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Paper on urban last-mile delivery cited in eBay patent application



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A paper co-written by two faculty members from Operations Management at the Lee Kong Chian School of Business about how to improve last-mile delivery was cited in a patent application by e-commerce giant eBay.

The paper is titled “Urban consolidation center or peer-to-peer platform? The solution to urban last-mile delivery”. It was published in the journal *Production and Operations Management*. The paper was co-authored by Associate Professor Fang Xin and Professor Lim Yun Fong of LKCSB, as well as Assistant Professor Qiyuan Deng of the Chinese University of Hong Kong, who had obtained her PhD in Operations Management from LKCSB.

The paper looks at e-commerce last mile deliveries in cities. To keep congestion and pollution under control, a consolidator can operate an urban consolidation center (UCC) to bundle shipments from multiple carriers before the last-mile delivery. Alternatively, the consolidator can operate a peer-to-peer platform for the carriers to share delivery capacity.

The paper found that the UCC is more profitable than the platform if the carriers' variable delivery cost is sufficiently large. The UCC is also more efficient than the platform in mitigating the negative social-environmental impact of urban last-mile delivery if there are many carriers. Otherwise, the platform performs better.

The fact that the paper was cited in a patent application was reported in the Financial Times' Special Report — FT Business Education Research Insights. This report, which was published on November 8, ranked LKCSB as the top business school in Singapore and the second in Asia in terms of practical research impact.

The FT noted that this research paper on urban last-mile delivery is among the top 10 patent articles compiled by The Lens, which was developed by social enterprise Cambia. The Lens tracks the citations of academic work in patents.

Professor Lim told the FT: "We're glad to see that our research has some impact."

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Lee Kong Chian School of Business

50 Stamford Road
Singapore 178899

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