Supply chain and logistics competencies in humanitarian aid

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The continuing incidence of disasters and their associated challenges has increased the demand for humanitarian logisticians. However, there is a dearth of research on their essential competencies. This paper proposes, therefore, a humanitarian logistics competency framework (HLCF) to assist with the professional development of humanitarian logisticians. In creating the HLCF, nine competency domains containing 29 specific competencies across four levels (entry to senior management) were identified. This study makes two key contributions to the literature: (i) it extends the discussion of competency frameworks in humanitarian logistics; and (ii) it presents a framework designed to support the human resource plans and practices of aid agencies. The HLCF allows not only individual humanitarian logisticians to develop the competencies necessary for career success, but also humanitarian organisations to map their own competency frameworks to a common standard. This will, in turn, facilitate workforce mobility and support the overall concept of a certified humanitarian logistics professional.

Introduction

The lack of professional logistical capacity is argued to have resulted in poor decisions by humanitarian aid (HA) organisations following the Indian Ocean tsunami on 26 December 2004. Forty-two per cent of HA organisations responded to this event using assessments without expert logistics input, resulting in both a failure to anticipate bottlenecks in the supply chain and a poor evaluation of beneficiaries' needs (Tatham and Pettit, 2010). Furthermore, the importance of having a professional logistic workforce should be set against the generally accepted cost of this function, which, including the procurement, transportation, warehousing, and distribution of materials, has been estimated to account for approximately 60–80 per cent of the total cost of HA (Van Wassenhove, 2006; Tatham and Pettit, 2010). In addition, as much as 30 per cent of aid delivered has been identified as wastage in some post-crisis situations (Pettit and Beresford, 2009). In parallel, and in light of the multiple challenges and issues that surfaced in the aftermath of the tsunami in 2004, a key aspect of the subsequent HA reform process has been to understand the core competencies needed by humanitarian organisations, and the associated development of appropriately skilled personnel (Overstreet et al., 2011; Kovács, Tatham, and Larson, 2012; Allen et al., 2013).

This general aim of upskilling the workforce has been taken forward in the logistics domain, where the ability of managers to put in place and operate an agile supply chain in the complex and unstable post-disaster international context clearly requires a high level of professional skills, competence, and knowledge (Kovács and Spens, 2009; Tatham and Christopher, 2014). This, in turn, necessitates a range of cognitive and operational skills that will have to be identified, created, and supported (Eisenhardt, Furr, and Bingham, 2010).

Work to pinpoint the resultant skills and competencies needed by the humanitarian logistician has addressed some of the emergent questions, such as by considering the differences between humanitarian logistics (HL) and commercial logistics in terms of required skills (Kovács and Tatham, 2010), recognising the logistic skillsets that are specific to the humanitarian context (Kovács, Tatham, and Larson, 2012), surveying humanitarian logisticians to understand their skill development needs (Allen et al., 2013), and comparing the skill requirements needed to address catastrophic incidents with those that are appropriate for 'smaller' disasters (Kovács, Tatham, and Larson, 2012). A further stream of the literature also translates identified skill needs into training and education requirements (Allen et al., 2013; Bölsche, Klumpp, and Abidi, 2013), but the link between the professional development of a humanitarian logistician and his or her career progression has yet to be considered in detail.

Study aim

The objective of this study is to fill the aforementioned gap through the development of a competency framework for humanitarian logisticians that assists them, and their employers, in linking their competencies to their career progression. In this regard, it is fully accepted that there is no common career progression model across humanitarian agencies, but it is asserted that the ready availability of a recognised and accepted standard competency set for humanitarian logisticians would not only improve the performance of humanitarian organisations in the most costly area of their business (Tatham and Pettit, 2010; Kovács, Tatham, and Larson, 2012), but also it would support improved inter-agency staff mobility.

To achieve this aim, the argument for a humanitarian logistics competency framework (HLCF) is first outlined in greater detail and the associated HL competencies are reviewed briefly. Next, the content of the exploratory research and the context in which a number of qualitative interviews were conducted with logisticians working for a variety of humanitarian organisations are summarised. The section that follows integrates the results of these interviews into existing frameworks found in the literature. The findings are then discussed and the proposed HLCF is elaborated upon. Finally, the paper considers the implications of the research for HL professionals.

Developing a HLCF: the state of the art

Humanitarian logistics research and practice has recognised that, on the one hand, there is a clear link between skills, competencies, and job performance, but on the other, there is a lack of understanding of which skills and competencies are actually required by humanitarian logisticians, and how these might change as an individual rises though the organisational hierarchy. As a result, while some initial issues, such as what actually constitutes 'humanitarian logistics skills', have been addressed, such research has taken a high-level approach within which competency requirements have been investigated for HL as a whole, rather than in a way that reflects differences between various levels of jobs within HL.

Overall, there is agreement in the literature on the existence of a division between 'general management skills' and 'functional–technical logistics skills; often this is portrayed by means of the so-called T-shaped model of Leonard-Barton (1995). Thus, for example, Kovács, Tatham, and Larson (2012) use this model in their development of hierarchies of humanitarian logistics skills, while also concluding that there is a range of 'contextual' skills that are needed by humanitarian logisticians that go beyond the T-shaped model, something that was further corroborated by the application of their model by Rajakaruna et al. (2017). Furthermore, the findings of this work suggest that there are differences in the competency domains required in the field or in a country office when compared with those needed internationally at a headquarters level. This observation is reinforced by the work of Bölsche, Klumpp, and Abidi (2013) who found that the higher a logistician is in the hierarchy of their organisation, the greater the emphasis placed on the management domain of the T-shaped model.

With this in mind, the next part of this discussion will introduce the concept of a competency framework, although in doing so, it is appreciated that the terminology surrounding this approach can vary between countries. To avoid confusion, therefore, the definitions used by the Chartered Institute of Personnel and Development (CIPD) are utilised (CIPD, 2014). The CIPD (2014, p. 2) defines a *competency framework* as:

> *a structure that sets out and defines each individual competency that is a behavioural or technical skill (such as people management or stock taking capacities) required by individuals working in an organisation or part of an organisation to carry out a specific task with a list of N competencies being associated with a specific task (pharmacy management, trucking supervisor, . . .).*

These competencies can then be assembled in *competency domains* that are groups or clusters of specific competencies within a given competency framework.

