

MOTORCYCLE TAXI SERVICE IN THE CITY OF NAMPULA (MZ): BRIEF PROFILE OF OPERATORS AND ACTIVITY

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ABSTRACT

This article is the result of a descriptive, qualitative and quantitative field research carried out in the city of Nampula, between June and July 2022, involving 97 motorcycle taxi service operators, chosen at random, in all Administrative Posts of the City. Data collection was carried out using the digital tool Google Forms of the Google Workspace system, which automatically processed the data. The objective of the study was to elaborate the profile of the motorcycle taxi service operators in the city. We found that the profile of moto taxi operators in the city of Nampula, the dynamics of the operation of the services itself, is strongly similar to what is reported in the literature reviewed and presented in this article, in relation to the cases of Brazil and Africa. This service is provided predominantly by male operators, between 21-30 years old, married, heads of households with 5-6 members, born in Nampula, with basic and medium secondary schooling. In many marginalized cases, reality insists on demonstrating that this service is part of the transport systems that, in fact, operate in cities. Therefore, motorcycle taxi operators are part of a social group with similar biometric characteristics, influenced by similar factors, but operating and exposed to different possibilities of political and legal recognition, regulation, improvement and inspection.

Keywords: Urban mobility, Motorcycle taxi, Nampula.

1. INTRODUCTION

The impact of motorcycles cannot be ignored not only on the urban landscape of the municipality of Nampula (number of vehicles in circulation, number of motorcycle taxi parks, involvement in road accidents, etc.) but also on their competition and complementation of the public transport services considered formal. In the city of Nampula, where the increase in the use of motorcycles has been associated with taxi activity for more than seven years, there appears to be some resistance from municipal authorities in formally recognizing this transport segment as part of the municipality's transport system. Its association only with crime and road accidents may be the reason for the resistance.

An exploratory study carried out by students in the 4th year of the Architecture and Physical Planning course at the Faculty of Architecture and Physical Planning at UniLúrio, under the supervision of teachers Arq. António de Amurane and Arq. Abílio Arrissane, in the year 2018, indicates that only in the Central Urban Administrative Post there are around 248 motorcycle taxi operators, distributed across 12 main parks. Most of these taxi drivers do not have a license to drive on public roads. As they make a great contribution to

mobility and have become important agents for making the urban economy more flexible in the city, there is an urgent need to improve regulation, training and supervision of the activity.

Therefore, with the aim of developing the profile of motorcycle taxi service operators in the city of Nampula, in the months of June and July 2022, the main parks (or concentration points) of active operators were identified and mapped, and interviews were carried out to collect demographic and social data of the operator as well as some historical details of the activity.

However, for a more structuring intervention regarding the motorcycle taxi activity, it is necessary to have important information about how it is carried out, who carries it out, what are their motivations, who they service to, where they operate, when, and other elements that allow motortaxi operations. It is assumed that this type of “public” transport has been playing an important role in urban mobility and accessibility of people and goods, especially in informal settlements and in the connection between these and the consolidated area of the city, due to its affordability and flexibility through intense congestion.

The Municipality of Nampula is located in the interior of Nampula Province, approximately 200 km from the coast and 350 meters above average sea level. It occupies an area of 404 square km and has a population of 743,125 inhabitants, a density of 1839 inhabitants/km², according to the 2017 CENSUS (INE, 2018). The municipality has a democratic government elected every 5 years since 1998, whose executive power is exercised by the Municipal Council of the City of Nampula and deliberative power by the Municipal Assembly of the City of Nampula. Regarding the administrative division, the municipality is subdivided into 8 Administrative Posts (PA) which in turn are subdivided into a total of 25 neighborhoods.

Among the factors that contribute to the economic and social dynamics of the municipality, it is worth highlighting the road corridors that cross it, such as National Road number 1 (EN1) that connects it to the provinces of the Center and South of the country to the southwest and connects it to the important port of Nacala and Pemba to the east. Additionally, National Roads numbers 13 and 104 also cross the city, to the west and southwest, respectively, connecting it with the province of Niassa and the district of Namethyl. The railway corridor - concessioned to the Northern Development Corridor - which connects the northern region of the country to the neighboring interland country of Malawi, also passes through the municipality. Nampula International Airport is also part of the municipality's transport system, with regular domestic and international flights.

