Logistics Information and Knowledge Management Issues in Humanitarian Aid Organizations

Erwin A. van der Laan, Marisa P. de Brito and S. Vermaesen

ERASMUS RESEARCH INSTITUTE OF MANAGEMENT

REPORT SERIES
RESEARCH IN MANAGEMENT

ABSTRACT AND KEYWORDS	
Abstract	In this paper, we assess the need for logistics information and knowledge management in humanitarian aid organizations. To do so, we combine literature sources with an extensive case study that we conducted at Médecins sans Frontières–Holland, which is following a trajectory to improve logistics information management within the organization. We observed that logistics information and logistics knowledge management has not yet matured. We indicate how, by making use of knowledge management strategies such as 'personalization' and 'codification', this can be improved.
Free Keywords	Logistics information, Knowledge management, Humanitarian aid organizations
Availability	The ERIM Report Series is distributed through the following platforms: Academic Repository at Erasmus University (DEAR), DEAR ERIM Series Portal Social Science Research Network (SSRN), SSRN ERIM Series Webpage Research Papers in Economics (REPEC), REPEC ERIM Series Webpage
Classifications	The electronic versions of the papers in the ERIM report Series contain bibliographic metadata by the following classification systems: Library of Congress Classification, (LCC) LCC Webpage Journal of Economic Literature, (JEL), JEL Webpage ACM Computing Classification System CCS Webpage Inspec Classification scheme (ICS), ICS Webpage

LOGISTICS INFORMATION AND KNOWLEDGE MANAGEMENT ISSUES IN HUMANITARIAN AID ORGANIZATIONS

E.A. van der Laan, RSM Erasmus University, Rotterdam, The Netherlands, elaan@rsm.nl

M.P. de Brito, OTB, Delft University of Technology, The Netherlands, m.p.debrito@tudelft.nl

S. Vermaesen, alumnus RSM Erasmus University, Rotterdam, The Netherlands, stefanie.vermaesen@accenture.com

Abstract
In this paper, we assess the need for logistics information and knowledge management in humanitarian aid organizations. To do so, we combine literature sources with an extensive case study that we conducted at Médecins sans Frontières–Holland, which is following a trajectory to improve logistics information management within the organization. We observed that logistics information and logistics knowledge management has not yet matured. We indicate how, by making use of knowledge management strategies such as 'personalization' and 'codification', this can be improved.

Introduction

The role of logistics in humanitarian aid was recently emphasized by disasters such as the Tsunami in Asia, Hurricane Katrina and the Earthquake in Pakistan. For instance, as a result of the successful collection of goods for the Tsunami's area, airport capacity in Sri Lanka was soon depleted and the flow of goods disrupted. There was a lack of warehousing capacity to stock the oversupply and logistics coordination was difficult due to the large number of organizations involved in the emergency operations and the lack of proper planning and expertise (Thomas, 2005).

Humanitarian organizations provide long-term developmental assistance or short-term emergency aid in case of disasters (Minear et al.,1996). Information and knowledge are crucial resources for these organizations in both settings (Zhang et al., 2002), although for emergency response it is particularly challenging to assess all relevant information. A standard humanitarian logistics checklist involves to assess the state and availability of airfields, ports, roads, railways, loading-equipment, fuel depots, warehouses, truck fleet, custom procedures, visa requirements and so on (Kaatrud et al., 2003). On top of this, preliminary assessment has to take into account an evaluation of the risk (follow-up earthquakes, storms, military presence, etc.) in the region needing relief. The agility of the humanitarian supply chain, though, depends on the robustness of these assessments and on reliable information (Oloruntoba and Gray, 2006).

In the past, humanitarian organizations have given insufficient attention to logistics operations, even though they depend on it daily. This has been perpetuated by the mentality that donated assets have to be used directly for relief purposes, rather than to training and planning, while actually the former depends very much on the latter. This has resulted in ad-

hoc operations relying on a few experienced logisticians, and operations being far from smooth in the case of large disasters (Thomas, 2005). Humanitarian organizations are currently more aware that being successful in goods and fund raising is not sufficient for successful humanitarian aid and relief. After all, goods have to be transported and distributed swiftly to the ones in need and that implies a strong logistics function within the organization. Learning from commercial logistic chains, keeping in mind the humanitarian context, this is also emphasized in recent literature (see e.g. Beamon, 2004; Wassenhove, 2006).

The strength of the logistics function depends heavily on information and knowledge. The link between knowledge and logistics management, however, has not been thoroughly studied (Neumann and Tomé, 2005. In this paper, we assess the need for logistics information and knowledge management in humanitarian aid organizations. To do so, we combine literature sources with an extensive case study that we conducted at Médecins sans Frontières– Holland (MSF-H)

The research methodology

As MSF-H recognizes the need for improving the logistics information it provides to the field, both with respect to content and infrastructure, the logistics department initiated a trajectory for improvement. The research reported in this paper is part of that trajectory and focuses on identifying issues with respect to logistics information and knowledge transfer from the logistics department to the field, in order to provide a basis for improvements.