In line with the CIPD's approach, competency frameworks are used to:

- provide a common foundation and understanding of human resource management (HRM) policies and processes (TCSW, 2012);
- improve organisational performance by enhancing individual competencies and, thereby, developing a greater capacity to respond to different demands (Wright and Snell, 1998; Boudreau et al., 2002; Townsend and Cairns, 2003);

- create greater mobility of individuals within and across organisations (TCSW, 2012);
- permit individuals to demonstrate their skills and potential capacity in accordance with a set of standards (Boudreau et al., 2002; Townsend and Cairns, 2003; TCSW, 2012); and
- identify, and then enhance, the specific skills considered to be critical at a given level within an organisation (TCSW, 2012).

Swords (2007, p. 12) describes the benefits of adopting competency-based training and development in the humanitarian sector:

> *competency frameworks provide a potentially powerful way of better ensuring that recruitment choices and the development of people fits the roles they will fill. The hope is that by making clear the ways people are expected to behave and in which they will be held to account for their behaviours, individual performance will improve, followed by increased team and organisational effectiveness.*

Competencies have also been conceived of in terms of values and mindsets (Townsend and Cairns, 2003; Swords, 2007), as 'work-related knowledge, skills and abilities' (Bolden and Gosling, 2006, p. 151), as the abilities needed for non-routine tasks (Whitehead et al., 2014), and, most importantly, as sets of behaviour patterns (see, for example, Coff and Kryscynski, 2011; Molloy et al., 2011). Behavioural competencies also facilitate the employment of a framework as a tool for assessing an individual's ability and performance (Swords, 2007).

What can be seen from the literature is that the use of a competency framework is designed to support the identification and subsequent development of a range of skills, including those required to be flexible. Flexibility, which is a key requirement for HL practice (Gattorna, 2015; L'Hermitte et al., 2016), can be supported, in theory, by the development of skills such as adaptability, creativity, innovation, problem-solving, and resilience (Weinert, 2001; Rodriguez et al., 2002), and frequently is operationalised through the adoption of a competency framework (see, for example, TCSW, 2013). However, the competencies themselves are not always so clearly set out in the literature. For instance, competencies for top management might be defined as leadership, general management, interpersonal, and communication skills, as well as creativity and personality traits such as adaptability and dependability (Thornton and Byham, 2013), whereas competencies for middle management might be seen as intellectual, interpersonal, adaptability, and a results-based orientation (Dulewicz, 1989).

Organisations can also choose different routes to further competency development, with job-based competencies focused on what there is to do, future-based competencies centred on what will need to be done, person-based competencies spotlighting attributes that maximise potential, and value-based approaches that link the competencies to the core values of the organisation (Whitehead et al., 2014). Hence, there is a mixture of competency approaches available to organisations to manage their employees. As such, it is hard to establish what would be the relevant demonstrated

behaviours that could (or should) be used to identify the relevant competencies. In turn, this creates significant challenges when it comes to developing the connection between the literature-based competencies and performance, as well as discussing how competencies should be assessed in logistics, especially in HA logistics.

In addition to the application of the T-shaped model to HL skills and competencies, a number of research findings are pertinent in the area of HL. First, in contrast to business/commercial logistics (B/CL), marketing was not among the otherwise typical management skills needed by humanitarian logisticians (Kovács and Tatham, 2010). Second, the same research reveals that HL places a greater emphasis on technical-focused 'core' logistics skills, such as warehousing and transportation management, yet it highlights, too, leadership and supplier relationship management skills as being important in this sector. In parallel, Allen et al. (2013) demonstrate the importance of training and HRM competencies for humanitarian logisticians. Finally, Walker and Russ (2010) stress the demand for skills in the areas of needs assessment, security and safety, monitoring and evaluation, and particular relief item and mandate-based areas such as, water, sanitation, and hygiene (WASH).