As for the current situation of the municipality's road network, as illustrated in the map below, it is limited with more branches in the city center and loses scope as it approaches peripheral neighborhoods. Connectivity between peripheral neighborhoods is still deficient due to natural constraints such as rivers, streams, swamps and mountains that are often found throughout the municipality. Constraints that have not been addressed through proper infrastructure delivery, such as bridges and tunnels.

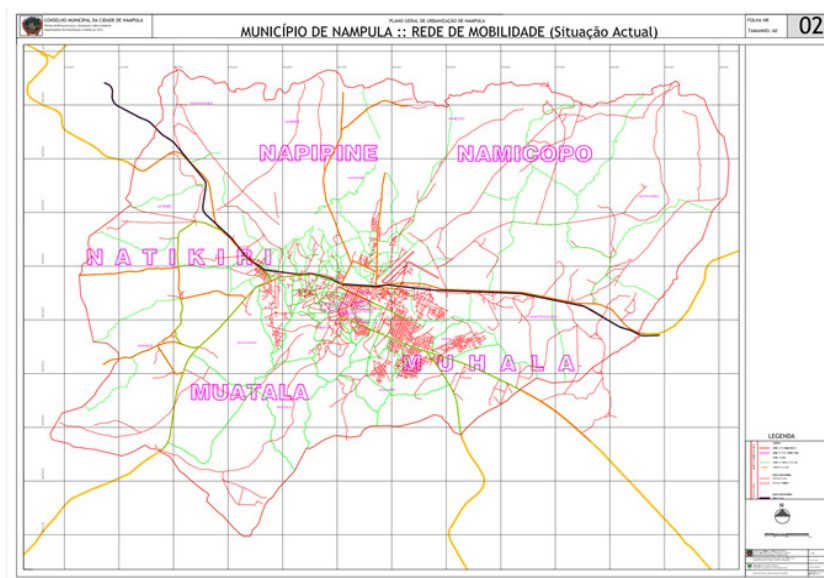


Figure 1: Illustrates, with red lines, the coverage of public transportation in the city

2. URBAN MOBILITY INTERACTION WITH ECONOMY

Urban mobility is an attribute associated with people and economic actors in the urban environment who, in different ways, seek to meet and satisfy their travel needs to carry out daily activities such as: work, education, health, leisure, culture, etc. To achieve this objective, individuals can employ their direct effort (walking on foot), to use non-motorized means of transport (bicycles, carts, horses) or motorized (collective and individual) means of transport (Vacari & Fanini, 2011:10).

Urban development and the population's quality of life are considered indispensable and crucial variables in the study of urban mobility. When looking at what is seen as the antecedents of the most worrying urban crisis, unsustainable mobility, there is unanimity among authors who study urban realities in developing countries in both South America and Africa, with emphasis on sub-Saharan countries that deficient mobility accounts for limited access to city's amenities and services mainly by the urban poor.

Multiple authors have shown that the rapid population growth in urban areas that led to the housing crisis with consequences for the territorial expansion of cities led to the sprawl of the urban fabric. This expansion was not accompanied by the corresponding expansion of the urban transport network, especially public transport. This phenomenon made life difficult for the low-income population, who were forced to live far from the city center and consequently from their place of work. In fact, "inefficient mobility systems worsen socio-spatial inequalities, harming the poorest, in terms of impacts on income, in addition to putting pressure on the fragile conditions of environmental balance in urban space" (Carvalho, 2016).

In recent decades, political investments in an attempt to alleviate the urban mobility crises have only resulted in accentuating "negative externalities to society", with the low-income social segment as the most affected. In fact, "investments in urban mobility generally favor individual transport, with a focus on the most economically dynamic areas. Works such as expansion of the road system, widening of roads, viaducts, tunnels, etc., favored private transport and richer areas" (Miranda, 2019). That is why the benefits of those investments are systematically limited to those who own individual means of transport in detriment to those who strongly rely on mass transportation services. When properly studied, major

determinants of mobility will be identified for further technical and political addressing under lower rate of failure during the implementation of solutions that might be thought of.

