

Research Article

TRANSPORT VEHICLES WITH DRIVER (VTC) IN THE CITY OF ABIDJAN; AN INNOVATION IN URBAN TRANSPORT

*EVIAR Ohomon Bernard

Institute of Tropical Geography, Félix Houphouët-Boigny Abidjan-Cocody University, Ivory Coast

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Abstract

The hyper-concentration of the Ivorian population in the economic capital leads to travel needs. The structural failure of the conventional transport system has given rise to means of transport evolving in the informal sector. In response to the difficulties encountered by informal transport, so-called "passenger transport with driver (VTC)" companies are appearing in the urban space of the Ivorian economic capital. The objective of this study is to present the challenges of this new mode of transport. The methodology used in this work is based on documentary research, observation and investigation. The results obtained show that among the many operators, only three emerged. These are Yango and Uber which are non-national companies and Taxi Jet which is set up by ivorians. These platforms have advantages that attract many customers. Ride-hailing companies bring huge payoffs to vehicle owners and businesses while drivers are poorly paid.

Keywords: Urban growth, Technological innovation, Urban transport, Transport vehicle with driver, City of Abidjan.

INTRODUCTION

The economic capital of Côte d'Ivoire, Abidjan, is experiencing very rapid urbanization linked to strong demographic growth and a rapid extension of its space. The population of Abidjan, which was 951,216 inhabitants in 1975, increased to 2,877,948 inhabitants in 1998 and to 5,616,633 inhabitants in 2021 (RGPH-75-98-2021). With this last population, the Ivorian economic capital stands out from other regions of the country by its demographic weight with nearly 1/5 of the country's population. Aware of the need for the daily movement of the population, the State has implemented a transport policy based on the liberalization of competitive market players and the promotion of the private sector. In December 1960, the Société des transports abidjanais (SOTRA) was created which, thanks to the public service concession agreement, held exclusive public transport service in the city of Abidjan. "Demographic pressure, the economic crisis as well as the rapid and uncontrolled expansion of urban space have contributed to limiting the public public transport service. (Irene KASSI-DJODJO, 2010). The structural failure of SOTRA at the end of the 1990s and the diversity of challenges in terms of urban mobility contributed to a proliferation of means of transport operating in the informal sector. Faced with this problem, the issue of the diversification of means of mobility in Abidjan is becoming a major concern in the country's economic development policy. Changes have occurred with the liberalization and deregulation of transport. Due to the insufficient number of vehicles in good condition, endless traffic jams and insufficient road infrastructure, the movement of people in the city of Abidjan is difficult. The question of transport in the metropolitan area has thus become a major problem for local governments. With the evolution of new information and communication technologies, we are witnessing a new dynamic of private actors in the field of urban transport (VTC).

Transport vehicles with driver (VTC) then emerge in order to adapt urban transport systems. This new mode of transport presents an organization and functioning which seem to be unknown to the populations and which should be elucidated.

MATERIALS AND METHODS

Presentation of the study area

Administrative and political capital of Côte d'Ivoire until 1983, Abidjan was given the economic role after the transfer of political power to Yamoussoukro. Since 2001, the city of Abidjan has become an autonomous district which brings together the ten municipalities of the city of Abidjan and four peripheral sub-prefectures caught up in the urban sprawl of Abidjan.

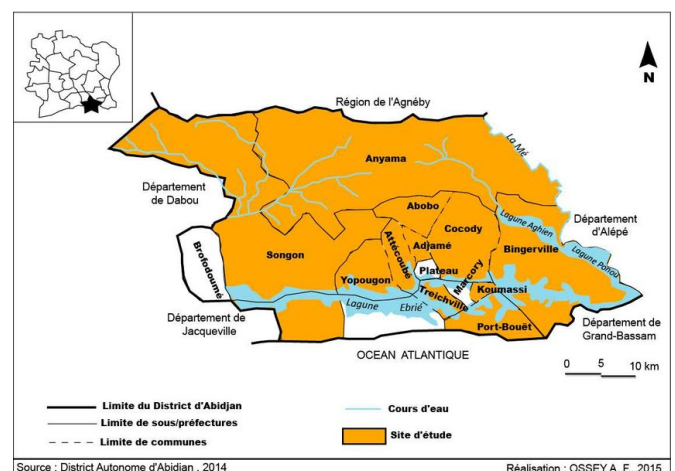


Figure 1. Presentation of the Autonomous District of Abidjan

With 6,321,071 inhabitants, the autonomous district of Abidjan covers an area of 2,119 km². With 21.50% of the total population of the country, the autonomous district of Abidjan stands out from other regions by its demographic weight. It is