More significant for the development of a HLCF, Allen et al. (2013, p. 143) indicate that there is a 'hierarchy of skills that is important to humanitarian logistics and the needs for these skills depend on the levels of responsibility'. In parallel, Kovács, Tatham, and Larson (2012) develop hierarchies of skills from another perspective by looking at skillsets that feature as bundles on different levels. These authors go on to suggest the addition of a set of 'contextual' skills to the T-shaped model, which, in the case of humanitarian logistics, would encompass skills ranging from emergency preparedness to fleet management, from security management to the training of other logisticians.
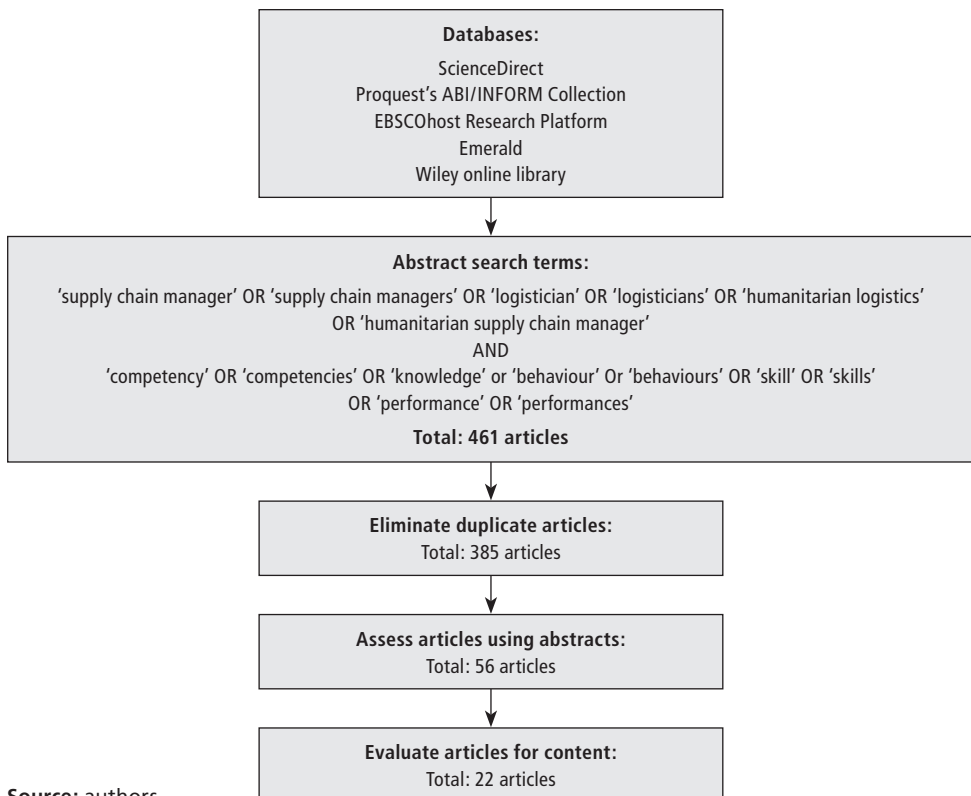
While such contextual skills are clearly important for B/CL, the contextual challenges of HL make this addition all the more important. The setting of a low- or middle-income country (LMIC), or an area affected by a disaster or complex emergency, creates a complicated set of challenges, such as difficulties in predicting demand (in terms of timing, location, type, and size) coupled with sudden occurrences of high demand for different supplies with short lead times, the timeliness of deliveries, and a general lack of resources (financial, human, material, and technological) (Balcik and Beamon, 2008; Bölsche, Klumpp, and Abidi, 2013; Allen et al., 2013). Issues that typically arise include the '6W' (who wants what where when and why?) needs assessment process, and difficulties in accessing the affected populations owing to a lack of, or a compromised, infrastructure and/or a degraded security situation (Heaslip, Sharif, and Althonayan, 2012). Other contextual issues that humanitarian logisticians must take into account are the type of disaster (speed of onset and probability of event in the region) (Van Wassenhove, 2006; Tatham et al., 2013), the focus and location of their own organisation (mandate, regional presence, and declaration of a state of emergency) (Kovács and Tatham, 2010), the general stakeholder environment (Kovács and Spens, 2009), and the logistic performance of the country of operations.

In summary, while there is general agreement within the humanitarian sector on the value of competency frameworks at the individual and organisational level, there remains a considerable lack of clarity concerning the optimal content of such a framework and the most appropriate way in which this can be portrayed. There is broad support for the use of a hierarchical model that differentiates between the skills and competencies needed at various levels within a humanitarian organisation (Allen et al., 2013; Bölsche, Klumpp, and Abidi, 2013), but the number of levels within such a model and the content of each level (Dulewicz, 1989; Thornton and Byham, 2013) represent a clear gap in the current literature, which this paper aims to fill.

Research methods

The study began with a systematic review of literature in the areas of logistics, supply chain management, and humanitarian logistics, in combination with skills, competencies, and behaviour. This process led to 461 articles being identified (see Figure 1). The next step was to eliminate articles extracted more than once, leaving 385. Each abstract was then evaluated for its potential relevance to the topic of individual competencies for supply chain/logistics management; this procedure eliminated 329

Figure 1. Systematic literature review for developing a HLCF

Databases:
ScienceDirect
Proquest's ABI/INFORM Collection
EBSCOhost Research Platform
Emerald
Wiley online library

Abstract search terms:
'supply chain manager' OR 'supply chain managers' OR 'logistician' OR 'logisticians' OR 'humanitarian logistics'
OR 'humanitarian supply chain manager'
AND
'competency' OR 'competencies' OR 'knowledge' or 'behaviour' Or 'behaviours' OR 'skill' OR 'skills'
OR 'performance' OR 'performances'
Total: 461 articles

Eliminate duplicate articles:
Total: 385 articles

Assess articles using abstracts:
Total: 56 articles

Evaluate articles for content:
Total: 22 articles

Source: authors.

of the 385 articles. The remaining 56 were analysed further to identify those that presented or discussed a set of competencies, knowledge, behaviours, skills or performances that would be pertinent to logisticians and supply chain managers. The final selection comprised a total of 22 articles selected for more detailed consideration.

Based on the systematic literature review outlined above, 53 competency categories were identified initially, but, using the T-shaped model as the overarching framework, these were grouped into a list of nine potential competency domains.

The next step employed the same approach to appraise and code two practitioner competency listings to distinguish additional competency domains, and, in so doing, acknowledge the reality that secondary data often have to be used in the area of humanitarian logistics because of limited access to primary actors (Banomyong, Beresford, and Pettit, 2009; Altay and Ramirez, 2011; Matopoulos, Kovács, and Hayes, 2014). The practitioner competency lists were from (i) People that Deliver (PtD)—an agency that focuses on delivering medical supplies through sustainable supply chains in developing countries (PtD, 2015)—and (ii) Oxfam's competency framework for its logisticians. PtD is a United Nations Children's Fund (UNICEF)-supported initiative that has attempted specifically to capture competencies across United Nations (UN) agencies, and was thus purposefully contrasted with a perspective from a non-governmental organisation (NGO), in this case Oxfam. PtD and Oxfam also portray the heterogeneity of the humanitarian sector and, hence, usefully facilitate comparisons (Eisenhardt and Graebner, 2007). The size and profile of the organisations interviewed also fitted with the time, budget, and accessibility constraints of the research project; both facilitated access to their personnel.

