MEASURING CORPORATE SOCIAL RESPONSIBILITY AND SUPPLY CHAIN PERFORMANCE, A LINKING APPROACH TO ASSESS THE IMPACT OF MASSIVE DONATIONS IN DISASTER SCENARIOS

Juan Camilo Sánchez Gil
Camilo Llerena Riascos

July, 2019
Schedule

1. Introduction
2. Methodology
3. Ongoing results
4. Conclusions
5. Limitations
Problem statement

Corporate Social Responsibility
Supply chain performance
Final beneficiaries
Literature review

Supply chain performance

Literature Review number 1
Humanitarian logistics dimensions of cross-sector partnerships

Literature Review number 2
Humanitarian KPIs

Literature Review number 3
Qualitative and quantitative methods to assess the performance of humanitarian supply chains
1. Introduction
2. Methodology
3. Ongoing results
4. Conclusions
5. Limitations

Strategic partner
Methodological approach

Phase 1

- **Empirical validity of Indexes-Items**
  - Perception survey
    - Likert scale
  - Statistical validity by Factor Analysis

- **Phase 1**

  **Process**
  - Action plan
  - Assessment of disaster area
  - Issuing of statements
  - Stakeholders setting
  - Categorization of donations
  - Management of donations
  - Delivery of donations
  - Primary transport
  - Secondary transport

  **Sub-process**
  - Relationships
    - Material convergance
    - Transport management

  **Indicator**
  - 13
  - 1
  - 7
  - 1
  - 4
  - 5
  - 5

  **Index-Item**
  - 29 indexes
  - 32 items
  - 4 indexes
  - 4 items
  - 3 indexes
  - 3 items
  - 10 indexes
  - 10 items
  - 1 index
  - 2 items
  - 10 indexes
  - 11 items
  - 8 indexes
  - 8 items
  - 9 indexes
  - 9 items
  - 9 indexes
  - 9 items

**Deliverable**
- Final selection of indicators
1. Introduction

2. Methodology

3. Ongoing results

4. Conclusions

5. Limitations

**Proces** | **Sub-Proces** | **Indicator** | **Index-item** | Indicate the level in which the index-item impacts final beneficiaries positively
---|---|---|---|---
Relationships | Action plan | Demand satisfactions | 5. Fulfillment of the expected deprivation cost per person | 1. No impact
 | Assessment of disaster area | Response | 4. Capability of coupling with other humanitarian supply chains | 2. Slightly impacts
 | Issuing of statements | Information Sharing | 3. Speed of information exchange among actors | 3. Moderately impacts
 | Stakeholders setting | Local employment | 5. Involvement of locals in distribution and delivery | 4. Highly impacts
 | Categorization of donations | Type product flow | 1. Suitability of donations packaging throughout the supply chain | 5. Strongly impacts
 | Management of donations | Safety stock | 10. Frequency of stockouts during the response period | 
 | Delivery of donations | Location | 
 | Primary transport | Flexibility | 
 | Secondary transport | Reliability | 

Material convergance

Transport management

Procces Sub-Procces Indicator Index-item

Indicate the level in which the index-item impacts final beneficiaries positively

1. No impact
2. Slightly impacts
3. Moderately impacts
4. Highly impacts
5. Strongly impacts
Methodological approach

Phase 2

Analytical Hierarchy Process (AHP)
Perception survey Fuzzy logic
Validated indexes - items
Weighting
Prioritization

Deliverable

<table>
<thead>
<tr>
<th>Index item</th>
<th>Priority weight</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>$I_n$</td>
<td>$W_n$</td>
<td>1…n</td>
</tr>
</tbody>
</table>
Methodological approach

Phase 3

1. Introduction
2. Methodology
3. Ongoing results
4. Conclusions
5. Limitations

Phase 3 Performance assessment

Linear model

Experts’ inputs

Scale and score for each index-item

Score

Index-item | Weight | Score
---|---|---
$I_1$ | $W_1$ | $S_1$
$I_2$ | $W_2$ | $S_2$
$I_n$ | $W_n$ | $S_n$

Deliverable

$$PA = \sum S_n W_n$$

Corporate Social Responsibility Score (CSRS)
1. Introduction

2. Methodology

3. Ongoing results

4. Conclusions

5. Limitations

---

**Phase 1:** Empirical validity of Indexes-Items

**Perception survey:** Likert scale

**Statistical validity by Factor Analysis**

**Phase 2:** Analytical Hierarchy Process (AHP)

**Perception survey:** Fuzzy logic

**Phase 3:** Linear model

**Performance assessment Score**

<table>
<thead>
<tr>
<th>Index-Item</th>
<th>Weight</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>$I_1$</td>
<td>$W_1$</td>
<td>$S_1$</td>
</tr>
<tr>
<td>$I_2$</td>
<td>$W_2$</td>
<td>$S_2$</td>
</tr>
<tr>
<td>$I_n$</td>
<td>$W_n$</td>
<td>$S_n$</td>
</tr>
</tbody>
</table>

**Deliverable:** Final selection of indicators

---

PA = \[ \sum_{n=1}^{n} S_n W_n \]  

Corporate Social Responsibility Score (CSRS)
• Approaches to measure the impact of CSR
• Number of surveys needed for FA
• Collaboration of actors involved
• Empirical validity
• Replications of the approach
1. Introduction
2. Methodology
3. Ongoing results
4. Conclusions
5. Limitations

- Food donations
- Perceptions
- One dimension of CSR
- Statistical validity
Thanks!