Assuming that for daily commuters the challenges are higher than for occasional commuters, we need to consider “the properties of travel - such as frequency, reason, chosen means of transport, fluidity, comfort and safety” that are highly determined and “often contingent upon individual, family, and social attributes relating to neighborhoods and cities” (Rodrigues, 2016).

The Ministry of Cities (2014 apud Pero) and Stefanelli (2015), state that, as the city is a centralizing place for diverse social relationships and interactions, there is an indisputable need to ensure its mobility so that this centralizing function is performed with efficiency and effectiveness for the ultimate benefit of its population. When listing the factors of the urban mobility crisis in the Brazilian reality, among the five mentioned, there is the “generalization of precarious and unsafe forms of public transport: clandestine transport, vans, kombis and motorcycle taxis” (Stefanelli, 2015).

As an example, the municipality of Caratinga - Minas Gerais “grew in a disorderly and shaped way to favor mobility patterns aimed at individual motorized vehicles” (Miranda, 2019). Andrade and Cunha (2017) stated that “The result of this failed model is critical for the inhabitants of contemporary cities: urban sprawl and segregation, in addition to long work-from-home journeys generating fatigue, depression and wasted energy”. Fatigue, depression and wasted energy are not only personal and family problems, but are also public health issues with significant negative effects on the general economy through lowered performance of those affected by it.

Similar to the Brazilian reality, Sietchiping et al. (2012) state that “urban mobility is increasingly becoming one of the main planning and development issues for cities in sub-Saharan Africa”. According to these authors, cities in this region of the continent grow at a faster rate than the provision of corresponding urban transport infrastructure; Finally, four variables interact in the current scenario, namely: population and spatial growth, inefficient urban planning, rapid urbanization and deterioration of infrastructure and transport services. Pirie (2013) explains population growth by pointing out two main factors, namely: natural growth (through birth rates and increased life expectancy at birth, and immigration).

For example, data published by UN-HABITAT (2010) and Pirie (2013) indicate that the region's urban growth rate was 4.5%, with the region having the highest urbanization rate in the world, a trend that is most notorious in medium and small cities (75%). Mbara (2002) adds that African cities experience the highest annual traffic growth (15%-20%) in the world. Due to a considerable increase in purchasing power, more people in the city began to purchase individual motor vehicles (mainly used ones imported from Japan) and new motorcycles imported from China.

One of the critical problems in the area of transport, for example, is that “traffic congestion negatively affects efficiency and economic growth” (Moyano et al., 2021). For example, data indicates that in Dakar (Senegal) an estimated one million working hours are lost each day in traffic due to congestion. In addition to these related evils, costs related to the loss of the city's productive mass due to road accidents, loss of time due to hospitalization, breakdown of family and social networks are mentioned, including the difficulty for children from disadvantaged families to attend schools outside of their places of residence.

“The progressive deregulation of the sector creates competition between private operators in an already saturated market. One of the results of this is the disregard for safety measures and inefficiencies in the current tariff provisions” (Mattioli et al., 2020.). For instance, the majority of public transport, around 80%, in Nairobi is provided by private minivans. This segment constitutes 36% of the traffic volume in the city. The main favorable impact of informal motorized transport has to do with increasing the mobility of poor residents and speeding up traffic (Tatah et al., 2023.).

3. THE URBAN MOBILITY CRISIS IN AFRICAN CITIES

Urban mass transport systems are still far from satisfying the demand for transport in the main African cities. However, the functioning of these cities requires the satisfaction of this specific need, even partially, that, in recent decades, there has been a continuous growth in informal transport (Diaz et al., 2020). Citing Cervero (2000:49), the author states that, with Africa being the continent with the lowest level of urban development, informal transport is as prevalent as it is extensive to almost all major urban centers. In fact, this segment of urban transport not only exists in the African urban environment but is also experiencing rapid growth and expansion. According to Ehebrecht et al. (2018), approximately 20 years after the advent of this mode of transport, the urban public transport service has been increasingly dominated by motorcycle taxi services.