A number of interviews were then conducted with humanitarian logisticians (i) to confirm the proposed competency groupings and their labels, as well as to consolidate further the categories where possible, and (ii) to understand the differences in the significance of various competency domains given their career progression. In this respect, the study followed the suggestion of Kovács, Tatham, and Larson (2012) that collecting qualitative data from humanitarian logisticians will shed light on *actual* use of skills within the sector. One should note that the data offered by Kovács, Tatham, and Larson (2012) pertained to skill requirements in job advertisements, which they criticised for being potentially a human resource (HR) manager's (rather than a supply chain manager's) view of job requirements, as well as reflecting a lack of understanding of actual priorities and the utilisation of skills in a particular role. In addition, other studies, such as Kovács and Tatham (2010), Walker and Russ (2012), Allen et al. (2013), and Rajakaruna et al. (2017), collected data through surveys based on pre-determined lists of skills. While these surveys offered interesting insights into the significance of various skills, such an approach does not discern easily any contextual skills that did not feature on the lists developed for the questionnaires in the first place.

For the interviews, the study turned to senior humanitarian logisticians as 'field experts'; the final sample was composed of eight respondents, two from UN agencies, one from an international humanitarian organisation, and five from international

Table 1. List of respondents

Organisation	Code/pseudonym	Position held	Years involved in humanitarian logistics	Previous logistics experience (years): commercial logistics (C)/ military logistics (M)	Logistics experience (years) in field office (F)/ headquarter office (HQ)	Type of relief involvement	Number of personnel working for the organisation	Expenditure (USD 2015)
United Nations organisation A	Interviewee A	Supply chain manager	16	9 (C)	7 (F) 9 (HQ)	More than 75 countries; emergencies, livelihoods, food, education	11,500 employees	2.97 billion
United Nations organisation B	Interviewee B	Procurement and logistics coordinator	20	12 (M)	8 (F) 12 (HQ)	More than 125 countries; emergencies, livelihoods, legal, protection, education	7,600 employees	1.8 billion
International humanitarian organisation	Interviewee C	Supply chain manager	11	8 (C)	7 (F) 4 (HQ)	More than 189 countries; emergencies, shelter, livelihoods, legal, health	1,000,000 employees/ volunteers	394.2 million
International NGO A	Interviewee D	Logistics manager	12	15 (M)	7 (F) 5 (HQ)	More than 20 countries; emergencies, livelihoods, legal, protection, education	2,500 employees	150.3 million
International NGO B	Interviewee E	Logistics manager	10	8 (C)	4 (F) 6 (HQ)	More than 15 countries; emergencies, health, livelihoods, education	2,500 employees	60.8 million
International NGO C	Interviewee F	International logistics officer	10	5 (C)	7 (F) 3 (HQ)	More than 50 countries; emergencies, livelihoods, legal, protection, education	5,000 employees	350.3 million
International NGO D	Interviewee G	Logistics manager	12	20 (M)	10 (F) 2 (HQ)	More than 25 countries; emergencies, health, livelihoods, education	3,000 employees	80.3 million
International NGO E	Interviewee H	Logistics manager	13	Not applicable	6 (F) 7 (HQ)	More than 15 countries; emergencies, health, livelihoods, education	2,000 employees	50.8 million

Source: authors.

NGOs (see Table 1). The respondents were selected by means of stratified sampling, that is, in such a way as to cover organisations across different types of operational mandates, including education, food, health, multi-country, shelter, and water. A further criterion for inclusion was that respondents had to have a minimum of 10 years' experience of HL (rather than in general logistics/supply chain management). Being senior humanitarian logisticians with such experience, they had all worked in field and country offices and at headquarters, and were thus able to bring all of these perspectives to the discussions. Respondents were chosen so as to include persons with lived experiences related to the focus of the study and who were willing to talk about them. In addition, they had to be different enough from one another to enhance rich and unique stories of a particular occurrence (Fisher et al., 2010).

During the interview process, respondents were first asked to provide a full and descriptive account of their experiences as humanitarian logisticians. This facilitated sensitisation to the context, language, and operations of the interviewees, and permitted personalisation of the interview protocol.

The main body of the interview covered a range of general issues relating to the informant's organisation, including its history, size, and a description of the specific role of the manager. This was followed by informal discussions that provided additional content for the inquiry and formed the basis for interview fact-checking. The interviews, four face-to-face and four by Skype, each took approximately one hour and were recorded and transcribed verbatim to enable subsequent inductive analysis (Miles and Huberman, 1994). The Skype interviews were taped using the application's call recording software.

The data from the interviews were analysed using computer-assisted qualitative data analysis software (CAQDAS) (application: Atlas.ti). The examination utilised the approach of Roulston (2010, p. 12), which recommends the following criteria for coding qualitative data: 'setting/context, definition of the situation, perspectives held by the subjects, participants' ways of thinking about people and objects, processes, activities, events, strategies, relationships and social structure (of talk), narrative and methods (research procedures)'.

To code the data, the first interview was loaded from the primary documents folder into the reading pane of Atlas.ti, a computer programme used principally in qualitative research or qualitative data analysis. The transcription was read several times and handwritten notes were taken. Next, a set of codes and categories was defined and assigned to the text, reflecting where patterns, concepts, and activity were reoccurring. The codes and categories were then linked to conceptual themes or 'families' in Atlas.ti. The codes were abbreviated for ease of use and subsequently employed as working templates for the other transcripts. Codes, categories, and themes were added or removed as the investigation progressed. The results of this analysis were then compared with the findings of the academic and practitioner literature, with the latter referring to the PtD and Oxfam competency frameworks. These are annotated as Practitioner: framework 1 and Practitioner: framework 2 in Figure 2, which details the evaluation steps taken to review the different sources of material.

