Control Strategies for Unsolicited Donations (a.k.a. Non-Priority Materiel Convergence)

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Our goal is to avert this...

“We need medicines, something to eat ...”

“We are asking for food, water, medicine, shelter and clothing. Aren't we humans?”

(Pictures taken by JHV 10 days after the earthquake)
Major components of our work

- Main focus: Large Disasters and Catastrophic Events
- Fieldwork: 9/11, Katrina, Haiti, Chile, Joplin, Japan, Sandy, Irene, Nepal, Puerto Rico, etc. etc. etc.
- Diagnosis and characterization:
  - Established, emergent, expanding, and extending groups
  - Causes of problems encountered
  - How disaster response logistics take place
  - Quantification to support analytical modeling
- Define mechanisms to improve response
  - Policy Suggestions → FEMA, PAHO, etc.
- Basic research on analytical modeling
  - To develop Decision Support Tools

An apology in advance..

- Delicate subject matter
- The materials discussed here come from formal research, and direct observations from fieldwork that may reflect a partial view of a complex problem...
- It is not my intention to offend or hurt feelings...
- I apologize if I do...
Outline

- The JHV Principle
- The Problem: Briefing on Material Convergence
- (Our Guess About) Donor Segments and Motivations
- The Problem of Mixed Signals
- (The Very Limited) Behavior Research Conducted
- Suggested Solutions
- Conclusions

The JHV Principle:
In Complex Problems, Obvious Solutions Are ALWAYS Ineffective...
Introduction

- In the aftermath of extreme events, the convergence of non/low priority donations is a serious issue:
  - Large influx of low priority goods clog the supply chains and hamper the flow of critical supplies
  - Frequently referred to as “...the second tier disaster...”
- When asked about “What is the most difficult challenge they face? a plurality of responders cite “unsolicited donations”
- “Unsolicited donations” is not the ideal term, many unsolicited donations are very beneficial
- Very complex issue → media, companies, NGOs, communities, community groups, public agencies both contribute to the problem and to its potential solution
Fritz and Mathewson (1956) defined convergence as “the movement or inclination towards a point”

They created a comprehensive taxonomy:

- personnel convergence, i.e., movements of individuals;
- informational convergence, i.e., “movement or transmission of symbols, imageries, and messages...”;
- material convergence, i.e., “…movement of supplies and equipment...”

Disaster Response is intertwined with Material Convergence

More excerpts: Sadly true...sixty years later

Many disaster accounts refer to the “deluge” of supplies which “flood” the disaster area and into hospitals and relief centers.

Again, precise quantitative data on the magnitude of this materiel convergence are not contained in most disaster reports, but the available data indicate that these supplies:

1. normally arrive in volumes far in excess of the actual needs;
2. in large proportion, are comprised of unneeded and unusable materials;
3. require the services of large numbers of personnel and facilities which could be used for more essential tasks and functions;
4. often cause conflict relations among relief agencies or among various segments of the population;
5. materially add to the problem of congestion in and near the disaster area; and
6. in some cases, may be disruptive to the local economy.”
A better way to classify MC (PAHO, 2001):

- **Urgent or high priority (HP):** items required for immediate distribution and consumption
- **Non-urgent or low priority (LP):** not immediately required but might prove useful at a later stage
  - must be classified, labeled and stored until needed
- **Non-priority (NP):** goods that:
  - are inappropriate for the event, time, context
  - arrive unsorted or in a condition impossible to efficiently inventory and difficult to identify in a timely manner
  - have surpassed expiration dates, are perishable, or are in poor/damaged condition
  - arrive without an appropriate site for distribution
  - need to be discarded, incinerated, buried or disposed

What is the problem?

- The efficiency of the flow of high-priority goods depend on the flow of low/non priority cargoes

- The cargo that arrive to a disaster site (estimates):
  - 60% non-priority, 30-35% priority, 5-10% high priority

From Fritz and Mathewson (1956), page 24
It happens in all disasters

Katrina, 2005
Haiti, 2010
Japan, 2010
Sandy, 2012

2011 Tohoku Earthquake

Quotes from individuals interviewed:

• “...50% no good...”
• “...70% was no priority...”
• “...too many blankets...”
• “...too much clothing...”
• “...a lot of broken bikes...”
• “...people got offended when we told them we did not need these goods...we told them to postpone the donation...”