Similarly, cities in sub-Saharan Africa have been registering significant demographic and territorial growth (Linard et al., 2013; Seto et al., 2011). This growth necessarily leads to demand for public transport, especially if we look at the number of daily trips and distances travelled. In fact, it is no coincidence that the race for BRT (Bus of Rapid Transit) projects gained momentum in this part of the continent, starting in 2002, in cities such as Lagos (Nigeria), Dar es Salaam (Tanzania), Abidjan (Ivory Coast), Accra (Ghana), Addis Ababa (Ethiopia), Dakar (Senegal), Kampala (Uganda), Luanda (Angola), Maputo (Mozambique), Nairobi (Kenya) and in almost 10 South African cities (Deng & Nelson, 2011; Mobereola, 2009; Nkurunziza et al., 2012; Pirie, 2014; Rizzo, 2015; Wood, 2015). However, only a few of those cities actually managed to establish their BRT services to date.

Although the advent and rapid growth of informal motorcycle taxi services can be interpreted as a rebellion of those marginalized by capitalism against the expansion of neoliberalist forces in Africa through, in this case, the promotion of the BRT agenda as the best solution to the problems of urban mobility in general, it would be more prudent to combine this perception with the fact that, in addition to the undoubted existing demand for the service, it is an initial investment business accessible to low-income individuals looking for a source of income to support their families.

For example, the costs of purchasing vehicles, their operating costs (fuel and lubricants) and maintenance (including legal and tax costs) are within the reach of most of those involved and do not necessarily result in unbearable rates for customers (Diaz et al. 2018). Furthermore, it cannot be neglected to include in any analysis of the phenomenon in question the fact that its operation is seen as a positive contributor to the economic and social development of the city as well as playing a crucial role in the daily lives of its population.

Studies indicate that this mode of transport was first recorded in Nigeria, around the 1970s, in the cities of Calabar and Yola (Ogunsanya & Galtima, 1993), followed by two other cities in the 1980s (Adeniji, 1986). Shortly afterwards, in the same decade, the phenomenon expanded to cities in neighboring countries such as Benin (Sambo, 2010),

Niger, Cameroon, and Rwanda; followed, in the 1990s, by Chad, Kenya, Togo and Uganda; then, from the 2000s, Angola, Ethiopia, Ghana and Mozambique and others (Kumar, 2011).

Despite the (already mentioned) social and economic contributions of the motorcycle taxi service to the Sub-Saharan African cities in which they operate, the governments of these countries have been neglecting their political, legal and formal recognition (Recio et al., 2017), probably because of its association with pollution and road accidents. However, urban transport policies of cities that ignore this type of public transport are doomed to failure (McFarlane, 2012).

In fact, based on the Brazilian reality, Henrique (2004) and Gomes & Duque (2009) defend the political and formal acceptance of this transport reality so that, subsequently, the issue of its regulation and supervision is addressed, seen as prerequisites for providing security to those directly involved (operator and passenger) and indirectly involved (other public road users), as well as ensuring greater fairness in the rates charged for the service. As an example, the Federative Republic of Brazil approved Federal Law 12,009, of July 29, 2009, which “ regulates the exercise of the activities of professionals in passenger transport, "motorcycle taxi drivers", in the delivery of goods and in community service of street, and "motoboy", with the use of a motorcycle, amends law no. 9,503, of September 23, 1997, to provide for safety rules for paid transportation services of goods on motorcycles and scooters, establishes general rules for regulating this service and provides other measures” with effects in the Brazilian Traffic Code.

Although this mode of transport presents the aforementioned advantages for both operators and their customers (the population), including ease of maneuvering, ability to circulate on precarious roads, flexibility in responding to demand, its growth has been increasingly associated with the increase in road accidents, traffic management problems, noise and air pollution, and greenhouse gas emissions (Kumar, 2011).

