblat Dalam Perspektif Mazhab-Mazhab Fiqh," *Yudisia: Jurnal Pemikiran Hukum Dan Hukum Islam* 5, no. 2 (2014): 322.

¹⁷ Departemen Agama, *Ensiklopedi Islam Di Indonesia*, ed. Harun Nasution (Jakarta: Departemen Agama Republik Indonesia, 1992).

is related to the calculation of angles in a spherical triangle (Earth) if the coordinates of the country which are the angular points of the spherical triangle are known.

The Qibla azimuth, a modern method, is used as one of the measurement methods by first finding the coordinates of the city to be measured, the coordinates of the city of Mecca, and then the location of the Kaaba. Then, the formula used in measuring the Qibla direction is as follows;

$$Tg K = \frac{\sin (\lambda t - \lambda k)}{\cos \phi t \cdot \tan \phi k - \sin \phi t \cdot \cos (\lambda t - \lambda k)}$$

K	=	Sudut arah kiblat dari Utara ka Barat
ϕk	=	Lintang Ka'bah (21° 25' LU)
λk	=	Bujur Kakbah (39° 50' BT)
ϕt	=	Lintang Tempat / Kota
λt	=	Bujur Tempat / Kota

Qibla Direction in Coffee Shop Prayer Places

A coffee shop is a business that serves coffee drinks by providing a place for customers (buyers). The simple management of this business makes coffee shops often crowded with visitors. The meaning of a coffee shop is "fresh and pleasure," defined as a clean, bright space that is visually appealing and creates a pleasant atmosphere. In addition, selecting the proper lighting and room colors will psychologically help visitors feel a comfortable atmosphere and increase productivity in the coffee shop.¹⁸

Coffee shops in Padang City provide space to hold formal or non-formal meeting activities with supporting facilities such as meeting/discussion rooms, non-formal meeting rooms, music entertainment facilities or other art performances, vehicle parking lots, restrooms/toilets, and space for performing prayers (prayer rooms). The presence of complete facilities at this coffee shop supports buyers in feeling at home and comfortable with their services, so buyers spend much time in coffee shops. The existence of coffee shops, when viewed from a sociological perspective, can be explained as a place where interaction occurs as a form of reciprocity between humans.¹⁹ Individuals also apply social values to interact, so coffee shops become one of the most positive and productive places to conduct social interactions.

Coffee shop managers initiate the provision of a prayer place/prayer room because providing this is one indication of the best service provided by the manager. The existence of a prayer place, one of the coffee shop facilities, has simply illustrated that the provision of the prayer place is one of the serious steps shown by the coffee shop to provide comfort to buyers.

This study used ten coffee shops as research locations in Padang City. Each research location has a prayer place or prayer room the manager provides. In this section, the researcher explores the respondents' understanding of the importance of the Qibla direction in public places such as coffee shops:

¹⁸ Laras Gemi Nestiti and Yusmar Yusuf, "Budaya Konsumsi Kopi Sebagai Gaya Hidup the Leisure Class Pada Generasi Z Di Coffeshop Ugoku.Co Dan Titik Kumpul Coffe Brewers Kecamatan Sekupang Kota Batam," *Jurnal Cakrawala Ilmiah* 1, no. 10 (2022): 2599–2608.

¹⁹ Soerjono Soekanto, *Sosiologi: Suatu Pengantar*, Edisi 4 Ce (Jakarta: Rajawali Press, 1995).

No	Coffee Shop	Sure	Not Sure	Doubtful
1	Toko Kopi Rasa (TKR)	-	-	Maybe Already
2	Grace Brew (GB)	-	-	Not Really
3	Kopi Oz (KO)	Already	-	-
4	Asira Coffe (AC)	-	-	Maybe Already
5	Singgah Coffe and Eatry (SCE)	Already	-	-
6	Parewa Coffe (PC)	Already	-	-
7	Show Koffie (SK)	-	-	Still Not
8	Foresthree Coffe (FC)	-	Not Yet	-
9	Vinyl Coffe (VC)	Already	-	-
10	Barizta Specialty Coffe (BSC)	-	Not Yet	-

Table 4.1 Qibla Direction Accuracy Response
(Source: Interview)

In the understanding of coffee shop managers in determining the Qibla direction of the prayer place provided, three different types of answers were found: first, doubtful answers to the accuracy of the Qibla direction, second, sure it was accurate, and third, still unsure about the accuracy of the Qibla direction. The classification of the data above shows that more than half of the coffee shop managers were not sure about the Qibla direction used as a reference until it was calibrated by researchers at the research location.