The methodology combines a critical review of the relevant literature and a case study. The case study was conducted during a period of about nine months, as part of a Master thesis project at Médecins sans Frontières (Vermaesen, 2006). There were three main inputs for the case study: 1) historical reviews and a close involvement with the organization; 2) questionnaires, and 3) interviews (see Ghauri and Grønhaug, 2005 on qualitative methodologies).

Regarding the first, there was time spent at the Field Support Unit (FSU) of MSF-H headquarters in Amsterdam, several days a week in a period of 9 months, where explicit knowledge (existing records within MSF-H) and tacit knowledge (informal talks with employees during coffee breaks) were used to get to know the organization. Data using questionnaires was collected in two ways, using two different questionnaires. One questionnaire (Q1) was given to the participants attending an MSF-H Technical Logistics Course and a second questionnaire (Q2) was sent to logistics coordinators in the field. Q1 contained both closed and open questions, while Q2 had only closed questions to simplify the task to the respondents in the field. The Annual Technical Logistics Course is a program mainly targeted at logisticians (Logs) that have been on several missions with MSF in several countries. During the program, the participants were interviewed as well and if needed they could ask assistance in filling out the questionnaire. Semi-structured interviews were also carried out at MSF-H and at the partner organization in Germany. Figure 1 represents the methodology schematically.

The preliminary findings of the interviews and first questionnaire were presented at the Annual LogCo Days (for logistics coordinators, 'LogCos', in the field) a few months after the questionnaires and interviews were carried out. The participants made a Strengths/Weaknesses (S/W) analysis of the preliminary findings, divided in small focus

groups (see Malhotra and Birks, 2003). The S/W analysis was later on used to consolidate the findings and to make a proposal on how to tackle problems concerning accessibility of information to the field. In this paper we present the results of the preliminary findings alone. We will elaborate on the full results in a subsequent publication.
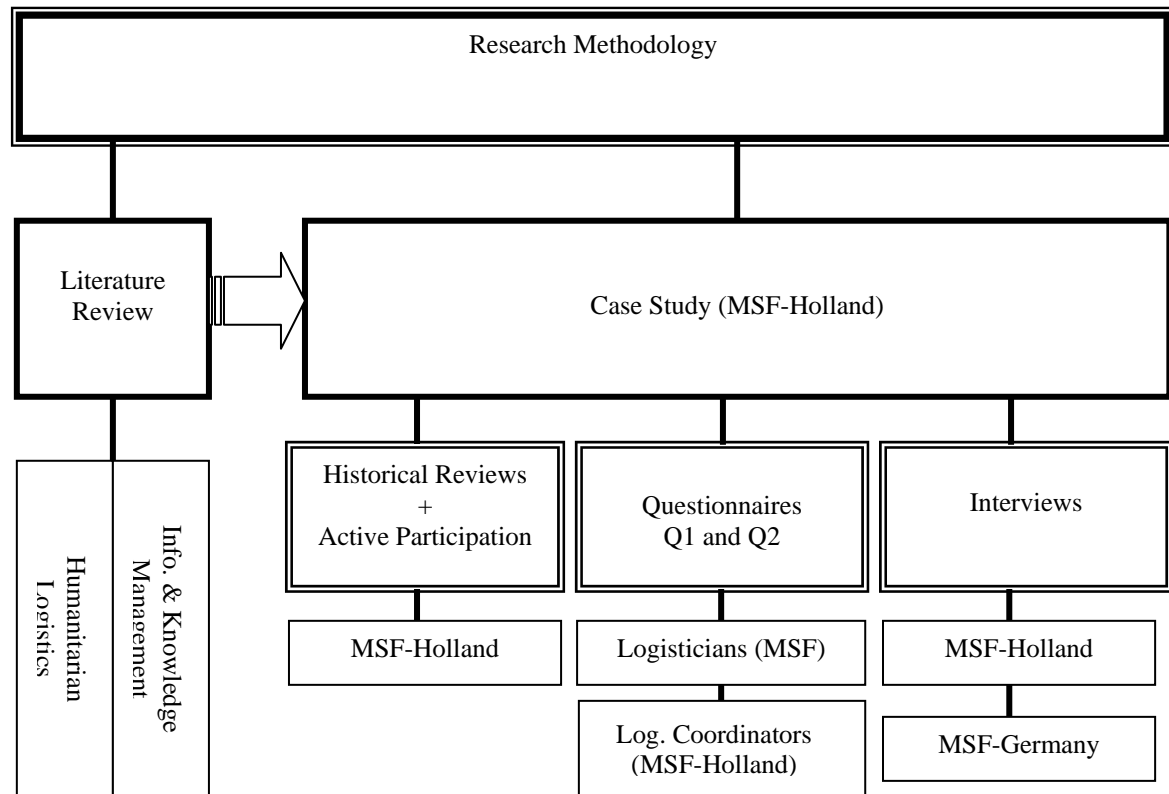

Figure 1: The methodology.