On the other hand, if we also pay attention to the fact that the growth and expansion of this mode of transport is intrinsically linked to high unemployment rates in cities and the consequent search for alternative means of subsistence, perhaps there is room for better political consideration of the phenomenon. Based on studies carried out in the Brazilian reality, Fonseca (2005), Almeida (2010) and Leite (2011), identified the following as factors in the prevalence of motorcycle taxi services over time: “unemployment, precariousness of public transport and low cost of purchasing and maintaining vehicles”, attractive rates and ease of avoiding traffic congestion.

For example, in Lagos, private public transport services (minivans and motorcycle taxis) cumulatively employ around 500,000 people who head households consisting of five members on average. By deduction, we can say that, in Lagos, this business supports around two million people, corresponding to around 15% of the city's population (Kumar, 2011) which corroborates the findings of Amorim et al. (2012) about the Brazilian reality in this aspect.

It is recommended to look at the increase in demand for public transport in a city as a consequence (direct or not) of the increase in population and jobs in their necessary association with the demand for housing. Therefore, the variables of the employment market, housing market and urban mobility must be strategically analyzed and treated in an integrated manner (Kumar, 2011).

Studies reveal that the majority of motorcycle taxi service operators are young people under 30 years of age. For example, a study carried out in the city of Auchi in Nigeria found that 59% of the operators involved were aged between 21 and 30 years old and another 31% were between 31 and 40 years old (Al-Hasan et al., 2015); another similar study carried out in a Kenyan city, involving 300 operators, found that 47% were in the 21-30 age group and 27% were in the 31-40 age group (Gitonga, 2014). On the other hand, a study carried out in Kano (Nigeria) data indicates that 52% of those interviewed were between 31 and 40 years old and 30% between 21 and 30 years old. The same studies found that the sector is dominated by male operators, with the exception of cases of service management that present considerable female participation (Ogunrinola, 2011).

Coincidentally, studies carried out in the municipality of Corumba (State of Minas Gerais, Brazil) by Leite (2011) found that the majority of operators are between 31 and 40 years of age, with an almost total predominance of male individuals among operators. Regarding marital status, there is a predominance of married individuals (41.38%), in a de facto union (22.41%), single (26.72%), separated (4.31%), divorced (3.45%) and widowers (1.72%). Around 75% of them are from Corumbá and the rest are from other neighboring municipalities and other cities (3.45% from Rio de Janeiro, 2.5% from Campo Grande and Fátima do Sul - MS, 1.72% from Cáceres - MT and São Gonçalo - RJ, and 8.62% from other municipalities with less frequency).

A considerable proportion of them have secondary education (50.86% complete + 17.24% incomplete), primary education (12.07% complete + 9.48% incomplete), higher education (3.45% complete + 4.31% incomplete) and data on the others is missing (2.59%).

Regarding the operating time in the field, the results indicate that, in descending order, the majority are between 9 and 10 years (33.62%), between 11 and 12 years (31.03%), between 1 and 2 years (10.34%), between 7 and 8 years (9.48%), between 5 and 6 years (6.9%), less than 1 year (4.31%), between 3 and 4 years (2.59%) and over 12 years of work (1.72%).

Regarding working days per week, the majority reported working between 6 (48.28%) and 7 (37.93%) days, followed by those who work 4 days per week (10.34%). Most operators work more than 8 hours a day, leading to the accumulation of a weekly workload of more than 44 hours.

Although they have no control over their daily or monthly income, operators feel comfortable with the activity because it guarantees them "having money all day". But, on average, it was found that their monthly income was less than 1400 Reals (BRL).

Although the business of public transportation by motorbike is growing in cities such as Nampula, Beira, Chimoio, Pemba, there is no specific legislation for this kind of means. Public transportation, which is focused on buses (paratransit) and 72 seats buses, is currently regulated by the RTA (Automobile Transport Regulations).

