Chapter 22
SMS as a Tool to Improve Information Flow on Humanitarian Logistics:
Case Study – Quebrada Quirio in Chosica

Vanesa A. Alcantara Panta
Universidad del Pacífico, Peru

Sandra E. Zambrano Hinojoza
Universidad del Pacífico, Peru

Amelia A. Flores Dextre
Universidad del Pacífico, Peru

Andrea Guillen Reina
Universidad del Pacífico, Peru

Brenda Pedreschi Garcia
Universidad del Pacífico, Peru

ABSTRACT

This chapter assesses the suitability of mobile phone technology, an established technology (humanitarian), to support humanitarian operations, create an inventory of support donations, and track the needs of people throughout humanitarian logistics after the disaster. The main objective is to reduce the exposure to the consequences of disasters by reducing the time of information flow through SMS interaction technology. Quebrada Quirio was used as a prototype. The process consists of using the INDECI rapid assessment visit to collect basic data, including a telephone number, of the people affected by the disaster, and based on this information, multiple initiatives aligned with the optimization of the flow of information were created.

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INTRODUCTION

The ONU stated that more than 60% of the Peruvian population is vulnerable in case of natural disasters (La Prensa, 2015). In the period between December of 2016 and April of 2017, Peru was hit by a series of strong rains, due to El Niño phenomenon, in the north and east of the capital. According to the Center of Operations of National Emergency (COEN), by March 15th, there where 552,866 people affected by this disaster and 62 642 victims (Perú21, 2017). Additionally, it caused a total of 66,093 homes destroyed and another 371 370 homes affected. It is also worth mentioning that educational institutions were also damaged: 354 where destroyed, and a total of 3 266 where affected, while 64 health establishments stayed unfit, and another 1,044 where affected. INDECI stated, on the Statistical Digest of 2017, that in Lima, El Niño phenomenon lead to 18 775 victims, 40 176 people affected, 16 deceased, 76 wounded and 1 missing person (INDECI, 2017).From this department, Chosica was one of the most damaged districts with more than 4 thousand people affected, with hundreds of homes collapsed and roads destroyed (El Comercio, 2017).

All the above, bring as a consequence a big group of people needing help after the disasters. Nevertheless, post-disaster process in Perú is treat as a push process, that starts with an estimated demand, this causes longer response time to these people. In Perú, demand estimation begin with the information gathering process which is already established by INDECI, this process consists legally of three phases, two of them for gathering data and a third one to summarize the information collected in the first two phases (INDECI, Manual EDAN Perú, 2016). This makes this process prone to eventualities that, as a consequence, cause delays on donations distribution. The INDECI statistic report of July 2017 confirm the damage on transport and communication of 218 089 road kilometers and how this transport limitations bring the necesity of local governments cooperation to measure damages and necessities (Dirección de Políticas, 2017). According with Cozzolino et al, in HL time lost means lives lost (Cozzolino, 2012). Thus, is highly relevant to optimize information flow and reduce eventualities probabilities that cause bottlenecks in the Humanitarian Logistics (HL) process. All these in order to minimize and calibrate human suffering.

On the other hand, the probabilities of transporting non-necessary or low priority donations increases without real data. As in the case of the city of Tahoku, where these irrelevant donations represent around 50 - 70% of the total charges increasing transportation cost, taking warehouse capacity from critical resources and abstaining other communities of these resources (Holguín-Veras, 2012). Prioritize donations also partially solves distribution problems, because it reduces the need for coordination between agents (Buzogany, Prioritization models in humanitarian operations: systematic review of the literature, 2015). Nonetheless, it is still important coordination between the different agents to assign the scarce resources and saves efforts, resources and time. On Osh earthquake in 2015 there was families which receive 50 bags of flour whereas others did not receive anything (OCHA, 2016). In Peru's case, stakeholders are divided in two main groups: the public sector, represented by INDECI, and the private sector; represented by companies, NGO´s and civils. These groups are not aligned and one of the factors collected in interviews was the accessibility to quality information to know where their help was required.

This paper describes a case of study of SMS interaction technology implementation to reduce information flow time and increase quality of data in post disaster humanitarian logistics process, using the Quebrada Quirio as a prototype. The main objective is to create a work flow capable of reducing the