Figure 2. Review steps
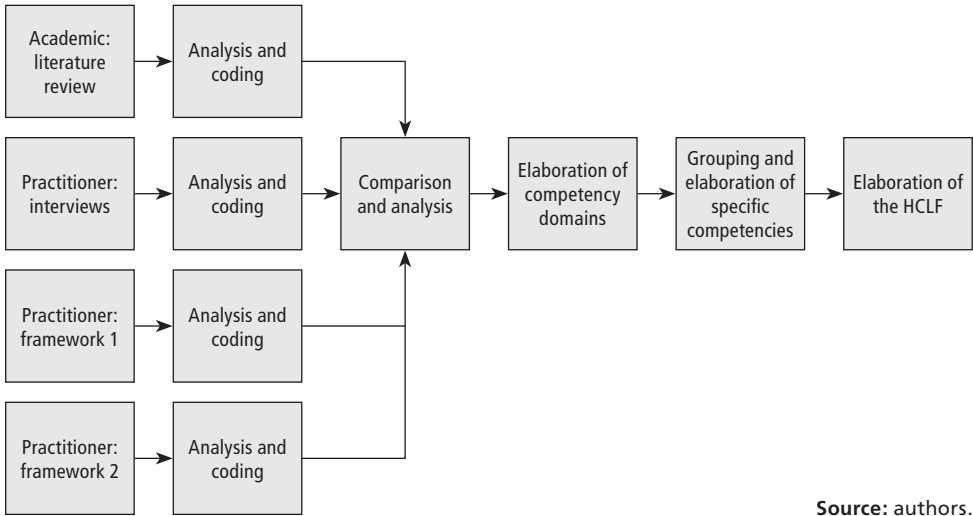
Source: authors.

Findings: the T-shaped model for humanitarian logistics

Two major findings stand out from the examination. First, synthesising the results of the systematic literature review, the additional secondary data, and the assessment of the interview material, the T-shaped model was populated, revised from the 'for-profit'

Figure 3. Grouping competencies for HL
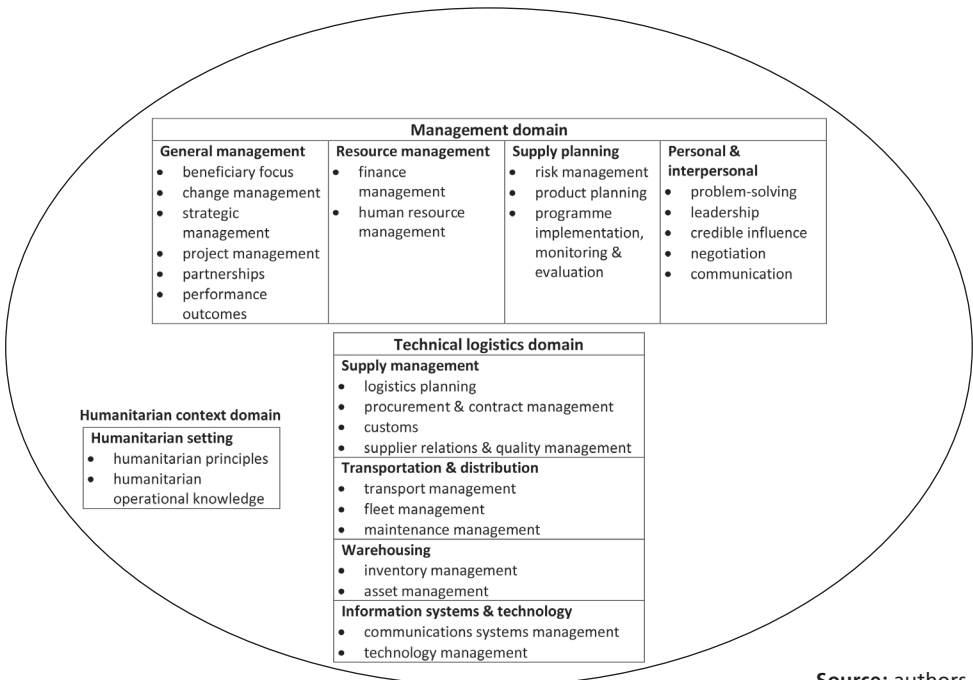
Source: authors.

supply chain management literature so that it reflected the competency domains and characteristics required in HL. Initially, 39 competencies were identified, but, fol-lowing the suggested synthesising approach for a systematic literature review, this was refined to 29 competencies after interviews, resulting in a model composed of nine competency domains, and 29 competency categories (see Figure 3).

Table 2 contains the definitions of competency domains produced by the analysis.

Core *professional* competencies are regarded as those that one needs to function effectively in a work environment, such as the ability to communicate and work well with others (Bolden and Gosling, 2006; Schijven and Bemelman, 2011). These should be distinguished from core *humanitarian* competencies, which include the application

Table 2. Definitions of competency domains

	Competency domain	Explanation
Management domain	General management	The competencies a humanitarian logistician must have to lead and manage a team.
	Resource management	The competencies a humanitarian logistician must have to manage money, people, and information to ensure that systems work effectively.
	Supply planning	The competencies a humanitarian logistician must have to be able to develop the operational plan for the timely pro-vision of correct supplies in a humanitarian environment. This involves being aware of risk management, product planning and programme implementation, and monitoring and evaluation.
	Personal and interpersonal	The competencies a humanitarian logistician must have to manage her/his responsibilities and to establish a future career path.
Technical logistics domain	Supply management	The competencies a humanitarian logistician must have to procure the relevant supplies needed for the humani-tarian environment. This involves determining how best to fulfil the requirements created from the demand plan. This requires awareness of logistics planning, procure-ment and contract management, customs, and supplier relations and quality engagement.
	Transport/distribution	The competencies a humanitarian logistician must have to transport and distribute supplies within the humanitar-ian environment.
	Warehousing	The competencies a humanitarian logistician must have to store and manage supplies within the humanitarian environment.
	Information systems and technology	The competencies a humanitarian logistician must have to manage information systems within the humanitarian environment.
Humanitarian domain	Humanitarian setting	The competencies a humanitarian logistician must have to operate within the humanitarian context.

Source: authors.

of humanitarian principles and understanding the needs of those affected (Walker and Russ, 2010). It was evident from the interviews that it was the translation of such competencies to the humanitarian context that was lacking. Interviewee B stated:

Humanitarian skills are not usually taught, yet once a member of staff reaches a certain level they are expected to possess these skills, which is often not the case.