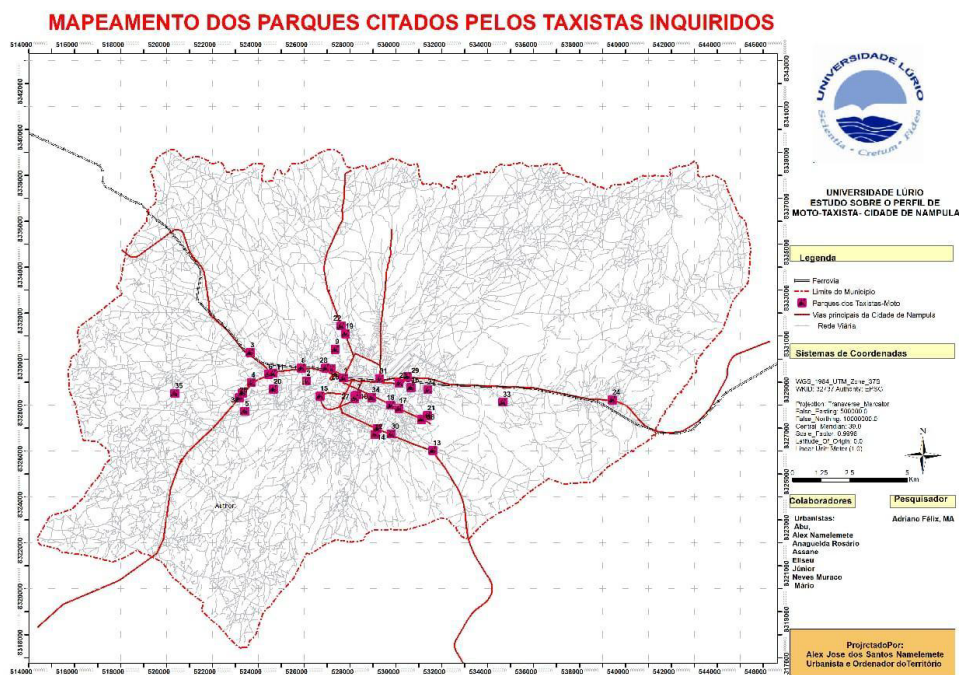
4. THE REALITY OF MOTORBIKE TAXI OPERATION

For the purpose of collecting data to prepare the profile of motorcycle taxi service operators in the city of Nampula, two main techniques were used: a semi-closed structured interview using the Google Workspace functionality called Google Forms and mapping of parks (or points) of motorcycle taxis to which each respondent was a member of, not based on the GPS device, but based on the answer to a corresponding question.

As the main data collection technique, the interview was prepared (and inserted into Google Forms) with a view to covering three categories of indicators, namely: (i) demographic data of the operators (gender, age, place of birth, education, marital status, household, etc.), (ii) data on the motorcycle taxi service (legality, license to drive on public roads, membership of an association of operators, total work experience in the field, etc.) and (iii) questions related to the service itself (period of the day in which it operates, days of the week of operation, period of the day with greatest demand, main customers, main destinations, minimum cost for each trip, etc.).

The responses obtained were automatically inserted into a database generated by the Google Workspace service through the Google Forms functionality, in real time, and graphs were automatically generated. At the end of the data collection period, June-July 2022, the graphs were downloaded for subsequent analysis and interpretation of the results.

With the answers obtained about the park from the interviewees, a map was produced, using the ArcGIS system, which illustrates its location throughout the city through points, as shown in the image below, which, in some way, demonstrates the spatial scope of the research. From the map it can be seen that the 97 interviewees chosen at random in each neighborhood represent the main motorcycle taxi parks in the city of Nampula, which are spread across all corners of connectivity between the center and peripheral neighborhoods.