The case of MSF-Holland: background Information

MSF

The mother organization, Médecins Sans Frontières (MSF), has existed since 1971 and currently operates in seventy countries worldwide. The primary objective of MSF is to assist populations with medical care in countries were either there is a sudden emergency, or were the health structure is rather poor. MSF works often with local organizations and governments, for instance the local Ministry of Health, to put in place health programs. MSF also trains local workers and strives to create awareness for areas in crisis (see Wybo and Kowalski, 1998, for a discussion of the several roles that emergency organizations commonly play). In short, MSF positions itself as "an international humanitarian aid organization that provides emergency medical assistance to populations in danger" (http://www.msf.org/msfinternational/aboutmsf/).

MSF has nineteen filial sections, operating in a cooperative but independent basis, spread out in Europe (including MSF-Holland and MSF-Germany) plus Canada, U.S., Japan, Hong-Kong and Australia.

MSF-H

MSF-H is one of the five filial organizations that are active in missions. It has a particular partnership with MSF-Germany in the sense that some missions are carried out together. The remaining fourteen filial sections have a supportive role in raising funds and in selecting human resources, such as gathering volunteers. MSF-Holland currently works worldwide in more than thirty countries across four continents, Africa, Asia, South-America and (Eastern) Europe (see www.artszondergrenzen.nl)

MSF-H has staff in the headquarters in Amsterdam (HQ) and in the field. HQ coordinates all projects and provides support to the field staff, which includes medical, logistics, and financial staff plus other specialists. Field staff can be either international staff that is allocated to the crisis area or local staff. Annually, MSF-H sends out about 1000 international staff members to the field, while local staff is six times that number.

The Logistics department within MSF-H

Four departments within MSF-H are directly supporting the field: financial, human resources, public health (medical and water and sanitation), and the logistics department. The logistics department consists of a procurement unit and a Field Support Unit (FSU). The procurement unit processes all international product orders from the field. The FSU deals with all logistics (information) requests from the field, usually from the LogCos at the capital level.

The flow of Logistics Information within MSF-H

The current flow of logistics information within MSF-H can be transferred, stored and accessed at three levels: Headquarters (HQ), Field Capital Level (the capital of a country where a mission is executed) and Field Mission Level (all individual mission locations). At the Capital Level, a logistics coordinator (LogCo) is responsible for communication with HQ and all the missions in that particular country regarding logistics (information) requests. At Mission Level, a logistician (Log) is responsible for logistics activities in that particular project. The Log is supposed to communicate with the LogCo at capital level concerning any logistics (information) request (Figure 2). Sometimes, there is also communication between the HQ and the Mission level.
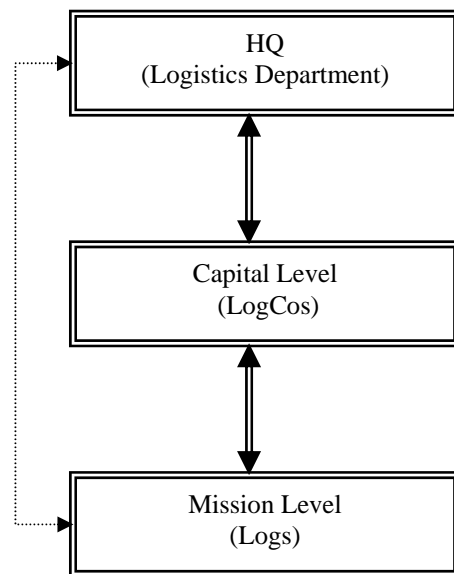
Figure 2: The flow of Logistics Information at MSF-H

Logistics information within MSF-H: content and sources

MSF-H distributes information to the field related to the following topics: supply chain management, cold chain, energy and electricity, communications technology, transport management and mechanics, building and shelter, and water/hygiene/sanitation. All of the logistics information falls under the responsibility of the Logistics Department, except for the last one, which is a responsibility of the department of Public Health. See Table 1 for a summarized description of the information content per topic.

Responsibility	Topic	Description of information content
Logistics Department	Supply chain management	Services and related information from the point-of-origin to the point-of-consumption of goods, including to process orders and to organize the reception of the goods.
	Cold chain	Specific information concerning cold chains, such as of vaccines, which have to be kept at cool temperatures.
	Energy and Electricity	How to use appliances used in missions, or how to employ a generator
	Communications Technology (Voice + Data)	Aspects of setting up and operating a communication system or network (e.g. radio and satellite communication and telephone network).
	Transport Management and Mechanics-	Functioning of the vehicle fleet in MSF-missions.
	Building and Shelter	Temporary and semi permanent buildings and emergency shelter options in the form of module tents.
Public Health	Water, Hygiene and Sanitation	Supply and/or distribution of water; the provision or development of sanitary facilities.

Table 1: Type of information provided to the field, per topic.

There are several ways to store, provide and exchange information. Table 2 and Table 3 list the tools used at MSF-H to provide /exchange information with the field, by respectively the department of Logistics and the Information and Documentation center (IDC). IDC is an independent department, which has a supporting role for all the other departments.Table 4

lists the tools for information capture and exchange for information capture/exchange within the HQ of MSF-H.