The Qibla issue is the direction of the Ka'bah in Mecca. The direction of the Kaaba can be determined from any point or place on the Earth's surface by performing calculations and measurements. Therefore, the Qibla direction is a calculation to find out the direction of the Kaaba in Mecca when viewed from a place. The coffee shops in Padang are the locations used to show the Qibla direction. Before being calibrated, the researchers verified with the respondents how they determined the Qibla direction:

No	Coffee Shop Manager	How to Determine Qibla Direction
1	Mila (TKR)	Determined by the building developer
2	Wijaya Kusuma (GB)	Following the Qibla direction of the nearest mosque
3	Sucipta (KO)	Following the Qibla direction of the nearest mosque
4	Aditya Wijaya (AC)	Adjusting the Qibla direction of the mosque
5	Andriawan Ade Putra (SCE)	Following the Qibla direction of the nearest mosque
6	Zikra Dwi Putra (PC)	Following the Qibla direction of the nearest mosque
7	Tito Setya Anugrah (SK)	Using an Android smartphone application
8	Lia (FC)	Determined by the building developer

9	Viki Yolanda (VC)	Using an Android smartphone application
10	Rizal (BSC)	Determined by the coffee shop building owner

Table 4.2 Determining the Qibla Direction

(Source: Interview)

Kiblat yang ditentukan dengan menggunakan beberapa cara seperti Menggunakan aplikasi mobile *smartphone* android, mempercayakan kepada pihak developer, mengikuti arah kiblat dan masjid terdekat, menimbulkan keraguan bagi pihak *coffee shop* itu sendiri. Hal tersebut terlihat pada respon kepercayaan pengelola *coffee shop* pada tabel 4.1, dimana ditemukan bahwa terdapat empat responden ragu dengan arah kiblat *coffee shop*, bahkan terdapat dua responden tidak yakin dengan arah kiblat *coffee shop* sendiri saat penelitian ini dilakukan.

Calculation of Qibla Direction in Coffee Shops

Providing Qibla directions in coffee shops is a Qibla guideline for buyers who want to perform prayers. Determining the Qibla direction is often a problem when building a coffee shop. This study measures the accuracy level of prayer places/prayer rooms in coffee shops using the Qibla azimuth (AK) method, which takes the coordinates of the coffee shop location. We also use the GPS Test application on Android as a medium to determine coordinates and measure the difference in degrees with the Mizwala astronomical instrument. The provisions for the Qibla direction, which will serve as a guide for visitors, should be one of the important points the coffee shop must consider. The calibration (recalculation) carried out regarding the accuracy of the Qibla direction of the coffee shop is still relatively low, as described as follows;

No	Coffee Shop and Address	Coffee Shop Coordinates	Qibla AK Method	Coordinate Difference Degrees
1	Toko Kopi Rasa (TKR)	0° 55' 38" LS 100° 21' 20" BT	65° 19' 49"	11° 0' 0"
2	Grace Brew (GB)	0° 55' 33" LS 100° 21' 33" BT	65° 20' 14"	21° 48' 0"
3	Kopi Oz (KO)	0° 56' 41" LS 100° 21' 51" BT	65° 20' 14"	10° 12' 0"
4	Asira Coffe (AC)	0° 54' 51" LS 100° 21' 05" BT	65° 19' 23"	9° 0' 0"
5	Singgah Coffe and Eatry (SCE)	0° 55' 08" LS 100° 21' 00" BT	65° 21' 5"	40° 0' 5"
6	Parewa Coffe (PC)	0° 56' 28" LS 100° 21' 21" BT	65° 24' 21"	44° 36' 0"
7	Show Koffie (SK)	0° 56' 12" LS 100° 21' 20" BT	65° 19' 49"	20° 6' 0"
8	Foresthree Coffe (FC)	0° 57' 47" LS 100° 21' 43" BT	65° 19' 20"	9° 42' 0"
9	Vinyl Coffe (VC)	0° 57' 19" LS 100° 21' 50" BT	65° 19' 20"	10° 0' 0"

10	Barizta Specialty Coffee (BSC)	0° 55' 54" LS 100° 24' 49" BT	65° 20' 39"	6° 18' 0"
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Table 4.3 Coffee Shop Qibla Azimuth

(Source: Researcher Calibration)

In this section, the researchers calibrated (recalculated) at ten research locations. To collect accurate data, direct measurements were carried out at the prayer place of each coffee shop. Barizta Specialty Coffee (BSC) is the coffee shop with the closest accuracy level, where the Qibla azimuth of Barizta coffee before being measured by the researcher was 71° 38' 39". The measurement using the Qibla azimuth method found that the BSC Qibla is 65° 20' 39". The difference between the BSC Qibla before and after measurement using the Qibla azimuth method is 6° 18' 0". The Qibla with the farthest inaccuracy is Parewa Coffee (PC). The initial PC Qibla is at 110° 0' 36". After calibration, the correct PC Qibla is 65° 24' 21". The inaccuracy of the Qibla direction that occurred at PC based on the calculations carried out reached 44°36' 0". The PC Qibla direction became the Qibla with the lowest accuracy compared to the other nine coffee shops. For the calculation in the Qibla azimuth method, the researchers derived the example that became the average Qibla angle of Padang City, and the following are the steps using the Qibla azimuth method with an exact calculator:

$$Tg \frac{K}{K} = \frac{\sin (\lambda t - \lambda k)}{\cos \phi t \cdot \tan \phi k - \sin \phi t \cdot \cos (\lambda t - \lambda k)}$$