*Corresponding Author: *EVIAR Ohomon Bernard*

Institute of Tropical Geography, Félix Houphouët-Boigny Abidjan-Cocody University, Ivory Coast.

one of the largest urban centers in Sub-Saharan Africa. Prior to the country's accession to independence in 1960, the public transport service in Abidjan was provided by vans transporting around twenty people on a fixed route, private cars which transported 6 to 7 passengers on a route more or less regular with a fixed fare and some metered taxis similar to European taxis.

Data collection method

The data collection methodology for this study revolved around three main techniques which are documentary research, direct observation, interview and field survey. This essentially qualitative study because it highlights the understanding of mobility choices. The documentary research essentially consisted of researching books, statistical and cartographic documents. "Several sources served as a basis for this documentation. There are libraries, documentation centers and the internet. This phase paved the way for field research, which began in mid-May and ended the second week of June. This investigation phase, which began with interviews with the drivers, allowed us to understand their working conditions but also the advantages linked to the use of this type of transport by the population. A questionnaire was sent to 150 individuals to get their opinion on hybrid bikes. In addition to the interviews and the questionnaire, observations were made in order to assess the condition of the vehicles.

RESULTS

Transport cars with driver: an activity governed by laws

VTCs entered Côte d'Ivoire in 2000. To regulate and formalize chauffeur-driven transport cars, the Ivorian State issued decree no. Article 24 determines the exercise of this activity. Motor vehicles used by transport companies performing the transport service by VTC must meet certain conditions. Thus, these vehicles must have a number of places of 04 or 09 people including that of the driver and be aged, at the time of its use for the exercise of the activity, of 5 years maximum as from its first entry into circulation. . They must be easily accessible, i.e. having at least four doors, one of which is on the side where pick-up takes place. The vehicles used for this activity must also be sufficiently spacious and present suitable conditions of comfort, safety, security, convenience and cleanliness. Finally, for a car to be used as a VTC, it must have an engine with a net power greater than or equal to 84 kilowatts or 114 horsepower, but this condition does not apply to hybrid and electric motor vehicles.

VTC: a competitive space for businesses

The landscape of intra-urban transport in Abidjan is changing with the appearance of transport vehicle services with driver. These companies, of national and non-national origin, have developed applications that allow taxis to be ordered.

National ride-hailing companies: Ivoire Taxi, Taxi Jet and Treize Taxi are applications set up by Ivorian entrepreneurs. Ivoire Taxi is a mobile application developed by City ADS. It allows users to order their taxis of their choice without worrying about the price of comfort and safety and gives customers the opportunity to have an account and take advantage of the various offers. The user can make a reservation, pay for his shopping in cash, online or by visa

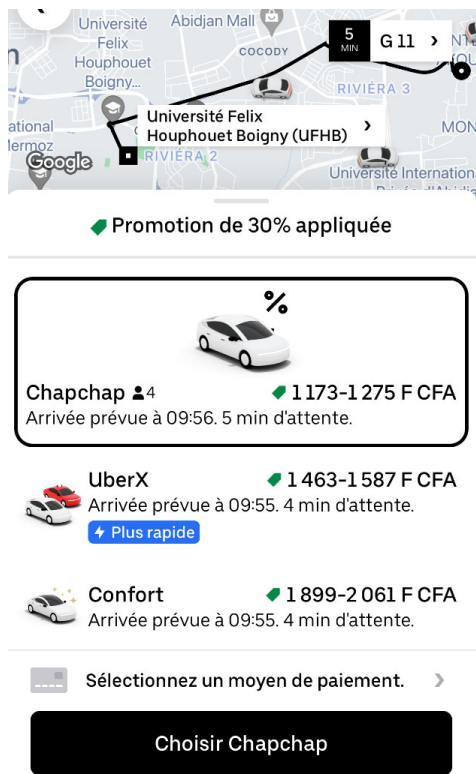
card. He can also opt for a subscription package in addition to the different categories of taxis offered. The Ivoire Taxi application is reserved for taxis of the same name (Ivoire Taxi) and metered taxis. Its fleet is exclusively made up of TOYOTA YARIS LOUNGE brand vehicles. On the Ivoire Taxi platform, private vehicles are excluded. Taxi Jet is one of the first companies to have started the VTC activity in Côte d'Ivoire between 2015 and 2016. Although less known than others, Taxi Jet is a mobile vehicle ordering application with driver which benefits a solid experience on the Ivorian market with diversified services. This company's service is provided through applications (customers/drivers) whose interface is intended to be both simple and intuitive.