For Logistics Support Information (to the field) through the FSU:	
Tool	**Purpose and short description**
Logistics Website	To exchange information between LogCo (Capital Level) and Logistics department (HQ Level), where HQ is the provider of the information. It is password protected. Information available is categorized as follows: Department, Latest News, Training and HRM, Logistic Field Information, Procurement Unit, Building and Shelter, Cold Chain, Communication, Energy, ICT, Supply and Logistics Management, Vehicles and Transport and Water and Sanitation.
FTP server	To send/receive large documents on any topic from HQ to the capital and if possible, the field. These documents should be sent on an individual basis and upon request. The FTP server also contains a library of general and specific documents per country.
FSU CD ROM	Contains updates for virus scans, Windows service packs, etc. It also contains the content of the Logistics Website, which is then also available at field level. This CD ROM is renewed every 4-6 weeks
Logistics Reference Material	CD-ROM's: Training Material, Supply Training Package, Self –Learning Logistics Course, Reference Books, First Missioners' Logistics Preparation Course, Hard copy (books): Training Material, Yellow Guidelines
Information Technology Service	Database that includes frequently asked questions (FAQs) from the field. Every front officer should update this database regularly At time of research not working to its full capacity and not accessible at the field.
Training Programs	Pre-Departure Course (PPD) for first missioners, general information on MSF (one week) Technical Logistics Course (TLC): two weeks Logistics Management Course (LMC) Vehicle course WEDC course (Water and Sanitation course) LOGCO days (annual one week-meeting), with preceding ICT training and afterwards LogCo training skills (three days)
Briefings	Briefing before departure to Logs and LogCos Logistics support information is given

Table 2: Tools for information capture/exchange with the field, under the Logistics Department.

Some tools are for exclusive use at the HQ (J, H and G drives), which include information on Logistics department, Field Support Unit, Procurement Unit, and so on. Then there are two different departments (Logistics Department and IDC) responsible for sets of tools that can be used to exchange information with the field. Furthermore, same information may be present in multiple platforms. From Tables 2-4 it is clear that (1) there is a great variety of tools, (2) the information is repeated across tools, and (3) for some tools the ownership of information that it provides is split among multiple entities.

For Logistics Support Information (to the field) through IDC:	
Tool	**Purpose and short description**
Treasury CD Rom	Policy papers, manuals, discussion papers, guidelines (including logistics yellow guidelines) of MSF in general and MSF-Holland in particular
Field Library Catalogue	A yearly list of books, documents, CD-ROMs, etc. compiled by the IDC in close operation with the different specialists in the office: basic book kits (obligatory in every project), emergency book kits (highly recommended), subject kits (specialized books)
Project Information	Project information which is send to IDS contain the following documents: General information: welcome/expat guidelines, maps and pictures Situational reports Management reports: AP, 4M, 8M, etc., country policies and security guidelines Other field experience reports: explos, assessments, trip reports Proposals This information is filed per country per subject
Habari	This is the intranet of MSF-H and can be accessed by HQ and in the field (latter only at very slow speed): Country and project overview (OST, who's who, who's where, funding, address, project status) Field and office related news Expat schedule for briefings and debriefings Vacancies and more
TUKUL	This is MSF's (international) intranet: TUKUL international space, which is the international document management system of MSF, available to MSF- international offices only. Field cannot access this. Operational news can be found here from different Operational Centers. TUKUL MSF-H Documents, which is the international document management system of MSF, can be accessed by the HQ of MSF-H and in the field (last one only very slow speed). Project information can be found here and the latest expat list.

Table 3: Tools for information capture/exchange with the field, under IDC.

For Logistics Support Information (within HQ of MSF-H):	
Tool	**Purpose and short description**
J-drive	Local computer network, shared digital archive for temporary files
H-drive	Local computer network, personal archive of individual employees
G-drive	Local computer network, shared digital archive for each department. Information here is organized roughly as follows: General, Logistics department, Field Support Unit, Procurement Unit, Logistics Newsletter, Information System, Expertise (by topic such as ICT, Energy, Vehicle, Building/Shelter, or HRM/Training), and Various.

Table 4: Tools for information capture/exchange within HQ.

Findings

Results of the questionnaires

Questionnaire 1 (Q1) was handed out to 30 Logs and LogCos during the two-week 'Technical Logistics Course' (TLC) of 2005. The participants at this course are from four of the five operationally active sections of MSF: Holland, Belgium, Spain and Switzerland. They all have been on several missions with MSF in several countries. They are both expatriate and national staff. Eventually, 27 respondents completed the questionnaire. This is a response rate of 90% with 11 respondents employed by MSF Holland, 11 by MSF Belgium, 4 by MSF Spain and 1 by MSF Switzerland. As this case study only focuses on MSF-H, here we only report on the results from the questionnaires by respondents of MSF-H. From the 11 respondents employed by MSF-H, ten were Log and one was LogCo in their last mission.