- K = Sudut arah kiblat dari utara ke barat
- ϕk = Lintang Kakbah 21° 25' 0" LU (Lintang Utara)
- λk = Bujur Kakbah 39° 50' 0" BT (Bujur Timur)
- ϕt = Lintang tempat (Kota Padang) 0° 57' 0" LS (Lintang Selatan)
- λt = Bujur tempat (Kota Padang) 100° 21' 0" BT (Bujur Timur)
- Dot = Perkalian

Areas/cities located in the southern latitude must be added with a minus (-) symbol on the exact calculator at the beginning (ϕt) as in the example of Padang City written -0° 57' 0".

$$Tg \frac{K}{K} = \frac{\sin (100^{\circ} 21' 0'' - 39^{\circ} 50' 0'')}{\cos -0^{\circ} 57' 0'' \cdot \tan 21^{\circ} 25' 0'' - \sin -0^{\circ} 57' 0'' \cdot \cos (100^{\circ} 21' 0'' - 39^{\circ} 50' 0'')}$$

$$\frac{Tg}{K} = \frac{0^{\circ} 52' 13.8''}{0^{\circ} 23' 31.84'' - (-0^{\circ} 0' 29.38'')}$$

$$Tg \frac{K}{K} = \frac{0^{\circ} 52' 13.8''}{0^{\circ} 24' 1.22''}$$

Then 0° 52' 13.8" divided by (:) 0° 24' 1.22" equals (=) 2.174407793. Then, by pressing the Shift and Tan buttons on the exact calculator, the result of 65.30251952 or 65° 18' 9.07" in degrees coordinates or polar coordinates 65.3° (K), which is measured with the Mizwala instrument. To see the polar coordinate measurement on the Mizwala, the researchers present the closest and farthest differences in the two calibrated coffee shops:

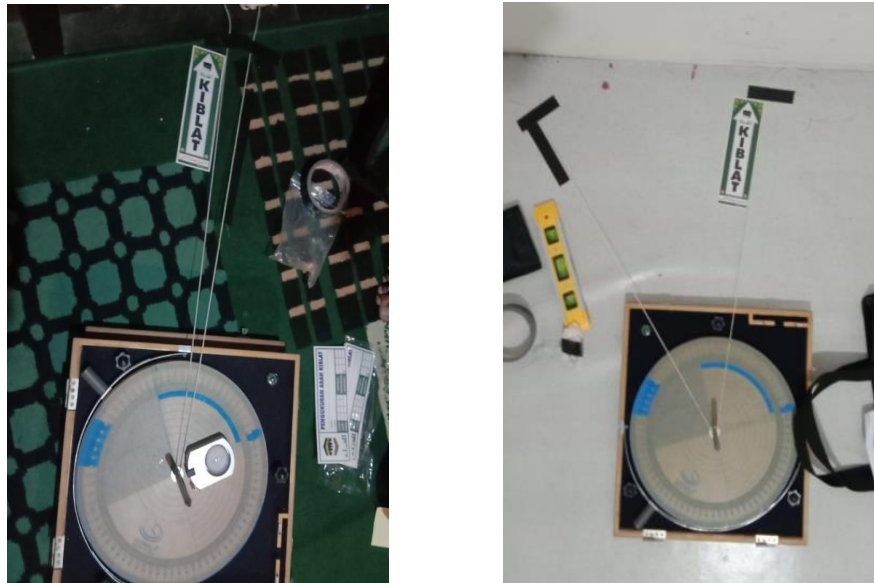


Figure 4.1 BSC (Left) and PC (Right) Qibla Coordinate Difference

Discussion of Qibla Direction in Coffee Shops

The discussion referred to here is the answers from coffee shop managers, buyers, and expert FGD (Focus Group Discussion) who are qualified in determining the Qibla direction regarding the Qibla direction at coffee shops. For coffee shop managers and buyers, the researchers tried to find out how they responded to the Qibla direction that had been inaccurate before calibration. Some coffee shops showed enthusiasm for the importance of the Qibla direction by providing Qibla signs in prayer places; this kind of response can be seen from the initiative of managing the coffee shop. Some other coffee shops only provide prayer mats facing the Qibla direction. For buyers, too, this is not a problem. For them, if the coffee shop has provided a sign and prayer mat that is directed, then there is no comment on the Qibla direction. For buyers, the Qibla direction has been calculated since the construction or establishment of the coffee shop. Here is an explanation of the items provided to determine the direction of the prayer mat before the researchers calibrated the prayer room or prayer place in the coffee shop:

