

**Estimating Material Convergence: Flow of Donations for Hurricane Katrina.**

by

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## **ABSTRACT**

In the aftermath of an extreme event such as Hurricane Katrina, the delivery of critical supplies (e.g., food, water) to the disaster site often becomes a difficult task because such events originate a convergence process, which is the movement of personnel, information, and material towards the disaster site. From the humanitarian logistics standpoint, material convergence is an important issue since donations—particularly of non-priority items—can severely hamper the flow of critical supplies by distracting resources from critical tasks. The main problem is that the logistic system has a limited capacity and there is a high volume of low priority goods and a low volume of high priority supplies trying to use the system simultaneously, therefore the efficiency of the flow of critical supplies depends on the flow of low priority supplies.

This research focuses on the quantification of the material convergence. One of the most critical issues in disaster response is the overwhelming inflow of donations to the disaster site and the lack of planning for handling and distributing the donations. In order to contribute to the understanding of this complex problem, a database of donations made in the aftermath of Hurricane Katrina has been assembled. These data are based on post-processing of newspaper articles and web publications to be used for econometric modeling to quantify convergence. These data are used to investigate the donations' patterns taking Hurricane Katrina as a case study, with the objective of trying to figure out if donations can be explained in terms of the socioeconomic characteristics of the geographical locations of the event and the donors. Developing such models is important because it might improve the efficiency of humanitarian relief agencies, giving them an idea of what to expect in the event of a disaster and thus helping the agencies to be ready for the management of donations in the response process.