In fact, the data collected indicates that the majority of operators in this mode of passenger transport are aged between 22 and 31 years old, all of them male, most of them married, with basic and secondary school (there are including some with higher education), with households of between 3 and 5 members; They are mostly from the provinces of Nampula, Zambezia and Cabo Delgado, respectively, and predominantly inhabit the neighborhoods of Muahivire, Napipine, Mutauanha and Natikiri; Most of them have previously been employed, do not have a license to drive on public roads, nor are they affiliated with a motorcycle taxi driver association. In parallel with what was found in the literature review, both the Brazilian and the African reality (Al-Hasan et al., 2015; Gitonga, 2014; Ogunrinola, 2011; Veloso, 2017), it appears that this service comes being exploited mainly by operators from the active social class, with some exception in the particular case of Betim, the majority of whom were in the 31-40 age group (Abreu, 2012). The same coincidence of results can be seen in relation to the predominance of male individuals with family responsibilities (deducted from their married marital status) among operators both in the Brazilian reality (Cruz, 2014; Abreu, 2012; Leite, 2011) and in Africa (Kumar, 2011; Diaz et al., 2020; Ehebrecht et al., 2018) and the city of Nampula, in particular. Likewise, in relation to the education of those targeted, there is a parallel between the realities under analysis. Finally, with some certainty, it can be said that the operators of the motorcycle taxi service, regardless of borders, are almost entirely male, aged 21-30, married, with a basic secondary education level. or medium. And, added to these attributes, we have the observation that, at least in the case of Corumbá presented by Leite (2011), the majority of operators are from that municipality and the same was found in relation to the municipality of Nampula. Thus, we have a social group that, by description, fits the profile of the considered active population, with basic educational qualifications to actively contribute to the city's economy and with responsibility for families who feel forced to find an opportunity in this deficiency in the urban transport system to generate income to support their families (Recio et al., 2017; Kumar, 2011).

5.2 Basic Characterization of the Service Experience

Questions were asked related to the following indicators: state of legality of the operation, time of operation, period of the day in which it operates, days of the week in which they operate, highest and lowest daily income. Based on the operators' responses, more than half of the operators confessed that they do not have a license to carry out transport activities on a commercial basis; most of them have been conducting this activity for more than 6 months (6 months-4 years). In general, operators operate more throughout the day (24h/24h) and the others operate between 4am and 12pm, between 12pm and 6pm; the majority work every day of the week, including Saturday and Sunday.

As for the days of the week with the highest demand, Mondays, holidays and Fridays were identified, respectively. Regarding revenue, the highest daily gain mentioned by operators is 2000 Metical (MZN) and the lowest is equivalent to nothing (that is, a day without any revenue). In relation to the operation of the services themselves, we found a strong parallel with the studies presented in the literature review, with the exception of the service exploitation time, which is justified by the fact, for example, that this modality has emerged and flourished in Brazil long before the municipality of Nampula, hence there is disparity in this regard.

However, in terms of weekdays of operation and daily and weekly working hours, there is a similarity, for example, between the municipalities of Corumbá (Leite, 2011) and Betim (Abreu, 2012) and the municipality of Nampula, where the majority of Operators work between 6 and 7 days a week, for more than 8 hours a day. Another parallel has to do with

the monthly volume of revenue both in the Brazilian reality (Leite, 2011; Abreu, 2012; Cruz, 2014) and in the African reality (Ogunrinola, 2011; Al-Hasan et al., 2015) which, as in the reality under study, in the municipality of Nampula, is below the national minimum wages.

As can be seen from the results of the discussion, this is a demanding activity for operators (especially in terms of workload) whose income does not compensate for the effort invested. Although studies argue that “when motorcycle taxis are present in a city they contribute to its economic and social functioning and play a role in the daily lives of the population” (Diaz, 2020), we have, in contrast, the precariousness of this business in relation to operators, the majority of which, in the African reality, including Mozambican, do not operate legally or within minimum safety standards.

5.3 Dynamics of Motorcycle Taxi Activity

To draw the profile of the activity under study, we look at the following indicators: days of the week with the highest demand, period of the day with the highest demand, main customers/passengers, the most frequent destinations, the minimum cost per trip, maximum cost per trip and the amount of fuel used per day of operation. According to the data collected, the periods of the day with the greatest demand for services are from 4am-9am, 9am-12pm, 5pm-8pm and 3pm-5pm, respectively. The most frequent customers are individuals in the following age groups: 21-40 years old, 41-50 years old and 16-20 years old, respectively. And finally, operators use an average of 3 liters of fuel per day of activity. The most frequent destinations are, in descending order, the workplace (53.6%), the market (12.5%), the university (10.4%), hospitals and primary and secondary schools (4.2% each).

