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A LOOK AT SOCIAL ASPECTS IN THE LAST-MILE MARKET OF URBAN FREIGHT DISTRIBUTION IN BRAZIL AND A PROPOSAL FOR THE PROTECTION OF LAST-MILE DELIVERY OPERATORS

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Abstract

Urban freight transport plays a unique role in the progress of cities worldwide, and this importance is even more evident in developing countries. This is partly due to the high concentration of population in urban areas, which generates an even greater demand for transport in these regions (Allen et al., 2008). The market characterized as "last-mile logistics" refers precisely to this final stage, involving the ultimate phase of delivering goods to their final destination in urban areas (Bosona, 2020).

According to D'Agosto, M. et al. (2016), urban freight transport is an activity that mobilizes economic and financial resources, resulting in costs to provide a certain level of service, in addition to generating environmental and social impacts. This activity is generally carried out by private entities in densely populated urban areas.

The increase in urban freight flow in last-mile logistics brings with it several associated challenges, especially those concerning home deliveries of small packages. These challenges include technological issues, infrastructure constraints, environmental sustainability concerns, as well as challenges related to the social dimension.

On the other hand, there still seem to be gaps in the literature regarding the identification, selection, and critical assessment of social impact as a structuring element of last-mile urban freight operations. Therefore, this article aims to examine some contours of the last-mile market in urban

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freight distribution in densely populated cities, focusing on the social impact aspects related to last-mile operators. The methodology adopted relies, in a tentative effort, on an initial systematic review of existing relevant studies on the topic to identify the main aspects and social externalities in last-mile urban freight distribution.

Keywords: Crowdshipping; Last-Mile Logistics; Delivery Drivers.

1. The Social Role of Outsourced and Self-Employed Professionals in Last-Mile Logistics Deliveries

Both contracted outsourced workers and self-employed operators play a significant role in executing last-mile deliveries. According to Garcia et al. (2020), these service providers offer flexibility and scalability to logistics operations, allowing companies to adapt to seasonal fluctuations and variable customer demands. However, there are negative aspects to consider. Worldwide, increasing pressure on delivery workers is one of them. Wang et al. (2023) point out that long working hours and precarious employment conditions are common in this sector due to the lack of adequate regulation.

The absence of standardization in the services provided by these workers can compromise the quality and consistency of deliveries, affecting the reputation of contracting companies. Issues related to safety and compliance with labor regulations have also been a subject of debate and concern both within and outside Brazil. Regarding the profile of outsourced and self-employed professionals in last-mile logistics deliveries, available data is somewhat scarce and lacks a systematic survey, whether in the form of a sectoral outlook or a census database.

However, a noteworthy effort has been made jointly by the Brazilian Center for Analysis and Planning (Cebrap) and the Brazilian Association of Mobility and Technology (Amobitec), organizing a national survey with approximately 3,025 last-mile food delivery drivers and couriers, published in 2023. The key findings of this study are summarized as follows:

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- According to the workers, the main attraction of app-based delivery is schedule flexibility, followed by earnings. Currently, 48% of couriers have other occupations, with 40% of these being formally employed in other economic activities unrelated to home delivery services. Additionally, 80% of couriers plan to continue working with the platforms;

- The average working hours of couriers' range between 13 and 17 hours per week, reinforcing that last-mile delivery via food, meal, and supermarket delivery apps is, for these workers, a supplementary activity;

- 97% of couriers are male, with an average age of 33 years, and a significant portion (approximately 60%) has completed high school;

- According to Cebrap and Amobitec (2023), it is estimated that, after deducting costs, the net monthly income of couriers ranges between R$ 1,980.00 and R$ 3,039.00, which exceeds both the minimum wage and the market average salary for individuals with the same educational background, depending on the worker's level of engagement with the delivery platforms.

Regarding drivers partnering with the Mercado Livre marketplace environment, the information identified in the context of this article, based on data available on the company's platform as well as data published on the content aggregator platform Portal Insights (2024), indicates that these workers, who are part of one of the largest e-commerce operations in Latin America, must meet the following conditions:

- They must have a vehicle up to 15 years old, which can be either owned or third-party, as long as it is duly registered with traffic authorities and classified as "in good condition". In the case of motorcycles, couriers are required to carry a backpack or trunk with a minimum capacity of 80 liters for package transportation;

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- They operate under the legal regime of an individual micro-entrepreneur (MEI), classified under the CNAE (National Classification of Economic Activities) standards as follows (i) CNAE 4930-2/01 – Road freight transport, except hazardous materials and moving services and (ii) CNAE 4930-2/02 – Road freight transport;

- The Mercado Livre platform registers a payment rate of R$ 0.69 per kilometer driven. It is estimated that, depending on the daily workload, this could generate approximately R$ 240 per day;

- The average working hours for Mercado Livre drivers, according to Portal Insights (2024), are 20 hours per week, with an estimated net income—after deducting costs—ranging between R$ 807.00 and R$ 1,325.00.