"Treize Taxi" is a very recent application that allows you to call a taxi for shopping across the city of Abidjan. It was officially set up in March 2022 by a young Ivorian footballer named Jonathan Morisson. The operating principle of this company is based on the weekly payment of 13,000 FCFA to drivers with unlimited runs in particular. A weekly payment of 13,000 FCFA to carry out their activity with unlimited races in particular. According to the entrepreneur, this strategy should allow drivers to reduce the fees they have to pay each week by up to 80%.

Non-national VTC companies: Yango is one of the companies that has been offering VTC services in Côte d'Ivoire since October 4, 2018. It is an application developed by the publisher MLU BV, of which the Russian Yandex is the parent company. It is the most popular VTC application in Côte d'Ivoire. This popularity lies in its accessibility for both customers and drivers. Yango uses smart technologies for mapping, routing and navigation. Its order distribution system is based on machine learning. This combination reduces the time drivers spend searching for, picking up and dropping off passengers. Uber an American company of VTC which offers transport services in Ivory Coast. It enjoys a good reputation for the quality of the races offered as well as the advantages offered to drivers. You can join Uber as a driver by fulfilling certain selection criteria or as a customer by downloading the dedicated application. Heetch and SB Drive are 100% French VTC applications. Heetch is a company that relies on low commissions for its drivers and fun for its customers. One of the advantages with this company is that customers and drivers share the same application. Also, the possibility is given to the population to move from the status of customer to that of driver and vice versa. SB Drive is a company that is among the newcomers to the Ivorian market with fully functional VTC services. To attract customers and drivers, the company has implemented a system of discounts and bonuses of all kinds, including commission-free days for drivers. Customers can regularly benefit from discount codes of up to 100% in the application. Green VTC launched its activities in Côte d'Ivoire by offering a particularly attractive offer. Indeed, the company offers three months to member drivers with 0% commission and then goes to only 5%. In addition, a welcome bonus of 10,000 FCFA is given in addition to another monthly loyalty bonus, without conditions.

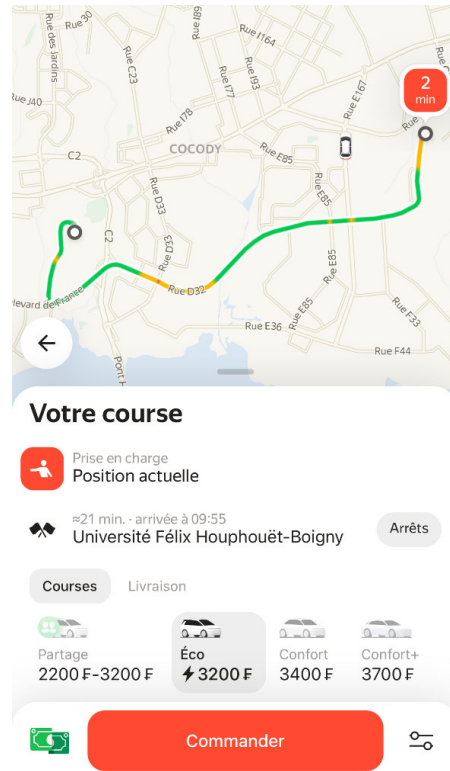
VTC companies: platforms with various advantages

Many so-called "passenger transport with driver" companies have emerged in Côte d'Ivoire and particularly in Abidjan. However, the Abidjan market is dominated by a few big players, such as Uber, Yango and Taxi Jet.



