

Guest editorial: humanitarian logistics - an opportunity for service research

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Abstract

Purpose – The purpose of this paper is to examine the nature service operations management (OM) and its application to the field of humanitarian operations.

Design/methodology/approach – The paper serves as the editorial for this issue of *JHLSCM*.

Findings – The paper suggests that there is an opportunity for service OM academics to apply their knowledge and skills to answer fundamental questions in the humanitarian OM field.

Research limitations/implications – There is a need for a re-conceptualization of the term “humanitarian operations” to include services. Humanitarian OM is not just products but also services.

Originality/value – The paper contributes to the knowledge and applications of services OM in humanitarian operations research. This is the first work to identify how services OM theories can be adopted for humanitarian OM research. This research should serve as a foundation for future research.

Keywords Service management, Operations management, Theory, Humanitarian logistics

Paper type Literature review

1. Introduction

Services are becoming increasingly important in humanitarian logistics (Heaslip, 2013; Kovács, 2014). Considering the globalisation of services it is imperative that the humanitarian relief community embrace new strategies, techniques, and technologies for improving productivity and quality in services operations in humanitarian logistics.

Recent literature reviews in operations and supply chain management (SCM) analysing contemporary themes, trends, and potential future directions identify the continuing growth in service operations management (OM) as a potentially ripe area for further research (Altay and Green, 2006; Gupta *et al.*, 2006; Craighead *et al.*, 2007; Machuca *et al.*, 2007; Natarajaratnam *et al.*, 2009; Taylor and Taylor, 2009; Galindo and Batta, 2013). Similarly, these reviews have called for further examination of the applicability of service OM theories to emerging areas such as the not-for-profit sector:

If we, as a scholarly community, are to reflect global changes then a wider remit may be appropriate. Important issues such as sustainability, the role and significance of HRM in operations, and servitisation are all, in our opinion, likely to increase in significance. Similarly, applications of OM will be needed in contexts that are increasingly important such as the not-for-profit sector (Taylor and Taylor, 2009, p. 1332).

Galindo and Batta's (2013), review of recent developments in OR/MS research in disaster OM was a continuation of a previous review from Altay and Green (2006). In the conclusion Galindo and Batta (2013) observed: “Our findings also show that most



of the gaps observed by Altay and Green (2006) still remain” (2013, p. 210). One such gap was the application of services OM theory to humanitarian operations.

Furthermore, White *et al.* (2011) when examining the implementation of operations research (OR) in developing countries remarked how “improvements to supply chains, logistics and transportation networks are well suited to OR application” (p. 5). Similarly Lusch and Vargo (2014) argued that “physical distribution and logistics are not, or should not be, understood as being about the things and stuff that need to be transported, stored, and handled but rather about the service(s) the system provides” (p. 2).

Heaslip (2013) in his recent literature review of 15 different journal publications in the fields of logistics, SCM, OM, OR, transportation, public administration, and disaster management concluded that “it is clear that within humanitarian logistics research the area of services OM has been neglected” (p. 39).

Recently international humanitarian organisations (IHOs) have started to develop services that they offer each other (Heaslip, 2013; Kovács and Spens, 2011) yet research on this topic is virtually non-existent (Heaslip, 2013). For example, the World Food Programme (WFP) offers customs clearance, transportation and warehousing services through the logistics cluster to other organisations (WFP, 2012). Another service many IHOs offer is that of procurement. Van Wassenhove and Allen (2012) describe procurement as a key activity in the supply chain, representing a large proportion of total spend. For example, the United Nations Children’s Fund (UNICEF) has developed a procurement service for medical items including kitting and customs clearance. United Nations Operations (UNOPS), the operational arm of the United Nations, offers their procurement service to a number of governments.

This editorial introduces the special issue on “Service Operations in Humanitarian Logistics”. Additionally, this paper presents six seminal service OM theories and argues that their applicability to the humanitarian operations context could provide research opportunities.

The next section of this paper examines service OM theories and their applicability to humanitarian operations. An overview of the accepted papers in the special issue is presented followed by some concluding remarks.

2. Discussion

Within humanitarian logistics the focus has shifted from core products towards services because offering a mixture of goods and services allows the IHO to differentiate and create a more satisfied and loyal customer (Kovács, 2014). There is a long history of operations and SCM research in service operations. These papers have focused on many different objectives from that of generating greater efficiency to attaining better alignment with the needs of the customers. The production line approach to service (Levitt, 1972), the service-driven service company (Schlesinger and Heskett, 1991), and the service profit chain (Heskett *et al.*, 1994) are all familiar service design paradigms. Various tools or approaches also exist to support effective service design such as customer contact (Chase, 1981), the service process matrix (Schmenner, 1986), Wemmerlov’s taxonomy of service processes (Wemmerlov, 1990), the strategic service vision (Heskett, 1987), and service climate (Schneider and Bowen, 1995). This paper intends to discuss the seminal service operations theories and their potential application to humanitarian logistics. Indeed, by examining the theories through the lens of humanitarian logistics it could provide service operations a means of extending its research into high reliability contexts and thereby contribute to theory development.