It may seem obvious that possession of such contextually-related competencies is important for any role, yet this research found that the matter is a clear challenge, limiting effectiveness in the field. Interviewee A remarked:

training in the sector is haphazard. WFP [World Food Programme]-run training pro-grammes to upskill logisticians but uptake has been poor. Academic institutions [Fritz Institute] and professional bodies [Chartered Institute of Logistics and Transport in the United Kingdom] are endeavouring to raise standards for humanitarian logisticians but access is the problem. The sector is changing with innovations [cash transfer programmes] coming online all the time, but the people are slowly adapting.

Limited (or less important) competencies mentioned by interviewees include: understanding and adhering to guidelines; analysing data; report writing; training others; collaborating well with different teams; adapting programmes to suit the specific context; communicating with the media; developing funding applications; and knowing where to find resources.

In terms of gaps in skills, the main theme that emerged from the interviews was in the areas of management and leadership, mentioned by a majority of respondents. Interviewee G stated:

Management and leadership skills are not taught . . . yet when you become a senior man-ager you are expected to possess these skills.

Table 3, summarising the research results, shows the number of specific competencies associated with each competency domain provided by each data source. One should note, in particular, that the respondents, being senior humanitarian logisticians, emphasised general management skills over technical ones, reinforcing the relevance of the T-shaped model. Similar differences could be detected in the secondary data, where, in the case of Oxfam, the stress on general management can be explained by a large number of related requirements for more senior staff. In the PtD framework, there is a strong focus on procurement, which is to be expected given that the organisation concentrates on medical supplies where appropriate quality is a paramount requirement.

Lastly, the academic literature highlights differences between humanitarian and commercial logistics in areas such as reverse logistics and information systems (Kovacs and Tatham, 2010; Kovacs, Tatham, and Larson, 2012). Although of significant interest to logisticians in a commercial setting, such activities are hard to implement

Table 3. Number of specific competencies per competency domain for each data source

Competency domain	Interviews	PtD	Oxfam	Commercial literature review
General management	5	2	3	9
Resource management	2	2	2	1
Supply planning	0	5	3	1
Personal and interpersonal	4	6	3	6
Procurement	1	10	1	2
Transport and distribution	1	5	3	5
Warehousing	0	3	2	2
Information system	1	1	0	4
Humanitarian context	1	0	2	3

Source: authors.

in frequently remote and chaotic environments; hence, the competencies related to them are not as accentuated in the humanitarian sphere. Indeed, in the case of reverse logistics, the research of Peretti et al. (2015) clearly indicates that humanitarian logisticians undertake such actions only to a limited extent.

Specific competency findings

Specific competencies aggregated in competency domains also differ. For instance, project management is often highlighted as being very important in humanitarian logistics, while it is not of major concern in the business-centric academic literature. The focus on project management competency in humanitarian logistics reflects the funding structure of organisations, which, typically, receive grants from major donors for specifically defined projects that are linked to budget cycles and political agendas. Although some private funding is available, institutional donors usually have strict guidelines that align the different stages and activities of humanitarian organisations towards a specific goal. Consequently, one can see that project management is more relevant as a competency for humanitarian logisticians than for their counterparts in the private sector.

Another major difference between B/CL and HL is the emphasis on coordination and collaboration between organisations. Owing to their lack of resources and the need to eliminate duplication of effort, humanitarian organisations regularly try to shape their response to meet their perception of the emerging challenge. As a result, whether it is for development, disaster relief, or conflicts, humanitarian organisations often will work through clusters to share capabilities and knowledge. This approach places a stronger emphasis on creating ties to manage and integrate multiple supply chains efficiently and effectively (Vega and Roussat, 2015). Coordination and collaboration are also important competencies that help in developing a good understanding

of the local context and links to local social networks, and, in this way, they play an essential role in the effective delivery of aid (Holguín-Veras, Jaller, and Wachtendorf, 2012; Bealt and Mansouri, 2018).

The implications for humanitarian aid organisations include the need to increase local knowledge, such as through the delivery of training programmes that reflect local contexts, and/or utilising local expertise to provide specific knowledge. In addition, they need to establish closer ties with local networks and strengthen more general HR retention practices to maintain the motivation of existing humanitarian logisticians and their teams. Lastly, they have to understand the costs and logistical benefits of having a team in place when a disaster strikes. Interviewee C explained:

> *The other thing is that most humanitarian organisations are only interested in certain corridors to operate in and in that case, you don't have to worry about every system in the world, you can just be a lot more cost effective if you select 15 countries and understand what is happening at a local level and how to operate at a local level in that moment and time.*

Collaboration and coordination with private sector partners can also occur, depending on the context. Cozzolino (2012) notes that an integrative partnership should support cross-sector cooperation to the mutual benefit of both parties. Interviewee F agreed about the importance of knowledge of local markets, culture, and customs, pointing out that:

> *We are sometimes based in remote areas and we deal with small, family-owned businesses so you need to work with their current system and help them to build the new system into their existing business. A lot of times it is a trust factor. They will deal with you and listen to you a lot of times if you know someone that they know or they trust you or see you as not looking down on them.*

Another issue that results in a major need for coordination and collaboration is the presence of a dysfunctional infrastructure. When operations are undertaken after an extreme disaster that damages or destroys infrastructure and impedes logistical activities (Holguín-Veras et al., 2007), or in a remote area with inadequate or non-existent infrastructure, capacity will often be shared by organisations to overcome bottlenecks. This represents a clear distinction from the profit-seeking nature of commercial organisations, which have fewer incentives to collaborate and coordinate with other firms; humanitarian organisations, by contrast, are driven by the needs of those affected and by donor funding criteria.

Working in dysfunctional environments also creates a distinction between the competencies required in the business and humanitarian sectors as they relate to the handling of stress (Jachens, Houdmont, and Thomas, 2018). Humanitarian logisticians operating and living in an unstable (and sometimes dangerous) environment, especially in conflict zones, need good stress management and business-centred competencies to address specific security issues, as well as inevitable changes to plans and responses, which happen frequently and swiftly.