Source. Our surveys, June 2023

A: Taxi Jet Platform

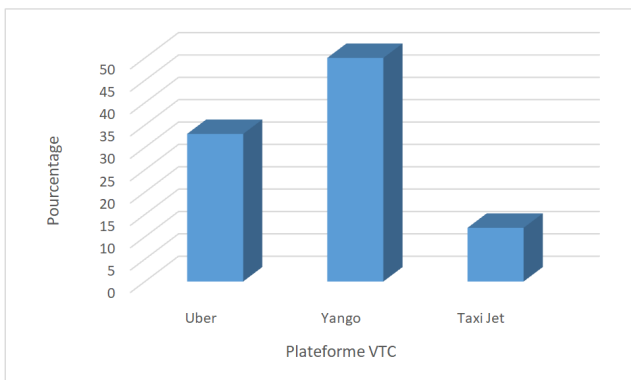


B: Yango Platform

Plate 1. Vehicle control platform

These companies have managed to stand out from the competition thanks to their ability to innovate and adapt to the changing needs of consumers.

Easy-to-use platforms: Surveys reveal that nearly 90% of the population claims to have used at least one VTC for their journey. Also, they made it possible to make comparisons on the waiting time, the ease of use of the applications, the prices charged, the condition of the vehicles, the functionalities and the safety of the users between the different companies. To be able to order a taxi or transport car with driver (VTC), it is necessary to have an application and a connection. The different platforms record your GPS coordinates and contact the nearest driver. The platform interface then displays the route and waiting time for the arrival of your ordered vehicle, the cost of transport and the duration of the journey (see board 1). VTC orders require mastery of the use of the application made available. The survey of the population made it possible to draw the figure 1 below.

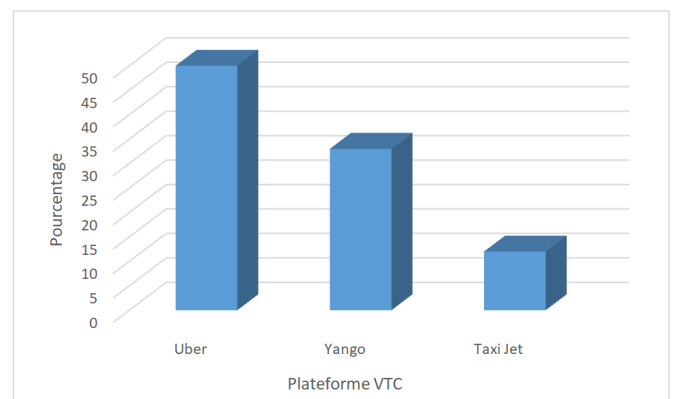


Source. Our field surveys, June 2023

Figure 1. Opinion on the usability of the platforms

In terms of use, there is a rivalry between Yango and Uber applications with relatively easy to understand interfaces and easy to fill in fields. However, with 50% of users, Yango is the most used application. Unlike these two applications, Taxi Jet is used less. The low use of this application could be explained by the fact that new services have been developed, especially in vehicle rental.

Low waiting times and comfortable vehicle conditions: Once the order has been placed, the waiting time of the vehicle is automatically given. This allows you to make arrangements before the car arrives. In these new modes of transport, it is the driver who moves towards the passenger using their GPS coordinates. The data on the waiting time made it possible to make a comparison between the different applications (cf. figure 2).

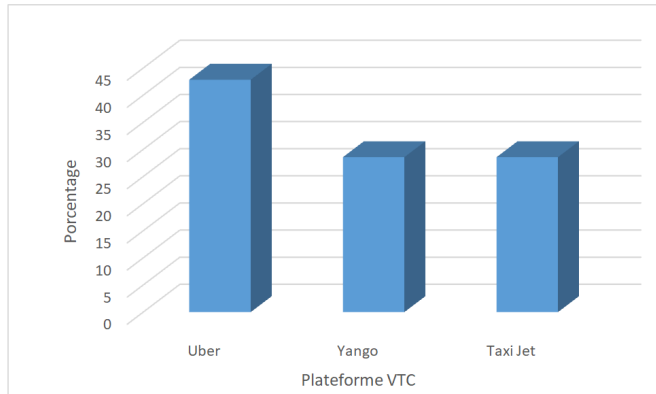


Source. Our field surveys, June 2023

Figure 2. Vehicle Wait Time Notice

Data shows that half of respondents claim reduced wait times for cars managed by the Uber app. They are followed by

vehicles managed by Yango, with 35% of respondents. 15% of respondents believe that Taxi Jet takes longer than the other two companies. The condition of vehicles is very important in public transport. It is a guarantee of comfort but also of safety in transport. Thus, a vehicle in good condition is much more coveted than one in poor condition. The survey on the condition of the VTC platform vehicles led to the results presented in Figure 3 below



Source. Our field surveys, June 2023

Figure 3. Opinion on the condition of vehicles from VTC platforms

Uber vehicles are the most comfortable. Indeed, nearly 2/5 of the respondents attribute the prize to this company. On this point, Yango and Taxi Jet compete with 30% of respondents each. The condition of the vehicles varies from one company to another depending on the category of the transport offer offered.