Questionnaire 2 (Q2) was sent out in June of 2005 to thirty LogCos working for MSF-H in the field. The response rate was 60%: 18 respondents from 18 different countries completed the questionnaire.

The respondents of Q1 and Q2 were asked about their usage and usage frequency of the sources provided to the field by the logistics department of MSF-H (Logistics website, FTP server, FSU CD-Rom, Logistics reference Material) and any problems that they encountered using those sources. Also they were asked to specify their recommendations on improving the provision of those sources. The Information Technology Service database was not fully operational at the time of research, so this was left out of consideration.

Source usage

All sources were used, although the CD-Rom and the Logistics reference material were the most popular for both Logs and LogCos (Figure 3). The website and FTP-server were mainly used by the LogCos because there is generally no reliable Internet access at the Mission level, where Logs are stationed. The main reason that was reported for not using a source was not knowing about its availability. The majority of the respondents was not aware that part of the Logistics Website is available on CD ROM. Nonetheless, when a source was used, it was used mostly on a weekly or monthly basis (see Figure 4).
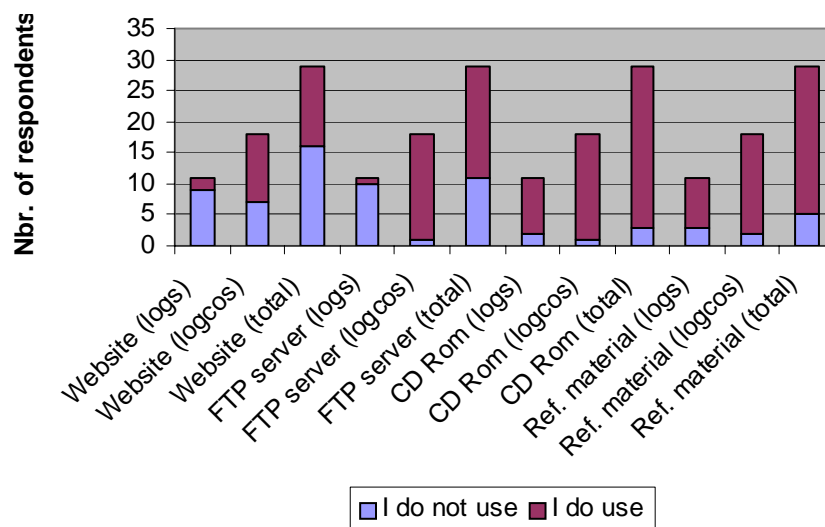

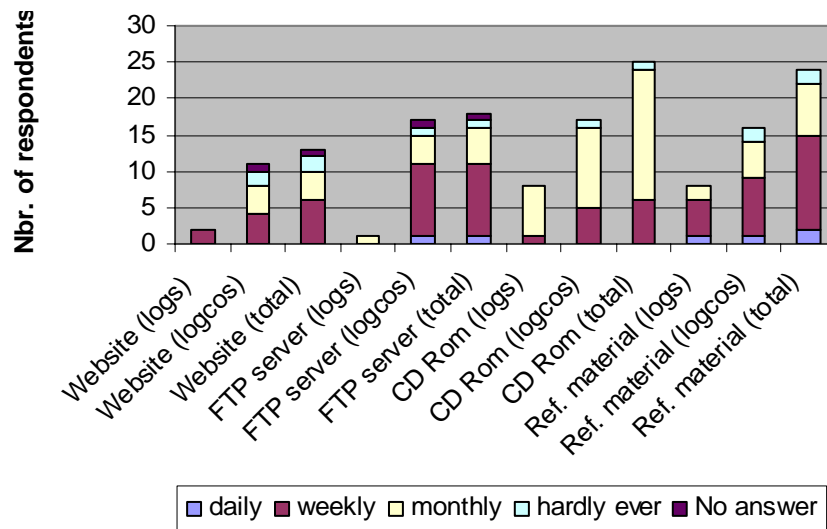
Figure 3: Usage of sources

Figure 4: Usage frequency.

Source quality

The overall quality of the sources in terms of information content was rated quite good (Figure 5) on a scale of 1 (low quality) to 5 (high quality). The averages range from 3.4 (website) to 4.0 (reference material). The majority of users, however, encountered problems with the sources during use, especially with the logistics website for which all respondents encountered problems. This may explain the relatively high number of respondents not using this source.
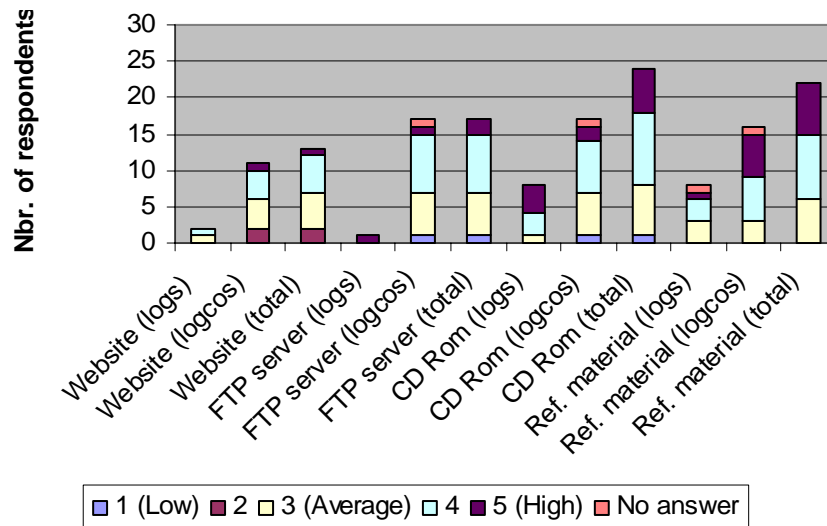