Qibla Direction Provision	TKR	GB	KO	AC	SCE	PC	SK	FC	VC	BSC
Qibla Sign	-	-	-	-	✓	-	✓	✓	✓	-
Prayer Mat Spread	✓	-	-	✓	-	✓	-	✓	✓	✓
None	-	✓	✓	-	-	-	-	-	-	-

Table 4. 1 Provision of Qibla Direction Signs in Coffee Shop Prayer Places Before Researcher Calibration

The provision of this Qibla sign allows for reviewing the response of coffee shop managers on the extent of their enthusiasm in determining the Qibla direction. Even though, in reality, providing this Qibla sign experienced inaccuracies after being calibrated by the researchers. However, in reality, coffee shop managers are aware of determining the Qibla direction with knowledge relatively far from the Qibla direction calculation method. Qibla's direction errors in public spaces are not entirely the fault of the business manager. To see a more detailed and comprehensive response, this study was also supplemented with an FGD with experts

(Lecturers and Experts in Falak Science, Faculty of Sharia UIN Imam Bonjol Padang) and Qibla direction measurement practitioners (Hisab Rukyat Team of the Ministry of Religion of Padang City and Head of KUA North Padang). The response regarding the Qibla direction is divided into three variables that can explore the paradigm of determining the Qibla direction in Indonesia.

Response to MUI Fatwa Number 3 of 2010 Concerning the Qibla

The Qibla direction has become a social issue, as evidenced by the issuance of the MUI fatwa on the Qibla. This MUI fatwa explains three conditions of the Qibla: 'ainul ka'bah, jihat al-ka'bah, and that Indonesia faces west to face the Qibla. According to Rahmat Doni Irawan, a hisab rukyat practitioner, this MUI Fatwa remains relevant in the present era as a guideline for the Qibla direction in Indonesia. He argues that the MUI has determined the westward Qibla direction through ijihad. "For the current situation in Indonesia, this MUI Fatwa is still relevant as a guideline for the community in determining the Qibla direction. To support this assumption, this fatwa is based on the ijihad of scholars, although it does not measure latitude and longitude at the Qibla location. The westward Qibla direction makes it easier for people to face the Qibla without measuring tools (FGD, Hisab Rukyat Team of Padang City and Head of KUA North Padang, 2023)."

The MUI fatwa is the sole legal basis for the Qibla direction in Indonesia. To support this guideline, exploring this fatwa more deeply is necessary. According to Rudi Hartono, analyzing this fatwa using the Falak science method is also necessary for academics and researchers.

"Ideally, this fatwa must be analyzed using the Falak science methods taught within the scope of the sharia faculty. This fatwa should not be followed at face value but must be accompanied by Falak science analysis. The MUI fatwa's explanation of 'ainul ka'bah and *jihatil ka'bah* is a fiqh product that must be analyzed with the right theory (FGD, Falak Science Expert, 2023)."

Authority and Obligations for Determining the Qibla Direction in Public Spaces

The Ministry of Religion at the provincial, district/city levels and the Office of Religious Affairs (KUA) at the sub-district level are the official practitioners for measuring the Qibla direction. However, their scope is limited to measuring the Qibla direction in mosques, prayer rooms, and fields for holding Islamic Holiday Celebrations (PHBI). Regarding public spaces, the authority and obligation to measure the Qibla direction does not extend to these areas due to the absence of regulations governing such actions. However, the Qibla direction is not only determined in mosques and prayer rooms; social reality provides other spaces such as coffee shops with prayer rooms or prayer places. Thus, there is no clear meeting point between the KUA's authority to measure the Qibla direction within its area and the obligation of coffee shop managers to bring in experts to measure the Qibla direction.

"To find a good meeting point between the KUA's authority to measure the Qibla direction and the obligations of business managers such as coffee shops, the KUA only waits for the manager's initiative to bring in experts from the KUA. Because according to regulations, the KUA cannot come uninvited as it does not have the authority, so the KUA's role is to wait. However, in essence, the issue of the Qibla direction is for the benefit of the Muslim community itself (FGD, Hisab Rukyat Team of Padang City and Head of KUA North Padang, 2023)."

This situation also shows a form of mutual unawareness between the government and business managers. To mediate this, solutions and socialization also need to be carried out by people involved in falak science, which should also be a concern for alums of the Sharia faculty.

"Religious extension agents at the KUA must understand the Qibla direction, as it is also a socio-religious issue. Of course, these extension agents are alumni of the Sharia faculty who have previously studied falak science. As alums and practitioners, they must also be able to go to the field and consciously provide consultation in public spaces on the importance of the Qibla direction. They have a moral obligation to assert their authority in public spaces (FGD, Falak Science Expert, 2023)."

Perception of Business Managers in Public Spaces About the Qibla Direction

Stemming from a lack of knowledge, business managers such as those of coffee shops experience problems in determining the Qibla direction. Researchers reviewed this issue and found the alternative solutions they resort to. Their problem-solving regarding the Qibla direction is limited to either handing over the determination to the building developer or relying on smartphone applications to indicate the Qibla direction. These are undoubtedly inappropriate methods for measuring the Qibla direction. The concern arising from such practices is questioning the validity of prayers. FGD resource persons also explained that these two alternative measurement actions are erroneous.

