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Deposited version:
Publisher Version

Peer-review status of attached file:
Peer-reviewed

Citation for published item:
Costa, P. & Rodrigues, N. (2025). Algorithmic frictions in on-demand delivery platforms: An exploratory typology for analysing tensions between couriers, businesses, and consumers in Lisbon metropolitan area. In Luna Leoni (Ed.), Conference Proceedings 2025 Reser Annual Conference (pp. 62?63). Aracne Editrice.

Further information on publisher's website:
https://reser.net/rethinking-services-for-society-5-0-opportunities-and-challenges/

Publisher's copyright statement:
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RETHINKING SERVICES FOR SOCIETY 5.0

OPPORTUNITIES AND CHALLENGES

CONFERENCE PROCEEDINGS
2025 RESER ANNUAL CONFERENCE

Edited by

LUNA LEONI

aracne



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ISBN
979–12–218–2271–7

FIRST EDITION
ROMA XX OCTOBER 2025

ALGORITHMIC FRICTIONS IN ON–DEMAND DELIVERY PLATFORMS: AN EXPLORATORY TYPOLOGY FOR ANALYSING TENSIONS BETWEEN COURIERS, BUSINESSES, AND CONSUMERS IN LISBON METROPOLITAN AREA

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Abstract: The aim of this paper is to explore the main algorithmic frictions experienced by actors directly involved in on–demand delivery platforms — couriers, staff in commercial establishments, and consumers — and to explore how these tensions intersect with urban and geographically differentiated dynamics at the metropolitan scale. Despite their different roles and power asymmetries, these actors share a key characteristic: they function as intermediaries between the physical and digital realms and are frequently tasked with resolving tensions and frictions emerging from platform constraints. Based on our exploratory field observations of couriers in various areas of the Lisbon Metropolitan Area, we have identified key frictions and how they contribute to conflicts between the different actors and with the platform itself. Common challenges include tensions between couriers and restaurant staff (e.g., long waiting times, designated pick–up areas, prioritization of in–person or online orders, errors in order allocation systems), as well as tensions between couriers and consumers (e.g., consumer evaluations of couriers; tensions over delivery delays; or conflicts related to address identification). Our findings highlight that workers are systematically required to manage these frictions, evidencing a broader process of externalizing responsibility and outsourcing conflict management by the platform. This occurs by shifting problem–solving to couriers or transferring human resource management functions to customers. Based on these findings and on literature review, we intend to propose and discuss an exploratory typology for research of these phenomena, considering that these frictions are geographically differentiated. The paper discusses key factors for categorizing these frictions within metropolitan spaces, proposing typological dimensions such as business territorial anchoring and geographical context. A preliminary typology of territorial situations specific to the Lisbon Metropolitan Area is presented,

serving as a basis for selecting case studies for deeper, field–intensive analysis in future research stages.

Finally, we argue that a deeper problematization is needed, which should address regulatory responses and platform accountability, and explore how these can mitigate power asymmetries and reduce the externalization of conflict onto them.

Keywords: algorithmic frictions, platform urbanism, on–demand delivery, power asymmetries, intermediary conflicts.