Visual inspection of one of the distribution centers indicated that **40-50% of the materials there were clothing of little use** to the victims

• **Lots of low/non-priority made by local governments** that sent part of their stocks
Impacts

Problems caused by non-priority MC

- The huge volumes of NP-MC impact
  - Entry points
  - The disaster site
- Impacts at entry points
  - Increased congestion due the vehicular traffic
  - Increased delays due to lack of proper documentation (bill of lading, manifest, consignees)
  - Example: Santo Domingo airport after Haiti earthquake
    - Air traffic controllers re-routed hundreds of planes there
    - Dominican authorities had to let them land (to refuel), unload/process the cargo (mostly non-priority), and transport all the cargo to Haiti
  - If not controlled → they impact the disaster site
Nature of Material Convergence

- Media portrayal of the disaster
- Philanthropy
- Taxonomy of Social Collectives

<table>
<thead>
<tr>
<th>Post-disaster structure</th>
<th>Old (familiar)</th>
<th>New (unfamiliar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular</td>
<td>Type I (Established)</td>
<td>Type II (Expanding)</td>
</tr>
<tr>
<td>Non-regular</td>
<td>Type III (Extending)</td>
<td>Type IV (Emergent)</td>
</tr>
</tbody>
</table>

Main Contributors
- A fire department conducting search and rescue
- Food Pantry volunteers providing meals to survivors
- Private companies distributing relief supplies

College students running a donation drive

### Who Creates the NP/LP Material Convergence?

- **Individuals and Community Groups that:**
  - Try to help
  - Do not identify: actual needs, who would use the donations

- **Governments Agencies and NGOs that:**
  - Try to help
  - Send whatever they have at hand

- **Companies that:**
  - Try to help
  - Perceive the disaster as a marketing opportunity
  - Dump unwanted inventories, expired medications, failed products, etc.

- **Different motivations → Different measures needed**

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**The Problem of Mixed Signals**
The Range of Impacts Complicates

- "Peace times" — Relief groups struggle to get donations
- Small Emergencies — Donations → likely to be small and mostly beneficial
- Small Disasters — NP donations start to be a problem (mostly local)
- Large Disasters — Media plays major role, NP/LP donations major problem (local/regional/national origin)
- Catastrophic Events — International media in action, NP/LP donations HUGE problem, **global** Material Convergence

(The Very Limited)
Behavior Research Conducted
Influencers:

+ Income, Education level
+ Donor type (companies, HQs, individuals)
+ Groups located in highly populated places
+ Donors in denser areas of Midwest (in-kind)
+ Distance (monetary)
- Distance (in-kind)
- Unemployment

We are finalizing a comparative analysis between Katrina and Super Storm Sandy

Katrina

Donations after Katrina

Data
- Assembled by post processing articles about donations Aug-2005- Dec. 2005
- 3,100 articles collected
- Data coded, cleaned, geolocated, donations converted to U.S. dollars
- **1,016 donations** ($1.069 billion dollars monetary and in-kind)
- Limitations: Only the ones that made it to news media are included
A Group that Gathered Donations (Japan)

For the 9,527 items, the Shipping costs = $82,064
If purchased in Japan, the campaign would have been able to distribute 41,032 items! (4.31 times)
Motivation to Donate Physical Goods

- Victims cannot buy anything, they need goods: 50%
- Responders will find something useful to do with the donations: 40%
- I have the items at home and I can quickly bring them to the donation drive: 10%
- I prefer donating items with sentimental value to me: 10%

Motivation to Donate Cash

- Convenient to simply send money using my bank account: 30%
- Reaches the victims quicker than physical goods: 30%
- Fosters the recovery: 15%
- I can do it at any time: 10%
- Can be used in the local markets: 5%
Willingness to Change vs. Original Preference

<table>
<thead>
<tr>
<th>Preference</th>
<th>No Preference</th>
<th>Cash and Physical Supplies</th>
<th>Cash</th>
<th>Cash and Time</th>
<th>Physical Supplies and Time</th>
<th>Physical Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likelihood</td>
<td>Very likely</td>
<td>Likely</td>
<td>Somewhat likely</td>
<td>Unlikely</td>
<td>Not likely at all</td>
<td></td>
</tr>
</tbody>
</table>

Opinion of Organizations

- Local Disaster Respondents
- International NGOs
- Fire Department
- United Nations
- The Police
- Local Church Leaders
- The Army
- The Government
- News Media