Figure 5: Quality of sources.

The respondents provided specific information on the problems that they encountered using the various sources of logistics information and other specific problems (see Table 5). It is remarkable that many Logs and LogCos did not know about the existence of certain sources of information. One of the reasons for this was the lacking of a centralized system to locate information. Furthermore, information was not always well structured, and incoherencies were not rare when information from multiple sources is compared. On top of that, it was not

transparent which supporting tool had the latest updated information. Technical problems were also mentioned, such as: no or poor access to the Internet, CD's arriving to the field already damaged or specific logistics problems, such as a long order-delivery cycle for logistics reference materials.

Logistics Website
Not up to date, not structured
Not knowing that part of the website is available on CD ROM
Not complete, missing information on key manuals and guidelines
Slow dial up internet connection, often disconnected during use
CD ROMs
Not structured, not available
Ignorance about the existence
Irregular delivery and damage: sometimes is already out of date when it is received in the project
Duplicate information – no versions (it is not immediate clear what is the last version).
Logistics Reference Material
Not structured
It is not always available in the projects - books get lost
It is too basic and lacks information
There are too many guidelines (fragmented)
Not always aware of the existence of these manuals
Long-delivery time (sometimes several months)
FTP Server
Poor accessibility: low access speed, specially at Mission level
Lack of structure: not easy to find/download information and updates
File deleting policy (some files are removed every week, other files are not deleted at all)
Lack of communication about where exactly files are
Abusive use of the server: some people use it to transfer small files while is meant for large files only
In general:
Communication:
• Not knowing where to look
• Lack of proper feedback
• Need of more practical information. Delays in receiving requested information
• Too much to read: No centralized system to locate the information.
• Do not know who to talk to in the HQ
• Impression that information requests are not welcomed
(Transfer of) Knowledge
• Insufficient knowledge about the standard MSF logistic operating procedures.
• Insufficient practical logistics training for first mission Logs
• Lack of knowledge on software
• High turnover of expatriate staff: there is never sufficient time for a real effective overhand
• There is not enough transfer of knowledge in and between projects: e.g. unknown history
Other
• Technical problems that user cannot solve
• Single-owned expertise: When the normal FSU officer is away (field or holiday) it is much harder to get the support required
• Reliability of information gathered through other sources (e.g. other NGO´s)
• Specific-country problems: import restrictions

Table 5: Identified problems per source of information and in general (Log and LogCos views)

Some Logs were not happy with the communication lines with LogCos or MSF-HQ, as they lacked feedback, and did not feel comfortable in requesting information because they perceived it as not welcome, given that the standard reply was "Have you already looked in

the manual?" Respondents also desired more practical logistics knowledge, with one mentioning that an eight million budget had been very badly overestimated because of lack of updated information on prices. Some of them recognized not to be well acquainted with standard logistic procedures such as order and stock management. Furthermore, respondents recognized that sometimes they lacked the technical or software-related knowledge and knowledge regarding the history of their project. Some respondents found it difficult to assess the reliability of information gathered throughout other sources, and they also mentioned country- specific problems, like restrictions on imports.

Improving logistics information at MSF-H

The mentioned difficulties regarding the management of logistics information are not that surprising if one considers that the core competences of humanitarian organizations are not in logistics, and that the importance of logistics has been overlooked for long in humanitarian organizations. Furthermore, there is a slow professionalization of humanitarian aid organizations, and high staff turnovers in the field, as the sector depends heavily of volunteers. Yet, in order to provide an efficient and responsive support to the organization and implementation of aid operations, effective logistics management is needed. For this, managing information and knowledge is essential.

Nonaka (1994) emphasizes that organizational knowledge creation only takes place through the 'conversion' between tacit and explicit knowledge, which results in four dimensions of knowledge conversion (Table 6).

Mode	Conversion	process
Socialization	tacit to tacit	Shared experience (e.g. team interaction)
Combination	explicit to explicit	Exchanging mechanisms (using social processes)
Externalization	tacit to explicit	information processing, categorisation
Internalization	explicit to tacit	Learning (by doing)

Table 6: Four modes of knowledge conversion (Nonaka, 1994)

The first dimension of 'socialization' refers to conversion of tacit knowledge through interaction between individuals and is commonly characterized by team interaction. The second dimension is the one of 'combination', where explicit knowledge is converted into explicit knowledge through combination or exchange of knowledge by the use of social processes, such as meetings. Reconfiguration of existing explicit knowledge can then lead to new knowledge. 'Coordination' of teams and "documentation of existing knowledge" can facilitate this dimension of combination. 'Externalization' is the process of converting tacit knowledge into explicit knowledge, and is related to information processing and categorization. This dimension is facilitated by 'dialogue'. The dimension of 'internalization' applies to the conversion of explicit knowledge into tacit knowledge through learning, as by doing.