To be accepted on the Uber application, vehicles of the "taxi" type must be less than 20 years old and those of the "comfort" type must be less than 10 years old. Thus vehicles whose date of entry into circulation on the gray card does not correspond to the conditions set by the company Uber are not accepted as partners. As for Yango, no particular condition is required concerning the age of the vehicles, especially for the Eco car category.

Passenger safety; a priority for VTC companies: Any transport company must put the safety of its passengers first. It is this assurance of security that drives the desire to move and travel. Thus, people are always looking for companies or serious transport companies to make their trip. In addition to simply bringing drivers out of informality, ride-hailing companies have introduced new safety features to the market. This is because all trip information, including vehicle and driver data, is stored in each passenger's personal history. This provision allows any traveler to recover a forgotten object and gives the possibility of sharing the route of the trip with a loved one or of contacting an emergency service via the application. To prevent possible assaults or misconduct, certain information about the driver and the car is requested by VTC companies. Thus, to subscribe to the VTC platforms, the driver must provide his identity document and the vehicle number as well as the identity document of the owner or the carrier card, the technical visit and the insurance. However, these conditions may vary from company to company.

As for the price, it must be said that the cost of an Uber is slightly lower than a Yango of the same category over the distance (see board 2).

Promotion de 30% appliquée

Option	Price (F CFA)	Arrivée prévue	Attente
Chapchap	1 173-1 275	à 09:56	5 min d'attente
UberX	1 463-1 587	à 09:55	4 min d'attente
Confort	1 899-2 061	à 09:55	4 min d'attente

2 min

Votre course

Prise en charge
Position actuelle

≈21 min · arrivée à 09:55
Université Félix Houphouët-Boigny

Catégorie	Price (F CFA)
Partage	2200 F - 3200 F
Éco	3200 F
Confort	3400 F
Confort+	3700 F

Source. Our surveys, June 2023

Plate 2. Comparative price between Uber and Yango

On the same trip (Akouédo-Université Félix Houphouët-Boigny) and for the same category of car (Comfort), Yango displays 3,400 FCFA while Uber displays 2,000 FCFA, a difference of 1,400 FCFA. Beyond that, it should be noted that when ordering the trip, the Uber application allows the traveler to know in advance the price range in which his trip is located, while Yango indicates a fixed price which can be exceeded depending on the route.

VTCs: companies operating based on collaboration

To practice in the VTC sector, the platforms pay 20,000,000 CFA francs, or about 30,000 euros. VTC promoters do not have transport vehicles. They collaborate with individuals who make their cars available. Decree No. 2021-860 of December 15, 2021 sets the conditions for the performance of the transport service by VTC. This decree imposes the age, the number of seats and the net power of the vehicle. To propose his collaboration with a VTC company, the driver goes to the headquarters of this company with his vehicle and the related parts as well as with his driving license and his contact details. Once the file has been accepted, the company has the application downloaded, which puts the driver in touch with customers.

Company compensation is based on the quota principle. Thus, on each customer, the Yango company takes 18% of the price of the trip while Uber takes 20% on the product range in comfort and 10% on the product range by taxi and the rest is paid to the driver who must return account to the owner of the vehicle. With regard to the owner of the vehicle and the driver, the relationship is based on the principle of contract. The recipe is not fixed for all owners. Some owners ask for a receipt of 30,000 FCFA per day from Monday to Saturday; Sunday becoming a rest day for the driver and for the car. Under these conditions, the driver pays 30,000 FCFA for 26 days; which gives a monthly payment of 780,000 FCFA. The driver working under this contract is taken as a civil servant and is paid 300,000 FCFA per month.