"Building developers are not the right solution for measuring the Qibla direction of buildings to be constructed. Developers should advise their clients to measure the Qibla direction first before building. For the developers themselves, determining the Qibla direction is not a priority of their work. Likewise, using a smartphone application to measure the Qibla direction indicates that the manager is neglecting the welfare of the Muslim community who are their customers (FGD, Hisab Rukyat Team of Padang City and Head of KUA North Padang, 2023)."

Responding to this problem, Rudi Hartono also agreed with the inadequacy of using smartphone applications as a tool to measure the Qibla direction. However, for the Qibla issue handled by building developers, he provided conditions as a classification for developers. If the building developer understands the method of determining the Qibla direction, there is no problem applying it in their work.

"The accuracy of the compass in smartphone applications is not guaranteed because many magnetic fields interfere with accuracy. As for the building developer issue, if the developer understands the Qibla direction determination method, there is no problem. If not, it is very detrimental to Muslims, as this impacts the validity of prayers. It is better to bring in experts to determine the Qibla (FGD, Falak Science Expert, 2023)."

Analysis of Qibla Direction Calibration in Coffee Shops

To obtain an appropriate analysis, this study identified aspects that need to be analyzed regarding the Qibla direction in coffee shops spread across Padang City. The researchers' findings, explained previously and supported by data from the research sites, indicate inaccuracies in calculating the Qibla direction. The data collection and presentation results show that the Qibla direction's inaccuracy stems from two sociological factors and is related to not using proper Qibla direction determination methods. Understanding and response regarding knowledge of the Qibla direction by coffee shop managers and the public who are customers/buyers. Not using the Qibla azimuth method or other Qibla direction measurement methods. These factors were derived from the researchers' findings at the study locations, interviews with coffee shop managers, and the focus group discussion (FGD) results. The following is an analysis explaining the two factors of Qibla direction calibration in ten coffee shops:

Understanding of the Qibla Direction

Special knowledge guidelines are needed to determine the Qibla direction, which is broadly called Falak science. Understanding falak science, in general, is included in the methodological studies of Islamic law, as it involves elements of *ijtihad* by searching for arguments, object location, direction, and time in its determination. This includes the Qibla direction, which requires an understanding of Falak science.

The Indonesian Ulema Council (MUI) fatwa number 3 of 2010 concerning the Qibla provides information and explanation of the Qibla direction from a representative of a sovereign state. After this fatwa, no further representative information and explanation from the Indonesian state has been found. MUI Fatwa No. 3 of 2010 is a general source of knowledge for the Qibla direction in Indonesia and is specifically continued in the scattered regions. However, the Qibla direction mentioned in the fatwa is only based on the general compass direction. The fatwa states, "Indonesia's geographical location in the eastern part of the Kaaba/Mecca means that the Qibla of Indonesian Muslims is facing west." The legal basis of the fatwa does not include any Falak science method for determining the Qibla direction, so the Qibla direction determined by the MUI is considered erroneous. After this fatwa was stipulated and disseminated, many errors occurred in the field, as acknowledged by the chairman of the MUI Fatwa Commission in 2010, Sopar RA. He explained that this fatwa became erroneous after it was stipulated, as the direction that should have faced the Ka'bah ended up facing African countries (Tanzania, South Somalia, and Kenya).²⁰

The accuracy of the Qibla direction in this fatwa is questionable, but a revision by the MUI fatwa commission has not been realized to the public until now. A study of Falak science research presented by Agus Yusrun Nafi' also supports the claim of this error, stating that MUI Fatwa No. 3 of 2010 concerning the Qibla experienced an error in the Qibla direction because it did not involve the method of determining the Qibla direction in the study of Falak science and technology that supports determining place coordinates technically²¹. The public's knowledge absorbed from this fatwa has become standard in daily practice. The assumption that the Qibla direction tends to face west is implemented in public spaces, such as coffee shops. Findings in the field show a tendency for the Qibla to face west in several coffee shops in Padang City. The decision to face the West is due to the lack of specific knowledge about determining the Qibla direction and the lack of socialization of understanding the Qibla direction to the public in the form of manuals or regulations legislated by the government. The fatwa serves only as general knowledge for the community. Public spaces or places that gather many people offer complete facilities to provide full service. Facilitating a prayer room or prayer place is a separate consideration by place managers. Providing a prayer place in coffee shops is considered important for that service. However, the effort to provide a place becomes a big problem when viewed methodologically. The presence of prayer places in coffee shops does not consider how to arrange the Qibla direction. The research locations only provide a place without ensuring the accuracy of the Qibla direction, so this form of prayer place facility is merely to support sales and convenience for people (buyers) to do activities in the coffee shop. Managers should review how to set the Qibla direction properly. However, errors in the Qibla direction in coffee shops are not necessarily the manager's fault. Based on the researcher's analysis, lack of knowledge about the Qibla direction and how to measure the Qibla are deficiencies for managers. Moreover, state representatives' provision of information about the Qibla direction is also ineffective. Experts who offer Qibla direction measurements, such as the Indonesian Ulema Council (MUI), the Ministry of Religion of the Republic of Indonesia

²⁰ Muhammad Taufik, "MUI Akui Fatwa Arah Kiblat Keliru," *tempo.co*, 2010.