A final distinction between humanitarian and business logistics competencies is the emphasis on long-term planning that is found more commonly in the business literature. Indeed, the lack of quantitative and qualitative analysis and strategy competencies for humanitarian logisticians clearly demonstrates the difficulties that reflect an unknown demand pattern in terms of quantity, location, and timing. Such issues tend to stifle planning and strategy-making. Furthermore, transactional humanitarian logistics activities that concentrate on delivery to those affected do not emphasise an added-value supply chain approach, which is commonly at the core of a business strategy. Often this leads to humanitarian logisticians undertaking a broad support role, which can entail additional responsibilities in the field, such as premises, security, and telecommunications management (Kovacs, Tatham, and Larson, 2012).

In summary, there are clear distinctions between the humanitarian and business competency requirements, and thus a separate competency domain that lies outside of the T-Shape model is proposed. This is driven, at least in part, by the need to develop a model that includes competencies that are clearly distinct from those that are found in a B/CL context, such as a clear understanding of the humanitarian principles (humanity, impartiality, neutrality, and independence) and their operational implications, ethics, and values that support diversity, and considerations related to operating in the field, including personal resilience, responsiveness in a crisis, and security management.

The HLCF

The resulting T-shaped model for humanitarian logistics (see Figure 3) is the starting point for the HLCF, but a competency framework not only exists in order to list the competencies needed in a profession, but also to demonstrate changes in emphasis on particular competencies during career progression. Moreover, in the area of HL, there are some clear differences between the required competencies across the phases of disaster relief, as well as between field logisticians at one end of a spectrum, and logisticians at headquarters and/or those managing clusters at the other. By way of example, Kovacs, Tatham, and Larson (2012) assessed differences in the skill profiles required for the response to the catastrophic earthquake in Haiti in 2010 (see also Holguín-Veras, Jaller, and Wachtendorf, 2012), separating them from humanitarian logistic skills in general.

Compounding the challenge and complexity in this area, there is good evidence of a high turnover of humanitarian workers in field operations (Heaslip, 2013), which leads to much tacit experience and knowledge being lost from the institutional memory bank. Since there is no 'structured knowledge system that allows information to be shared among people and for it to be transmitted from one occurrence to another' (Cozzolino, 2012, p. 28), there is a dearth of information and learning from past disasters and unsuccessful/successful solutions. This has HR implications for humanitarian agencies as they seek constantly to recruit, select, train, and retain competent humanitarian logisticians. The resultant HLCF is, therefore, designed to

be globally applicable and to address the diversity of operational requirements encountered by logisticians.

Given that the main goal of competencies is to support the performance objectives of the organisation, it is important to link competencies to strategic goals (Rodriguez et al., 2002). To attain these goals, organisations frequently will have different hierarchies of competencies, with organisational- and employee-level competencies existing in parallel (Whitehead et al., 2014). Organisations often will need to map their competency requirements, diagnose any gaps, and address these lacunae through competency development to achieve performance goals (Dischinger et al., 2006). In this regard, competency models differ from traditional job analysis, as the latter focuses on job attributes and, therefore, permits applied measurement. By contrast, competency management offers the opportunity to establish an improved link to an organisation's strategy (Schijven and Bemelman, 2011).

Thus, to develop the HLCF, various levels pertaining to the career progression of humanitarian logisticians were defined initially. Table 4 presents four levels (0–3), as well as broad descriptors and some examples of the staff who might be found at each level. One should note that names and salary categories differ across organisations.

Importantly, the number of staff at a given level can fluctuate significantly; for instance, entry-level staff may be recruited on a time-limited contract to respond to a particular disaster. Even logisticians with higher management responsibilities may be on an 'on-call' roster of a humanitarian organisation, which is activated only when additional support is needed. Therefore, notwithstanding differences in responsibilities, career progression may not be as clear in HL as it is in B/CL, except for those working full-time for a humanitarian organisation. Even in this latter case, though, there is considerable staff turnover, especially between humanitarian organisations. Notably, however, this reality contributes positively to the applicability of the HLCF, as it underlines the importance of developing an approach that provides equivalence across organisations.

In the resulting framework, within each of the nine competency groups (see Figure 3), the first stage was to present a brief description of what individual competencies cover. The next step was to develop behavioural indicators for each element

Table 4. HL career progression levels

Management responsibility	Description
Level 0	Entry level staff who possess some of the behavioural competencies but from a different context, such as the commercial realm. Other examples include locally recruited staff who are also at entry level.
Level 1	Staff who can work on routine tasks unsupervised, such as at field level.
Level 2	Staff who can work on unanticipated tasks and/or at a level that requires the integration of multiple (potentially conflicting) inputs, such as at regional level.
Level 3	Senior and experienced staff in significant leadership positions.

Source: authors.

within the identified competency. Behavioural indicators are an expression of what an individual does, and are observed when effective performers apply motives, traits, and skills to a relevant task (PtD, 2015). This element of the analysis was imple-mented using Benjamin S. Bloom's taxonomy of learning behaviour as a guide (Bloom, 1956). For instance, in the domain of supply management and for the competency area of logistics planning (see Table 5), each behavioural indicator was allocated to one of four levels, corresponding to progressive levels of management responsibility within the sector. This allocation was achieved using a combination of feedback from