In fact, the studies we have been referring to indicate that access to services offered in social facilities located far from the human settlements of low-income people (such as education, health and commerce), due to unplanned urban sprawl, constitute the main motivations for urban mobility from the outskirts to the center and vice versa (Carvalho, 2016; Miranda, 2019; Rodrigues, 2016; Ribeiro, 2004; Demoraes et al., 2013; UN-HABITAT, 2010; Pirie, 2013).

Now, the minimum cost charged to the passenger per trip is 20 Metical (MZN), corresponding to double what is charged for public transport considered formal in the city (known as Chapa Cem). Considering this aspect, we agree with UN-HABITAT (2010) when it states that the reason for the adoption of motorcycle taxi drivers by the low-income population has little to do with fares, but with other conveniences such as access to places where formally recognized public transport services are not enough, ease of customization of services, among others.

6. CONCLUSIONS

Assuming that this article is the result of exploratory and descriptive field research designed to develop the profile of motorcycle taxi service operators in the city of Nampula, this final part is reserved for the presentation of final considerations based on the discussion exercise of results carried out in the part immediately preceding this one. In accordance with the specific objectives previously defined, the results were presented, analyzed and discussed in three descriptive categories: biometric profile, professional profile and characterization of the activity in terms of its daily operation.

The demographic data analyzed allowed the design of a profile of motorcycle taxi service operators, which are basically dominated by male individuals, aged 21-30, mostly married and heads of households of 5-6 members on average, with a basic and intermediate level of education. The majority of operators are from Nampula Province, but there are a considerable number of them from neighboring provinces (Zambézia, Cabo Delgado and Niassa).

The experience of working in this field on the part of the operators can be described as, firstly, being an illegal activity from the point of view that they do not have a license for this purpose, few are affiliated with the local association of motorcycle taxi drivers; The majority have already worked in the sector for between 6 months and 4 years and work almost every day of the week, with unlimited availability (24/24). The days of the week with the highest demand according to the interviewees are Mondays, holidays and Fridays. Although they casually mentioned high daily revenues, there are days when they can't even get a single passenger because the market is becoming so competitive.

The periods of the day with the greatest demand are the mornings (4am-9am and 9am-12pm), afternoons (3pm-5pm) and evenings (5pm-8pm). The most common destinations have been workplaces, universities, hospitals and primary and secondary schools, respectively. The most frequent customers/passengers, as answered by them, are individuals aged 41-50 years and 16-20 years, in that order. On average, operators fill their motorcycles with 3 liters of fuel per day.

At the end of the discussion of the results, we found that the profile of motorcycle taxi operators in the city of Nampula, the dynamics of the operation of the services itself, strongly resembles what is reported, in the reviewed literature and presented in this article, in relation to the cases in Latin America and Africa (with emphasis on Nigeria and Benin). It should be noted that the three realities that were brought into interaction in this article are characterized by the same antecedents of rapid urbanization marked by urban sprawl in response to explosive population growth and lack of monitoring of territorial growth with the improvement of infrastructures and services (especially of transport) corresponding; It is also marked by political negligence regarding the need to improve public transport and the preference for investment in transport systems that favor individual vehicles to the detriment of the needs of the most disadvantaged population living on the outskirts of the city.

The marginalization of this social layer gave rise to the opportunity not necessarily to cover the gap in public transport services in cities, but mainly to generate income to support families. Today, reality insists on demonstrating that this service is part of the transport systems that, in fact, operate in cities. Therefore, motorcycle taxi operators across the globe are part of a social group with similar demographic characteristics, influenced by similar factors, but operating under different environments of political and legal recognition, regulation, improvement and inspection.

Unfortunately, although this business model is proving to be increasingly important in boosting city life in several African countries, especially in Mozambique, the lack of specific legislation and regulations (routes and price lists, for example) makes it difficult to implement regulatory and supervisory measures, as well as aspects related to operational safety. Future studies should seek to understand the general aspects of the operation: criteria for setting fares, safety measures in operation, quality motorbikes, etc.

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