²¹ Agus Yusrun Nafi', "Verifikasi Fatwa MUI Nomor 03 Tahun 2010 Tentang Arah Kiblat," *Mahkamah: Jurnal Kajian Hukum Islam* 9, no. 1 (2016): 50–62, <https://doi.org/10.24235/mahkamah.v9i1.289>.

(Kemenag), and the *hisab rukyat* team from Islamic religious colleges (PTKIN), are options for coffee shop managers to determine the Qibla direction of prayer places.

To present this option, it is necessary to socialize the Qibla direction for businesses in public places such as coffee shops. However, in reality, this does not happen. The socialization expected to spread information about the Qibla direction does not occur in public places. Errors in determining the Qibla direction in public spaces are often caused when the building developer (contractor) is entrusted with building a prayer room or prayer place. In addition to the needs of the majority of Muslims in Indonesia, several regional regulations also urge business actors to provide places of worship. For example, in Hosen and Hafidatul Hasanah's research in 2021, it is explained that building developers are responsible for building hotels and providing prayer rooms or prayer places. The Qibla direction of each room is only determined by instinctively facing west without any consideration of measurement by experts.²² Building developers often neglect the responsibility of determining the Qibla direction. Their minimal understanding of this method is also the main reason. However, awareness of the importance of a prayer place that has a Qibla direction as a goal of facing the Qibla cannot be denied.

Qibla Azimuth Calculation Method and Mizwala Astronomical Instrument Measurement

The Qibla azimuth method uses a 0° angle starting at the north point. This method takes the latitude and longitude of the place with the coordinate value, which is then calculated using the latitude and longitude of the Kaaba.²³ There are ten research locations in Padang City (ten coordinates), which on average are 0° 57' S (South Latitude) and 100° 21' E (East Longitude). Calculation using the Qibla azimuth method produces a degree coordinate value, and measurement using the Mizwala instrument uses polar coordinates from the conversion of degree coordinates. The inaccuracies in the Qibla direction in coffee shops deviate more to the West and slightly to the North if converted to Mizwala measurements. There are 8 (eight) coffee shops that deviate to the west and 2 (two) coffee shops that deviate to the North, as can be seen in the following figure and table:

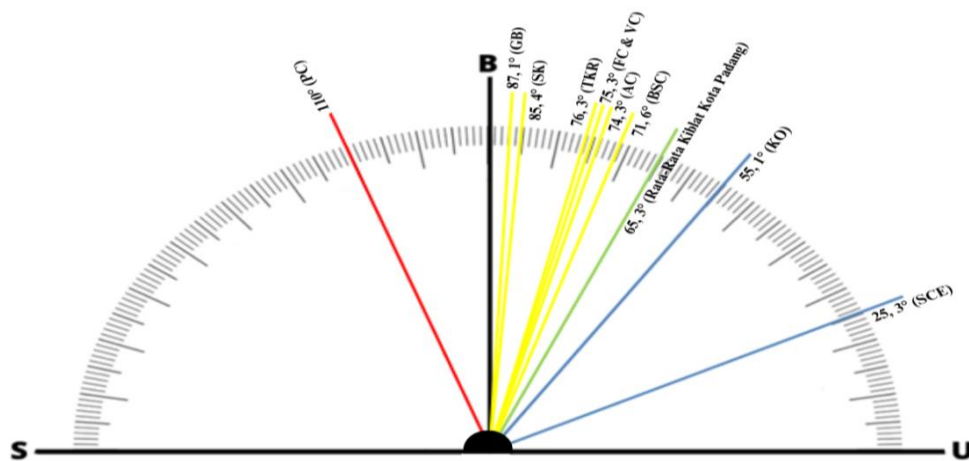


Figure 4. 1 Qibla Accuracy and Direction Differences at The Ten Coffee Shops

No	Coffee Shop	Qibla Direction Difference
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²² Hosen Hosen and Hafidatul Hasanah, “Kalibrasi Arah Kiblat Hotel Di Kabupaten Pamekasan,” *Fenomena: Jurnal Penelitian* 13, no. 1 (June 2021): 25–40, <https://doi.org/10.21093/fj.v0i01.3215>.

²³ Ila Nurmila, “Metode Azimuth Kiblat Dan Rashdul Kiblat Dalam Penentuan Arah Kiblat,” *Istinbath: Jurnal Penelitian Hukum Islam* 15, no. 2 (January 2017): 191, <https://doi.org/10.36667/istinbath.v15i2.26>.