The seminal service OM theories as identified by Sampson and Froehle (2006) are:

- Chase (1981) – Customer Contact Model.
- Parasuraman *et al.* (1985) – Service Quality Gap Model.
- Schmenner (1986) – Service Process Matrix.
- Normann and Ramirez (1993) – Value Constellations.
- Heskett *et al.* (1994) – Service Profit Chain.
- Stewart (2003) – Robust Service Framework.
- Vargo and Lusch (2004) – Service Dominant Logic.
- Sampson and Froehle (2006) – Unified Service Theory.

In the following sections we explicate the six identified theories of service OM and make suggestions on how future research in this area may enhance not alone service OM theory but also humanitarian logistics.

2.1 Customer contact model

The importance of customer contact, the interface between the customer and the service provider has been identified as one of the key differences between services and manufacturing operations. Chase (1981, p. 701) proposes that “[...] common service systems could be grouped together according to decreasing contact under three broad headings: pure services, mixed services, and quasi-manufacturing”. Designing the service encounter to deliver high levels of customer satisfaction and quality is one of the major issues facing service organisations today. The customer’s satisfaction with the product quality may be problematic; more so in a humanitarian context where the customer could range from an IHO such as Oxfam, to its implementing partners, to beneficiaries in a humanitarian crisis, or, to some extent, even the donors funding an operation. An understanding of the complexity of the customer profile could be a key towards understanding the service offering.

2.2 Service quality gap

Parasuraman *et al.* (1985) identified the service quality gap. Essentially they posit that knowledge about goods quality is insufficient to understand service quality. Three well-documented characteristics of services must be acknowledged for a full understanding of service quality:

- (1) intangibility, because services are performances rather than objects, precise manufacturing specifications concerning uniform quality can rarely be set;
- (2) heterogeneity, their performance often varies from producer to producer, from customer to customer, and from day to day; and
- (3) inseparability, quality in services is not engineered at the manufacturing plant, and then delivered intact to the consumer.

Parasuraman *et al.* (1985) suggest that a general model of service quality can be developed. However they also recognised that their proposed model contained four *gaps*:

- *Gap 1: consumer expectation management perception gap* – discrepancies between executive perceptions and consumer expectations;

- *Gap 2: management perception service quality specification gap* – difficulty experienced in attempting to match or exceed consumer expectations;
- *Gap 3: service quality specifications service delivery gap* – even when guidelines exist for performing services well and treating consumers correctly, high-quality service performance may not be a certainty; and
- *Gap 4: service delivery external communications gap* – media advertising and other communications by a firm can affect consumer expectations.

These gaps certainly exist also from an HL perspective. Again, as in the customer contact model, one of the issues HL needs to problematise even more is the identification and the role of customers. Beneficiaries differ from customers in that they lack purchasing power, and often even a voice in formulating their needs (Kovács and Spens, 2011). Needs assessment processes have been established to proxy for their needs but in spite of rapid assessment teams, their expectations are only documented as for material needs but not in terms of service delivery. And whilst there is literature on service quality and even satisfaction applying this model in, e.g. health care (Bowers *et al.*, 1994), corresponding HL research is missing.

2.3 Service process matrix

Schmenner (1986) described the service process matrix. The matrix examines the degree of labour intensity of the service business process and the degree of interaction and customisation to which the customer interacts with the service process. Within the matrix Schmenner describes four service types; service factory, service shop, mass service, and professional service.

Different managerial challenges also surface across the service process matrix. In the humanitarian context in the service factory of low labour intensity the choice of food relief is heightened. In low labour intensive services capacity cannot be augmented easily and so demand must be managed to smooth out any peaks and to promote off-peak times. This poses scheduling problems for HA agencies. As for services with high labour intensity, the mass service, managing and controlling the workforce becomes paramount. Hiring, training, employee welfare, scheduling the workforce for any humanitarian crisis in any location are critical elements.

Consider the distinction between high and low levels of consumer interaction and customisation. In the humanitarian context when the degree of interaction and customisation is low, such as professional service, aid agencies face a stiff challenge in differentiating themselves from each other, for example in logistics functions (WFP vs IFRC) or ICT (UNHRD vs UNICEF). As the service takes a higher degree of interaction and customisation management must deal with higher costs and more talented labour, this is the service shop. In the humanitarian context the service shop is medical relief.