Regarding the MSF-H case, it is clear that the conversion of tacit and explicit knowledge faced some difficulties. For instance, cross-level team interaction was weak, and the quality of communication between HQ, Capital Level and Mission level are to be improved. It is also clear that the existing 'explicit knowledge' needed to be urgently reconfigured as most information sources lacked structure and coherency.

Another important issue for organizational learning is the 'organizational memory,' i.e. to what degree knowledge from previous and current activities is recalled (Walsh and Ungson, 1991). An active 'memory' facilitates the exploitation of past knowledge. We observed a rather poor 'organizational memory' at MSF-H both regarding projects running at the same time and regarding the history of the same project. This is indeed very challenging for humanitarian organizations in general, as they typically face high turnovers of expatriate staff and limited time for handovers. Moreover, as MSF-H is a mature organisation that has recognised the importance of logistics information and knowledge management already for some ten years, it is very likely that the issues identified at MSF-H are present in many other humanitarian organizations as well.

Practical suggestions

There are basically two strategies to manage knowledge processes: 'codification' and 'personalization' (Hansen et al., 1999). The first corresponds to storing knowledge in documents such as reports, books and databases, while the second corresponds to stimulating communication and face-to-face contacts. A combined approach is preferable, to favor the creation of new knowledge that can be employed in different contexts. Table 7 presents a list of suggestions to deal with the difficulties that were found at MSF-H, where references to both strategies can be found.

The main idea is to create a centralized system to locate information in the Logistics Website, a Content Management System (CMS). The CMS will overcome problem of logistics information being stored on different media and in different places. It will be systematic, extensive and coherent with the information available from other resources (such as the FSU CDROM). Both Logs and LogCos were very open in providing information on additional general problems encountered regarding communication and very active in putting forward suggestions, based on their experiences. MSF-H has taken these suggestions to heart and has taken one step further already, by organizing focus groups on the interim plan, and using the output to refine it (see methodology question).

Logistics Website
Use the website to its full capacity as a central logistics information platform
Set up a Content Management System (CMS) containing all information, or at least a link to it
Update the website monthly.
Add a built-in search engine
Provide an index

FSU CD ROMs
Put all updates (currently available on FSU CD-ROM) on the Logistics Website and copy the complete website on CD-ROM, so information at both sources is coherent
Use it as a knowledge database; include a good full text search option.
Pre-install all CD-Rom content on all new computers going to the field
Send regular updates (assign a version label to updated CD-ROM's)
Centrally monitor whether CD-ROMs arrive to the field

Logistics Reference Material
Update frequently
Provide an index or list of manuals and guidelines available with summary of content

FTP Server
Use FTP for transferring large files only
When a document is put on the FTP server, send a follow-up email indicating location and expiring date

Additional suggestions:

Briefings and checklist

- Brief the logs and LogCos about the existence of resources (before their 1st missions)
- Create a 'checklist' for first missions about what they need to know in each field of logistics.

Communication and Reporting
- Improve regular communication levels (Communication protocol + standardization)
- Establish a standard handover document
- Store reports in a centralized database that is accessible to the Logs
- Provide modular report update (there is no need to repeat what has been reported already)

Training
- Improve training on practical and technical logistics information (essential before 1st missions)
- Train users more regularly.
- Provide more training CD-ROMs
- provide a forum for LogCos to share expertise
- provide partially shared training (to create bonds between Logs and LogCos)

Other
- Structure content (of website, CD-ROM's and reference material) and provide an index
- Name files appropriately and consistently
- Provide a centralized Help Desk
- Provide HQ-learning visits: to spend a day or two at HQ or capital level with a set of tasks

Table 7: Practical suggestions (based on Logs and LogCos input).

Summary and conclusions

In the past, Humanitarian Organizations have managed logistics on an 'ad-hoc' basis, but are currently awaking to the importance of logistics and logistics information management. This is very challenging because on the one hand it is not their core expertise and on the other hand they have limited resources that are mainly coming from donations. This paper identifies the need for information and knowledge management for humanitarian organizations through an extensive case study at MSF-Holland.

Logistics information and knowledge management is not yet mature in humanitarian organizations, although some organizations, such as MSF-H, are following a clear trajectory to improvement.

It appears that logistics information and logistics knowledge creation is hampered by the lack of structure and coherency in the information sources that are provided by the logistics department to the field. We observed that often Logs and LogCos in the field did not even know that certain information sources existed.