However, he is not alone on the car. He works with a contractor with whom he must share the salary. The monthly gain for the owner of the vehicle amounts, under these conditions, to 480,000 FCFA. If we remove the charges related to emptying and some repairs, the owner can end up with 450,000 FCFA per month, or 5 million FCFA in one year. On the other hand, other owners ask for a daily payment of 25,000 FCFA and who give 5,000 FCFA per day to the driver. Under these conditions, the owner also earns 480,000 FCFA, or 5 million FCFA per year and the driver, he earns 120,000 FCFA per month. Another category of owners asks for a daily receipt of 20,000 FCFA from Monday to Friday and the receipt for Saturday goes to the driver. With this type of contract, the owner of the car earns 400,000 FCFA monthly. If we remove the costs related to emptying the vehicle and other charges, the owner's monthly gain can amount to 380,000 FCFA, or 4,560,000 FCFA per year.

In terms of vehicle durability and consistency of payments, the best opportunity is the third type of contract. Indeed, more than 80% of drivers prefer this contract because it has many advantages. Indeed, the low revenue reduces the pressure on the driver who is comfortable in the exercise of his work. Also, the driver has the possibility of maintaining the car and often getting off with tips. With this recipe, the driver manages to

rest by taking a nap a few times and recover his strength before resuming work, but also to deal with certain realities such as small repairs without calling on the owner. The other advantage of this contract is the courtesy of the drivers towards the customers and the responsible driving which could make it possible to avoid traffic accidents. With the recipe of 20,000 FCFA, the driver will avoid bypassing the VTC system because according to the testimonies of drivers, it appears that "VTC drivers bypass the system to pick up customers without the application". Also, "if we see a VTC driver driving at high speed with a new dented car, it's because the revenue requested of him does not suit him, but he agrees to work because he wants to meet the needs from his family. He does not care about the fact that his bad driving could cause him to lose points and cause tickets and even accidents which could constitute losses for the owner.

DISCUSSION

For their movement in Abidjan, the population used Buses, Gbakas, municipal taxis or metered taxis. DARBERA Richard (2014, p.2) specifies that in all countries of the world, taxis have a meter called a taximeter and a luminous device on the roof to indicate their availability. He goes on to say that if in all countries this regulation is identical, it is because it corresponded to a necessity. A necessity that disappeared with the combined arrival of the Smartphone and the GPS. Thus, with a Smartphone-GPS you can be instantly informed of the availability of vehicles around you and the prices they offer for the race you want to complete. However, using a telephone to order one's means of transport was not in the habits of Ivorians. It was in 2015 that two Ivorians thought of revolutionizing the transport sector by creating the first taxi order application. Thanks to digital, potential customers can find what they are looking for faster and easier. Digital entrepreneurs play a key role in this market evolution, as they are able to create innovative businesses in an increasingly complex global market. According to BONICI Claire (2017, p.88), the digital revolution is initiating a new phase of transformation of the economic landscape, by promoting the emergence of territorially atomized worker-micro-entrepreneurs, at the service of centralized order-giving platforms. This model of urban transport called transport car with driver (VTC) which was already developed in Europe and the United States is gradually gaining momentum in Côte d'Ivoire. On December 15, 2021, Côte-d'Ivoire adopted a decree regulating private public passenger transport (VTC).

The OECD (2018) indicates that the high adoption rate of Internet services, mobile phones equipped with satellite geolocation systems, online payment technologies and advanced algorithms have made ride-hailing and carpooling services available to a wide audience. This decree specifies the conditions of access to these activities as well as the terms of their exercise with a view to reorganizing the sector. VTC platforms have advantages in terms of use, waiting time and passenger safety. VTC services generally facilitate communication, payment and feedback between passengers and drivers, professional or not. When users indicate a destination, they are informed of the possible route, the estimated journey time, the estimated or final price calculated using a dynamic pricing algorithm and the driver's commission (OECD, 2018, p.6)

Conclusion

Getting around the city of Abidjan is still not easy. Popular transport (gbakas, woro-woro and metered taxis) are unable to meet the travel needs of the population. To overcome this situation, several VTC companies have emerged as a new mode of transport. Among these, Yango, Uber and Taxi Jet have established themselves thanks to their leadership and the quality of their products. Low waiting time, vehicle comfort, passenger safety are all elements put forward by these new entrepreneurs to attract customers. Transport vehicles with drivers are a very profitable activity for companies and vehicle owners since it generates enormous revenues while the remuneration of drivers remains low. It would be interesting to put in place regulations that could formalize this activity since it provides employment and contributes to poverty reduction.

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