High vs low differentiation made for labour intensity and the degree of customer interaction and customisation present distinct combinations of management challenges for the four service types identified. Schmenner's (1986) service process matrix provides humanitarian logistics and services OM with an opportunity to refine or redesign current theory and practice.

2.4 Value constellations

Normann and Ramirez (1993) discussed the concept of a value constellation. They argued that strategy is the way a company defines its business and links together the

only two resources that really matter in an economy: knowledge and relationships or an organisations competencies and customers. According to Normann and Ramirez (1993) successful companies “do not just add value, they reinvent it” (p. 65). Successful companies focus on the value creating system within which different economic actors such as suppliers, business partners, and customers work together to co-produce value. Their key strategic task is the reconfiguration of roles and relationships among this constellation of actors in order to mobilise the creation of value in new forms and by new players.

For example, in the beginning of the Haiti earthquake, WFP acted as a consignee for other HA organisations that had not been registered in Haiti previously (Besiou *et al.*, 2011). American Logistics Aid Network (ALAN) has reinvented its role to that of a fourth-party logistics (4PL). ALAN matches donations such as, financial, material, labour, and transportation with demand. The concept of HA organisations reconfiguring their roles and relationships and functioning as logistics service providers (LSPs) needs further research.

2.5 Service profit chain

Heskett *et al.* (1994) determined that the service profit chain establishes relationships between profitability, customer loyalty, and employee satisfaction, loyalty and productivity. They further identified the links in the chain:

- profit and growth are stimulated primarily by customer loyalty;
- loyalty is a direct result of customer satisfaction;
- satisfaction is largely influenced by the value of services provided to customers;
- value is created by satisfied, loyal and productive employees; and
- employee satisfaction results primarily from high-quality support services and policies that enable employees to deliver results to customers.

Given a lack of purchasing power of beneficiaries, customer loyalty is less of an issue in HL. That said, HA organisations put considerable effort to manage donor relationships in an attempt to secure long-term funding for their operations, hence Kovács *et al.* (2012) suggest to replace “customer relationship management” with “donor relationship management” in HL. In line with this, reporting to donors, accountability, and even supply chain visibility are gaining in importance (Heaslip *et al.*, 2012).

Yet from a service supply chain perspective, the current examples of purchasing services offered by various HA organisations to others reinstate the importance of customer loyalty and satisfaction – though in this case, other HA organisations are on the customer end.

2.6 Robust service framework

In an effort to address service quality Stewart (2003) examined the service “encounter design”. Their framework was based on the three Ts. The three Ts are: “task to be performed, the tangible things in the environment, and the treatment of the customer during the social interchange of the encounter” (p. 247). Stewart argues that the three Ts are distinct elements of the service encounter, each with clearly different characteristics. They also correspond to how successful service managers disaggregate the design and management of the encounter.

Stewart (2003) further elaborates that behind the three Ts in the robust service framework there are an additional four themes, specifically, culture-based, design-based,

variation-based, and failure-based improvement strategies. Each of these areas has applications to HA organisations.

Examining the culture-based improvement strategy a HA organisations ability and willingness to be flexible according to the beneficiaries needs, and to resolve any problems which occur promptly and without hassle, needs to be addressed as a function of their training and the organisational culture in which they operate (Kovács *et al.*, 2012).

From the design-based view HA organisations need to focus on linking the design to customer needs (Oloruntoba and Gray, 2009), linking the design to customer perceptions, and direct psychological manipulation of satisfaction through design.

The third theme builds on the success of statistical process control (SPC) in manufacturing, as people have attempted to apply SPC to services (Stewart, 2003). Where meaningful numerical data can be obtained, the approach has shown its expected success. For example, the Logistics Operational Guide (Log Cluster, 2012) of the Logistics Cluster to Sphere Standards (2011) to the use of items catalogues (WFP, 2012; IFRC, 2012).

With the absence of sufficient meaningful data to allow SPC, a more meaningful approach could be to examine the application of failure prevention, analysis, and recovery, which becomes the final theme seen in the service quality improvement literature.

2.7 Service dominant logic

The service-centred view of marketing is customer-centric and market driven (Vargo and Lusch, 2004). This means more than simply being consumer oriented it means collaborating with and learning from customers and being adaptive to their individual and dynamic needs. A service-centred dominant logic implies that value is defined by and co-created with the consumer rather than embedded in output. Vargo and Lusch (2004) presented a framework that depicted the evolution of marketing logic from its traditional goods-centred perspective to an emerging service-centred view. This paradigm shift includes the role of goods as transmitters for service provision as opposed to being end products; the role of customers as co-creators of value as opposed to recipients of goods; the utilisation of operant resources like knowledge and skills as primary units of exchange; determining value through customers' service experiences rather than producers' assessments; and structuring buyer-supplier interactions on relational foundations rather than transactional exchanges.