1	Toko Kopi Rasa (TKR)	11° more to the West
2	Grace Brew (GB)	21,8° more to the West
3	Kopi Oz (KO)	10,2° more to the North
4	Asira Coffe (AC)	9° more to the West
5	Singgah Coffe and Eatry (SCE)	40° more to the north
6	Parewa Coffe (PC)	44,6° more to the West
7	Show Koffie (SK)	40,1° more to the West
8	Foresthree Coffe (FC)	9,7° more to the West
9	Vinyl Coffe (VC)	10° more to the West
10	Barizta Specialty Coffe (BSC)	6,3° more to the west

Table 4. 2 Qibla Direction Difference on Mizwala
(Source: Researcher Calibration)

The average Qibla direction in Padang City coffee shops is 65.3° from North to West. The ten coordinates span from 25.3° (SCE) to 110° (PC) west of North. Not using a proper Qibla direction measurement method influences this difference range. More minor differences were found when coffee shops based their Qibla direction on that of a nearby mosque or prayer room. For example, the BSC coffee shop, located 140 meters from a mosque, had a Qibla direction that closely matched the mosque by imitating its direction. However, coffee shops farther from a mosque or prayer room are more likely to have more significant inaccuracies, as seen with the GB coffee shop (350m from a mosque) in the red radius of Figure 4.3. Due to their considerable distance from a mosque, the PC, SK, FC, and VC coffee shops in the yellow radius also show Qibla direction differences. However, being closer to a mosque does not guarantee Qibla accuracy, as some coffee shops in the blue radius still have significant Qibla differences despite being nearer to a mosque.

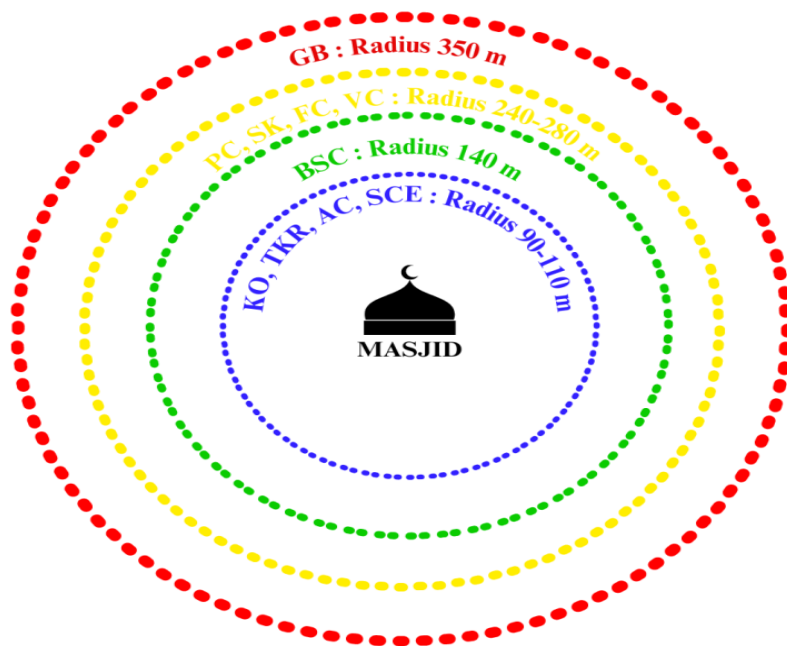


Figure 4.3 Illustration of The Radius of The Mosque With Ten Coffee Shops

The Mizwala is key to verifying the calculation results obtained from the Qibla azimuth method. It serves as a field instrument during location observations.²⁴ Using the Mizwala helps coffee shop managers understand that the Qibla direction can be efficiently measured directly at the coffee shop's prayer place.

Despite the wide range of Qibla direction differences, this study also examines the tolerance for inaccuracy in the Qibla direction.²⁵ Mathematical calculations explain that the correct Qibla is the Kaaba for those praying within the Grand Mosque (Masjidil Haram). This is called 'ainul Ka'bah. However, for regions outside the Grand Mosque, such as Indonesia, it is sufficient to face the direction of the Grand Mosque (jihāt al-Ka'bah). This becomes the tolerable Qibla direction for areas outside Masjidil Haram. Mathematically, the Ka'bah measures 13m long by 11m wide, with the Grand Mosque spanning 357 km². The tolerance outside Masjidil Haram is based on the Qibla accuracy at the first mosque built outside the Grand Mosque - the Quba Mosque. This mosque, also constructed by Prophet Muhammad, is a global reference for Qibla direction tolerance.²⁶ The Quba Mosque is 336 km from the Ka'bah, with its Qibla direction deviating by 7.6° in polar coordinates from the Ka'bah. This deviation establishes the tolerance limit for the Qibla direction veering from the center of the Kaaba and the area of the Grand Mosque. In the researcher's calibration, only the BSC coffee shop falls within this tolerable limit, with a difference of 6.3° from the actual Qibla direction.