2. Social Treatment of Last-Mile Self-Employed Professionals

Self-employed professionals, such as app-based delivery drivers, have become a major force in last-mile logistics. According to Tan et al. (2018), these individuals leverage digital platforms to access flexible job opportunities and supplement their income, while simultaneously offering a fast and convenient alternative for parcel deliveries.

Outsourced workers and self-employed professionals provide flexibility and agility to delivery operations. However, it is time to companies and regulatory bodies work together to address challenges, ensuring quality, transparency in labor relations, and the safety of these services. The last-mile sector may undergo transformations as a result of indirect or secondary effects stemming from Complementary Bill 12/2024, which regulates the working relationship mediated by app-based private transport companies. Known as the "Uber Regulation Bill", this legal instrument proposes, among other measures:

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- The creation of mechanisms for the establishment of agreements and/or collective bargaining;
- The inclusion of drivers in the national social security system;
- The introduction of a minimum compensation model, under which app-based drivers would receive R$ 1.80 per kilometer driven and/or R$ 0.40 per minute worked.

In the statement of justification for the bill, issued in March 2024, the fundamental purpose was made clear: to harmonize technological innovation with labor rights protection, ensuring a fair and dignified working environment for drivers providing app-based private transportation services.

Currently, still in the form of a Complementary Bill and under discussion in the National Congress, the proposed legislation establishes in Article 3 that: *"A worker providing private individual remunerated transport services in a four-wheeled motor vehicle, through an app-based operator company, shall be considered, for labor purposes, a platform self-employed worker and shall be governed by this Complementary Law whenever providing the service, as long as they have full freedom to decide on the days, hours, and periods in which they will connect to the app."*

3. Future Scenarios and Key Discussion Points

At this moment, only potential future scenarios can be outlined, offering an initial glimpse into possible developments in last-mile operations, particularly regarding the implications that may arise from the experience with ride-hailing apps. Through an exercise in foresight or anticipatory visioning, some key questions emerge:

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- How will self-employed couriers working with e-commerce platforms and marketplaces such as Mercado Livre, Amazon, and Shopee react if similar regulations are extended to their sector, as has been proposed for ride-hailing platforms? There is a need to evaluate the possibility of reduced interest from urban small-parcel couriers in social protection schemes, should these lead to higher costs due to social security, labor, and tax obligations or if these social protection initiatives result in a perceived loss of flexibility regarding working hours;

- When will the policies proposed for ride-hailing drivers be mirrored for self-employed couriers working with e-commerce platforms and marketplaces? In this case, equalizing minimum remuneration parameters would become necessary. Unlike ride-hailing services, urban freight pricing follows an equivalence model, where 1 cubic meter of occupied space in the delivery vehicle corresponds to a specific weight limit, along with additional cost variables based on cubic weight considerations;

- How can e-commerce platforms and marketplaces mitigate the risk of negative consumer reactions to potential increases in delivery costs caused by regulatory actions aimed at social protection for last-mile couriers? This scenario presents an opportunity for discussions regarding demand-price elasticity (Varian, H., 2010), considering a market where consumption is highly sensitive to final price fluctuations. Additionally, there is the risk of an oversupply of urban freight vehicles, leading to increased idle capacity in major urban centers;

- The regulation of service activities related to the transportation of goods typical of last-mile home deliveries appears to be an inevitable reality in Brazil. However, the future regulatory framework remains uncertain, fluctuating between self-regulation and formal regulatory action through legislation. It is also reasonable to recognize that social relations within this sector are currently experiencing a period of relative stress, particularly due

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to divergent socioeconomic perspectives on the contributory role of technological platforms.

In conclusion, home delivery strategies offer clear advantages, such as consumer convenience, but they also present challenges related to working conditions for delivery workers, operational costs for companies, and potential cost transfers to end consumers due to changes in the tax structure. These are aspects that must be carefully considered and managed to ensure the sustainability of last-mile operations in urban small freight distribution. This article aimed to provide an initial exploration of the profile of urban delivery networks, to understand the degree of contribution of app-based and e-commerce companies, and to analyze emerging public policies, particularly social policies. Furthermore, it seeks to initiate a research effort to understand how last-mile small parcel logistics can structurally contribute to the increasingly urgent promotion of citizenship and social inclusion in Brazil.

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