The conversion of both explicit and tacit knowledge in humanitarian organizations can be improved by stimulating the transfer of both tacit and explicit knowledge. This can be done by employing a combination of knowledge management strategies, namely, 'codification' and 'personalization.' We have translated these strategies into practical suggestions, among which: create a centralized easy-access logistics information website, improve the structure of information storage, record the organization's history, provide better communication, leverage training, increase team interaction and experiences exchange, e.g. by facilitating cross-level visits and through a Web-forum for logisticians to share experiences.
Last but not least, it is important that humanitarian organizations embed logistics in their organizational culture, and that in any attempt to provide logistics information (via training, books, CD's and website) the user, often a volunteer with limited logistics background, should be the center of attention.

Acknowledgements

References

BEAMON, B.M. Humanitarian relief chains: issues and challenges. In: INTERNATIONAL CONFERENCE ON COMPUTERS AND INDUSTRIAL ENGINEERING, 34, San Francisco, CA, USA, November 14-16, 2004.

DAVIDSON, N.L. Key Performance Indicators in Humanitarian Logistics, MLOG Thesis, Massachusetts Institute of Technology (MIT), Cambridge, MA, U.S.A., 2006.

GHAURI, P; GRøHAUG, K. Research methods in business studies: a practical guide, 3. ed. London: Pearson Education Limited, 2005.

HANSEN, M.T. The search-transfer problem: the role of weak ties in sharing knowledge across organisations subunits. *Administrative Science Quarterly*, vol. 44, n. 1, p. 82-111, 1999.

KAATRUD, D.B.; SAMII, R.; VAN WASSENHOVE, L.N. UN joint logistics centre: a coordinated response to common humanitarian logistics concern, *Forced Migration Review*, n. 18, p. 11-14, 2003.

MALHOTRA, N.K.; BIRKS, D.F. Malhotra, N.K. and Birks, D.F. Marketing research: an applied approach, 3. ed. London: Pearson Education Limited, 2003.

MINEAR, L.; SOTT, C.; WEISS, T.G. The news media, civil war, and humanitarian action. Lynne Rienner, Boulder, CO, USA, 1996.

NEUMAN, G.; TOMÉ, E., Knowledge management and logistics: an empirical evaluation, Proceedings of I-KNOW, Graz, Austria, June 29 - July 1, 2005.

NONAKA, I. A dynamic theory of organizational knowledge creation. *Organization Science,* vol. 5, n. 1, p. 14-37, 1994.

OLORUNTOBA, R.; GRAY, R. Humanitarian aid: an agile supply chain, *Supply Chain Management: An International* Journal, n. 11/2, p. 115-120, 2006.

THOMAS, A. Humanitarian Logistics: matching recognition with responsibility. *Freight & Logistics*, p.32-34, 2005.

VERMAESEN, S., Management of logistics information in humanitarian aid organisations: a case study at Médecins sans Frontières – Holland. Unpublished Master Thesis, RSM Erasmus University, Rotterdam, the Netherlands, 2006

VAN WASSENHOVE, L.N. Humanitarian aid logistics: supply chain management in high gear, *Journal of Operational Research* Society, n. 57, p. 475-489, 2006.

WALSH, J.P; UNGSON, J. R. "Organisational Memory." *Academy of Management Review*, n. 16, p. 57-90, 1991

WYBO, J. L.; KOWALSKI, K. M. Command centers and emergency management support. *Safety Science* n. 30, p.131-138, 1998

ZHANG, D.; ZHOU, L.; NUNAMAKER JR., J.F. a Knowledge management framework for the support of decision making in humanitarian assistance/disaster relief. *Knowledge and Information Systems*, n. 4, p. 370-385, 2002.

Publications in the Report Series Research* in Management

ERIM Research Program: "Business Processes, Logistics and Information Systems"

2007

India: a Case of Fragile Wireless Service and Technology Adoption?
L-F Pau and J. Motiwalla
ERS-2007-011-LIS
http://hdl.handle.net/1765/9043

Some Comments on the Question Whether Co-occurrence Data Should Be Normalized
Ludo Waltman and Nees Jan van Eck
ERS-2007-017-LIS
http://hdl.handle.net/1765/9401

Extended Producer Responsibility in the Aviation Sector
Marisa P. de Brito, Erwin A. van der Laan and Brijan D. Irion
ERS-2007-025-LIS

Logistics Information and Knowledge Management Issues in Humanitarian Aid Organizations
Erwin A. van der Laan, Marisa P. de Brito and S. Vermaesen
ERS-2007-026-LIS

Bibliometric Mapping of the Computational Intelligence Field
Nees Jan van Eck and Ludo Waltman
ERS-2007-027-LIS

Approximating the Randomized Hitting Time Distribution of a Non-stationary Gamma Process
J.B.G. Frenk and R.P. Nicolai
ERS-2007-031-LIS

Application of a General Risk Management Model to Portfolio Optimization Problems with Elliptical Distributed Returns for Risk Neutral and Risk Averse Decision Makers
Bahar Kaynar, S. Ilker Birbil and J.B.G. Frenk
ERS-2007-032-LIS