A service-centred view of exchange points in an opposing normative direction. It implies that the goal is to customise offerings, to recognise that the consumer is always a co-producer, and to strive to maximise consumer involvement in the customization to better fit his or her needs. A service-centred perspective disposes of the limitations of thinking of marketing in terms of goods taken to the market, and it points to opportunities for expanding the market by assisting the consumer in the process of specialisation and value creation.

Strictly speaking, rarely do beneficiaries actively participate in the process of value creation though at least in reconstruction they have been included as suppliers and even work force in HL (Kovács *et al.*, 2010). That said, beneficiaries are often involved in camp management activities, and even in last mile distribution of items. What is more, the trend in humanitarian supply chains is towards local sourcing (Jahre and Jensen, 2010; Kovács and Spens, 2011) and in line with this, the recipient population becomes more activated in the delivery of humanitarian aid. There are ample possibilities for the co-creation of value in the use of local LSPs, for example.

2.8 Unified service theory

Sampson and Froehle (2006) proposed the Unified Services Theory (USF). It is in part, a descriptive theory in that it describes why a service process is a service process. It is also a prescriptive theory in that it helps guide decision making; a great many insights about managing services emerge from applying the theory to various operational problems.

For the HA community USF presents an opportunity to examine the one directional dimension of a humanitarian supply chain (Oloruntoba and Gray, 2009), minimal beneficiary input into the supply chain (Ertem *et al.*, 2010), or the role of HA organisations in the supply chain (Miller *et al.*, 2002).

3. Introduction to papers in the special issue

The aim of this special issue is to promote new theoretical, empirical and practitioner research on the developments within the area of service operations in humanitarian logistics in support of logistics preparation, response, and deployment to disasters and emergencies. A total of ten papers were accepted into the full review process after desk rejections. All papers were reviewed by at least three referees using a standard double-blind review process. All accepted papers went through at least two revisions and in some cases three revisions. I am extremely grateful to colleagues, across all disciplines of management, who served as referees for this special issue. Their reviews were detailed and incisive, frequently with useful developmental comments. Without their participation the special issue would not have achieved the high quality it has. The papers published in this special issue responded to the call for papers.

The first paper by Morales and Sandlin (2015) examines why relief airflow management was so vital during the 2010 Haiti earthquake and how this management was accomplished. The authors highlight the need for an entity to manage airborne relief when a nation's civil aviation authorities are overwhelmed or incapacitated due to a major rapid-onset disaster. While host nation civil aviation authorities retain responsibility for airspace/airflow management after a disaster, these can often be overwhelmed by the volume of airborne relief flooding the area. Without an entity to assist the affected nation with airflow management, smooth logistical flow of relief goods to those in need can be catastrophically impeded.

The Abidi *et al.* (2015) paper identifies the value of 4PL services in a humanitarian supply chain. They propose a framework for a fourth-party humanitarian logistics concept based on the four core competences described by Christopher (2005). The research shows an increased value for humanitarian supply chain actors of establishing a 4PL concept. The results present a positive influence of 4PL in complex disasters environments and provide key drivers for increasing and simplifying collaboration between the humanitarian supply chain actors.

4. Future research opportunities and challenges

In addition to introducing the papers that are part of the special issue, the aim of this paper was to present service OM theories and argue that their applicability to the humanitarian operations context could provide research opportunities. The lack of services operations perspectives in humanitarian operations has been identified in the literature as a major research gap (Altay and Green, 2006; Gupta *et al.*, 2006; Craighead *et al.*, 2007; Machuca *et al.*, 2007; Natarajarathinam *et al.*, 2009; Taylor and Taylor, 2009;

Galindo and Batta, 2013), considering both its scarcity in current literature vs. the strong trends in HL service development in practice.

Service operations literature is not uniform, hence we considered various models and their applications in HL. A common problem of their application to HL is the lack of a clear customer view in HL. Whilst the main “customer” is supposed to be beneficiaries, also donors have been seen as such. The trend towards more local sourcing is starting to reinstate the purchasing power, and hence the role of beneficiaries as actual customers. This trend therefore lends to the importance of investigating customer contact models, service quality gaps, the service process matrix, value constellations, the service profit chain, and robust service framework. Even value co-creation through service triads can become of essence in HL in the future, and in this, learning from the service dominant logic service dominant logic and the unified service theory will become invaluable.

Current trends in developing service offerings across HA organisations further lead to an emphasis of service supply chains. Hand in hand with this development, robustness, standardisation, and quality control are expected to gain in importance.

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Further reading

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