Trust vs. Knowledge of Local Conditions
Donation Preference Model (negative → cash)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reasons to Donate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friends and Family Donated is Important</td>
<td>1.660+</td>
<td>-1.3</td>
</tr>
<tr>
<td>Trying to Help is Very Important</td>
<td>1.872*</td>
<td>-2.24</td>
</tr>
<tr>
<td><strong>Socio-Economic Factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice Religion</td>
<td>0.604#</td>
<td>-1.14</td>
</tr>
<tr>
<td>Female</td>
<td>1.478-</td>
<td>-1.92</td>
</tr>
<tr>
<td>Household Income in Thousands/Year</td>
<td>-0.05#</td>
<td>(-1.12)</td>
</tr>
<tr>
<td><strong>Age Group 35-44</strong></td>
<td>-1.808*</td>
<td>(-2.28)</td>
</tr>
<tr>
<td><strong>Age Group 45-54</strong></td>
<td>-0.705#</td>
<td>(-0.96)</td>
</tr>
<tr>
<td><strong>Age group 55 to 64</strong></td>
<td>-2.166**</td>
<td>(-2.69)</td>
</tr>
<tr>
<td>Distance to the Disaster Area</td>
<td>0.000182#</td>
<td>-1.22</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>-2.11#</td>
<td>(-1.58)</td>
</tr>
<tr>
<td><strong>Number of valid observations</strong></td>
<td>93</td>
<td></td>
</tr>
<tr>
<td><strong>Pseudo R-squared</strong></td>
<td>0.165</td>
<td></td>
</tr>
<tr>
<td><strong>Convergence log-likelihood</strong></td>
<td>-47.52</td>
<td></td>
</tr>
</tbody>
</table>

Level of significance: # p < 0.35, + p < 0.20, - p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

Implications

- Local disaster responders are ideally positioned to influence donors
  - They must be trained on “what to say”, otherwise they could make things worse → Alberta fires
- Myths must be eliminated:
  - “responders will find something useful”
  - “victims cannot buy anything”
- Emphasize benefits of cash donations
A Multi-Layer Solution Approach

Behavior Change
Individual Donors: Adults

- Typically, too emotionally invested in physical donations
  - Very difficult to change...
  - However:
    - There is some willingness to change
    - Peer-effects (participating in donation drives because friends, congregation members, and family are doing it) may deter change in behavior
      - Implication → Need to engage entire communities
    - Proactively engaging local disaster responders, local church leaders, fire departments, etc. provides the best opportunity to change individual donor behavior

Individual Donors: Young People

- Young people are not invested in physical donations
  - Implication → Train them to be change agents
  - Rensselaer developed a game (95% effective)
    - Highly rated by participants, from 1 to 5:
      - 4.3 on Information/Education
      - 4.5 on organization
    - Students considering going into disaster response
  - Some opinions:
    - Donors felt that their donations were not really helping
    - "better to donate money, not supplies"
    - "people donate too many low-priority things"
    - "most donated items aren't actually used"
    - "donation drives are not as helpful as I thought"
    - "some donations burden relief"
Companies and Governments that...

- ... are not active in disasters
  - Educate them through trade groups
  - Engage industry leaders in information campaign
- ... use disasters as marketing opportunities
  - Delicate issue
  - Trade groups could play a key role as educators
- ... use disasters to dispose of unwanted and even dangerous inventories...
  - Delicate issue, inappropriate behaviors should not be permitted
  - Trade groups could play a key role as educators

Physical Control
Other forms of Physical Control

- Informal “Donation Centers”
  - A number of groups have, on their own, have installed large signs instructing trucks with donations to go to a warehouse where the goods are screened out by volunteers
  - They seem to work fairly well

- Access Control
  - Transportation companies could play a key role in controlling access to disasters
  - The humanitarian sector should educate freight carriers so that they give priority to established relief groups
Role of Local Leaders and the Media

Joplin, 2011

- American Red Cross ran a sticker in local TV channels asking donors to donate money via a 1-800 number
  - The best way to help
- The local media had a different idea
The Importance of Talking Points ... 

- Established groups with national and global reach—Red Cross, Red Crescent, etc.—should prepare talking points to be shared with local leaders and the media
  - This outreach, though part of a global strategy, must be local in nature
  - Ideally, it should be done in “peace times”

Concluding Remarks
Complex Problem, with no Easy Solution

- The convergence of non-priority donations is a serious problem in large disasters and catastrophic events
- NP-MC is the result of the decisions made by a wide range of donors, with vastly different motivations
- Research is needed to disentangle these motivations and find ways to induce behavior changes
- WFP and partners ought to collaborate with researchers to:
  - Help obtain donor lists to support behavior research
  - Use the insight gained to define response procedures, talking points, to be disseminated worldwide

Multi-Layer Approaches are Needed

- Foster behavior changes → Education
  - Individual donors
  - Companies and public agencies
- Physical control
  - Screen lines to prioritize the supplies sent by established groups, and screen the rest
  - Informal “donation centers”
- Engagement of Local Leaders and Media
  - Humanitarian sector need to educate them on what to say (in peace times)
  - Providing talking points is essential
References


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