Table 5. The competency domain of supply management

Competency group	Supply management		
Competency name	**Logistics planning** (plan to achieve priority outcomes and respond flexibly to changing circumstances)		
Level 0	Level 1	Level 2	Level 3
Plan and coordinate allo-cated logistics activities.	Take into account future aims and goals of the team/unit and HA organi-sation when prioritising logistics work.	Understand the links between logistics, the HA organisation, and the donor agenda.	Establish broad logistical objectives.
Re-prioritise own work activities on a regular basis to achieve set logis-tics goals.	Initiate, prioritise, consult on, and develop team/unit goals, strategies, and plans for logistics.	Ensure logistic plan goals are clear and appropriate, including contingency provisions.	Understand the HA organisation's present and potential future role within the humanitarian community.
Contribute to the develop-ment of team work plans and goal setting.	Anticipate and assess the impact of changes, such as donor policy/economic conditions, on team/unit objectives and initiate appropriate responses.	Monitor progress of initia-tives and make necessary adjustments.	Ensure effective govern-ance frameworks and guidance enable high-quality logistics strategy.
Understand team objec-tives and how own work relates to achieving these aims.	Ensure current work plans and activities support and are consistent with logisti-cal initiatives.	Anticipate and assess the impact of changes, such as government policy/donor/economic condi-tions, on logistics plans and initiatives, and respond appropriately.	Consider emerging trends.
	Evaluate achievements and adjust future plans accordingly.	Consider the implications of a wide range of complex issues, and shift logistics priorities when necessary.	Drive initiatives in an envi-ronment of ongoing change.
		Undertake planning to transition the organisation through change initiatives and evaluate progress and outcome to inform future planning.	

Source: authors.

participants and by drawing on previous research by Allen et al. (2013) and Bölsche, Klumpp and Abidi (2013). The mapping resulted in detailed appendices;[1] Table 5 provides an example for the area of logistics planning under the competency domain of supply management.

Conclusion

This paper proposes a structure for and the contents of a competency framework for practitioners of humanitarian logistics. The benefits of a competency-based approach have been studied and discussed increasingly, and include the introduction of transparent standards and enhanced public accountability. Such frameworks also support the standardisation of training and encourage relevant and focused learning and professional development (Voorhees, 2001), as well as providing a career pathway that is recognised across the sector.

The aim of the research was to take this proven approach and apply it to the development of an HLCF that encompasses the core competencies required by humanitarian logisticians. This has been achieved by modifying and expanding the T-shaped framework, which has been put forward in previous examinations of logistic/supply chain management competencies in the 'for-profit' environment. While the basic T-shaped framework is suitable for business/commercial logistics by concentrating on 'breadth' and 'depth', it fails to capture key differentiators within the humanitarian domain.

The resulting HLCF was constructed, therefore, from existing literature relating to logistic skills in a business logistics situation, but was amended to reflect insights from the academic and practitioner humanitarian logistics literature, as well as inputs and advice from senior humanitarian logisticians across a range of HA organisations. In so doing, it incorporates the all-important additional skills related to the international humanitarian setting.

In developing the proposed HLCF, this paper highlights a lack of research on competency management. Furthermore, in relation to humanitarian logistics, the research underscores the paucity of work that investigates the linkages (if any) between the context and knowledge in this field. Consequently, the findings of this paper point to further directions for research of competencies in humanitarian logistics, as well as, more broadly, in business logistics and supply chain management.

This paper makes two key contributions to the literature. First, it extends the discussion of competency frameworks in humanitarian logistics, which, to date, has been very limited. Second, it presents a competency framework for humanitarian logisticians, which is designed to support aid agencies in implementing their HR plans and practices. In addition, it is designed as a vehicle to promote the development of those competencies through networking, training events, and ongoing knowledge-sharing, and should allow for flexibility in a scenario where a team of people working on a humanitarian logistics project may be the best option. Importantly, it aids the

development of a common understanding of the competencies needed not only in humanitarian logistics overall, but also on different career scales, which should enable the matching of individuals' skills with the requirements at various levels within and across different organisations. Several humanitarian organisations have developed, or are in the midst of developing, their own training initiatives in the area of humanitarian logistics; while these are well suited for the purposes and needs of these specific organisations, rarely do they enable career progressions across them. This is all the more surprising because the humanitarian logistics sector suffers from high workforce rotation, of as much as 80 per cent (Overstreet et al., 2011).

Given that competency models have been the object of attention in the supply chain management and logistics literature, further investigations in both the business and HA contexts will probably lead to additional insights into the design or improvement of competency-based management activities in organisations, which seek to link employee-level competencies to their performance or strategic goals. Fisher et al. (2010) observe that, as businesses do not own anybody, they are only entitled to the services of employees so long as they can ensure the highest possible pay-off for the investment in their skills. This suggests the need for a balance between the HR agenda and the professional autonomy of humanitarian logisticians. It implies, too, the need for research on how individuals' perceptions of their 'worth' and the perceived scope to appropriate the benefits of their expertise impact on the effort–reward bargain. Similarly, a greater understanding of the contextual factors that lead to differences in HR requirements, achieved, for instance, through an examination from a contingency-factor standpoint, could be illuminating for those in the sector.

Further research is also required to increase understanding of the skills needed at different levels of the job or in different locations. Current research, such as that by Kovacs, Tatham, and Larson (2012) and Allen et al. (2013), does not differentiate between staff working at the country-office level or in headquarters or personnel filling field-based appointments; this is a clear gap in the literature. One might anticipate, therefore, yet further granularity in the appendices to the study as the research progresses.

Although every effort has been made to identify all essential competencies, it is fully accepted that the list may not be exhaustive owing to the various limitations of the current research. It is also noted that the competencies highlighted through expert interviews may well have been biased towards each individual's area of expertise, experience, or organisational role, and reflect international rather than national perspectives. Ideally, a larger sample of field experts and national staff would have been used, together with key informants from government departments, training institutions, donor organisations, and other UN agencies and NGOs (national and international). It is anticipated that such further research will generate a more thorough understanding of the current and future context of humanitarian logistics, and, in turn, necessitate additional work on the proposed key performance areas, as well as the core competencies and resultant skills, knowledge, and behaviours going forward—the development of cash transfer programmes is an obvious example (Heaslip, Kovács, and Haavisto, 2018).

Another limitation of this research is that the information collected addresses the general needs of logisticians inside an organisation and is not broken down with respect to the emergency type, where the speed of response and/or materials needed might play a role in emphasising certain competencies over others. Nevertheless, moving to a competency-based approach is a logical step that will strengthen the humanitarian logistics sector and build HR capacity.

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Endnotes

1   For more information, contact the authors.

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