Conclusion

The study conducted at ten coffee shops in Padang City reveals varying levels of understanding among managers regarding the Qibla direction. More than half of the managers are unsure about the Qibla direction, prompting this research to seek accurate solutions, such as orienting towards the Kaaba in Mecca. However, the urgency of the Qibla direction in coffee shop facilities has not yet been fully highlighted; the focus is limited to the management's considerations of ambiance, facilities, social interactions, and efforts to provide comfortable, accommodating services for all customers.

Recalibration done at the ten research locations indicates that the accuracy of the Qibla direction is still low, with frequent inaccuracies. The calculation of the Qibla direction at the coffee shops uses the Qibla azimuth (AK) method with the coffee shop location coordinates and GPS applications to measure accuracy. This is then compared with the Mizwala astronomical instrument. Among the ten coffee shops studied, Barizta Specialty Coffee (BSC) has the closest accuracy, while Parewa Coffee (PC) has the lowest. These inaccuracies in the Qibla direction can affect the comfort and experience of visitors who wish to offer prayers at the coffee shop.

The determination of the Qibla direction in coffee shops has not used exact measurements. Coffee shop managers often rely on building developers or smartphone applications to determine the direction. Meanwhile, customers do not question the provided Qibla markers (arrows or prayer mats), assuming they are accurate when the coffee shop has a dedicated prayer space. The focus group discussion with Falak experts and Qibla direction measurement practitioners yielded responses across three key points. *First*, The MUI Fatwa serves as a legal basis but requires further analysis using Falak science. *Second*, The authority

²⁴ Anisah Budiwati, Muhammad Wahyu Firdaus, and Galih Cipto Raharjo, "Integration Method for Measuring Qibla Direction (Comparative Analysis of Google Earth and Mizwala)," *Indonesian Journal of Interdisciplinary Islamic Studies*, December 2022, 147–64, <https://doi.org/10.20885/ijis.vol.5.iss3.art2>.

²⁵ Ismail Ismail, Dikson T. Yasin, and Zulfiah, "Toleransi Pelencengan Arah Kiblat Di Indonesia Perspektif Ilmu Falak Dan Hukum Islam," *Al-Mizan* 17, no. 1 (June 2021): 115–38, <https://doi.org/10.30603/am.v17i1.2070>.

²⁶ Ismail, T. Yasin, and Zulfiah.

of the Ministry of Religious Affairs is limited to mosques and prayer rooms, with no regulations for other public spaces like coffee shops. *Third*, Coffee shop managers often rely on building developers or smartphone applications, which have limitations in determining Qibla direction accuracy. The solutions involve better socialization, understanding, and cooperation between the local Office of Religious Affairs (KUA), business managers, and Falak science practitioners.

Analysis of the Qibla direction calibration in coffee shops reveals two main contributing factors. *First*, lack of understanding and awareness about the importance of Qibla direction accuracy among coffee shop managers. These misconceptions are not always the managers' fault but stem from minimal knowledge about proper Qibla determination methods and a lack of accurate information from relevant institutions. *Second*, absence of proper Qibla direction measurement methods, such as the Qibla azimuth method. Proximity to a mosque or prayer room yields better accuracy, while greater distances can result in more significant inaccuracies. This emphasizes the need for a more detailed approach in determining the Qibla direction in locations like coffee shops. The tolerance limit for the Qibla direction outside Masjidil Haram is based on the deviation of the Quba Mosque's Qibla. The BSC coffee shop is the only one approaching this tolerance limit, with a difference of 6.3° from the actual Qibla direction.

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- FGD (Fokus Group Discussion) dan Wawancara**
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- Wawancara, Pengelola Toko Kopi Rasa, Kec. Padang Barat, 5 Agustus 2023.
- Wawancara, Pengelola Grace Brew, Kec. Padang Barat, 5 Agustus 2023.
- Wawancara, Pengelola Kopi Oz, Kec. Padang Timur, 6 Agustus 2023.
- Wawancara, Pengelola Asira Coffe, Kec. Padang Utara, 6 Agustus 2023.
- Wawancara, Pengelola Singgah Coffee and Eateary, Kec. Padang Utara, 6 Agustus 2023.
- Wawancara, Pengelola Parewa Coffe, Kec. Padang Barat, 7 Agustus 2023.
- Wawancara, Pengelola Show Koffie, Kec. Padang Barat, 7 Agustus 2023.
- Wawancara, Pengelola Forestthree Coffe, Kec. Padang Selatan, 8 Agustus 2023.
- Wawancara, Pengelola Vinyl Coffe, Kec. Padang Selatan, 8 Agustus 2023.
- Wawancara, Pengelola Barizta Speciality Coffe, Kec. Kuranji, 8 Agustus 2023