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What Theories and Questions Can be Brought to Bear in Support of Achieving Consumer-Centric Supply Chains?
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The Service Systems research group at WMG works in collaboration with large organisations such as GlaxoSmithKline, Rolls-Royce, BAE Systems, IBM, Ministry of Defence as well as with SMEs researching into value constellations, new business models and value-creating service systems of people, product, service and technology.

The group conducts research that is capable of solving real problems in practice (ie. how and what do do), while also understanding theoretical abstractions from research (ie. why) so that the knowledge results in high-level publications necessary for its transfer across sector and industry. This approach ensures that the knowledge we create is relevant, impactful and grounded in research.

In particular, we pursue the knowledge of service systems for value co-creation that is replicable, scalable and transferable so that we can address some of the most difficult challenges faced by businesses, markets and society.

Research Streams

The WMG Service Systems research group conducts research that is capable of solving real problems in practice, and also to create theoretical abstractions from or research that is relevant and applicable across sector and industry, so that the impact of our research is substantial.

The group currently conducts research under six broad themes:

- Contextualisation
- Dematerialisation
- Service Design
- Value and Business Models
- Visualisation
- Viable Service Systems and Transformation
What Theories and Questions Can be Brought to Bear in Support of Achieving Consumer-Centric Supply Chains?

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1. Summary
This paper aims to consider the concept of consumer-centric supply chains and how it can be achieved. It first provides a definition of “consumer-centric” in the Service-Dominant (S-D) logic space, then looks at the end-to-end process of realising value. It then considers the state of theory development in supply chains and S-D logic before concluding both that there are no formal underpinning theories for either and that there is a gap between the two parts of the end-to-end process. Finally it proposes some possibilities for bridging the gap before raising the questions that should now be answered if we are to achieve consumer-centric supply chains. A new supply chain construct, the “last yard”, is proposed, which in S-D logic is the “first yard”. We present some initial thinking from our research and experience, after which we seek raise questions which aim to challenge others to offer their own ideas. Our practical focus is health supply chains but we believe the concepts to be widely relevant and of general applicability.

2. What do We Mean by “Consumer-Centric”?  
There are several definitions of the term. It is generally taken to mean having the customer as the focus of a company’s activities with the intention of creating a positive experience for them. However, it is possible to be more precise. Normann, quoted in Michel, Vargo, & Lusch (2007), said that a customer-centric company is an “organizer of value creation”. Building on this, “[in] Service-Dominant (S-D) logic the customer is viewed as an operant resource and endogenous to the supply chain and/or value network... Being customer centric actually means not thinking of the customer as a ‘customer’... [but rather] as actors who are resource integrators in a complex system of service provisioning and service offering; or the value network” (Flint, Lusch, & Vargo, 2014). Therefore, from an S-D logic perspective consumer-centricity is to recognise that consumers are integrating resources from the supply chain, themselves and elsewhere in order to co-create maximum value, and are present within the supply chain because value is jointly co-created and not delivered by it.

This has an impact on the concept of customer satisfaction. Generally customer satisfaction is something thought of as being delivered by the supply chain. In fact this is not possible, since satisfaction can only be co-created by the consumer in context. All a supply chain can do therefore is to make value propositions that it believes contribute to value, and therefore to satisfaction. In order to make the best propositions, the supply chain must have a good understanding of consumers, their agency, resources and context.
3. End-to-End Value Realisation Process

We can consider that the end-to-end process for realising value consists of two parts:

1. the creation of the value proposition by the supply chain (considered by supply chain models such as SCOR to be covered by the four activities: plan, source, make and deliver, plus an additional activity: return (SCC, 2013; Zhou, Benton, Schilling, & Milligan, 2011))

2. the exploitation of the value proposition to co-create value in context by the individual consumer (usually described as consumption (Vargo, Maglio, & Akaka, 2008)).

There are competing supply chain visualisations, but one of the most commonly used is that of the SCOR model (figure 1).

![Figure 1 SCOR reference model](source www.supply-chain.org)

We view the co-creation of value in context as being described by Service-Dominant Logic (S-D logic). Pictorially this can be viewed as follows (figure 2). The offering’s affordances become resources in context, adding to resources from other sources.

![Figure 2 Value co-creation in S-D logic](source www.supply-chain.org)
4. Lack of Theoretical Grounding

For supply chains to be robustly and expically customer-centric, it is necessary to represent this end-to-end process theoretically. There are two major challenges in this. The first is that supply chains are not completely defined at either theoretical or practical levels. This is hampering the definition of a theory of supply chain management (SCM). The second is that S-D logic is not a theory, but is rather a lens or a mindset.

4.1 Supply chain theory

Supply chain management (SCM) has been an increasingly important subject of research since the early 1990s, though the term was defined by Booz Allen consultants as early as 1982 (Oliver & Webber, 1982). Even though the concept is increasingly well established in practice, it has proven hard to define exactly what it is and what it includes (eg. Gibson, Mentzer, & Cook, 2005; Larson & Rogers, 1998; Lummus, Krumwiede, & Vokurka, 2001; Mentzer et al., 2001; Naslund & Williamson, 2010; Stock & Boyer, 2009). Examples of statements from these papers include:

“[N]o consensus has been reached regarding a definition of SCM.” (Gibson et al., 2005)

“[P]roblems include the lack of a universally accepted definition of SCM, the existence of several different and competing frameworks for SCM, issues with terminology and the relative lack of empirical evidence supporting the benefits attributed to SCM.” (Naslund & Williamson, 2010)

“Much confusion has occurred amongst supply chain researchers during the past two decades by the many supply chain management (SCM) definitions that have been proposed in the literature.” (Stock & Boyer, 2009).

One result of this lack of an agreed definition is that there can be no single theory underpinning SCM. Svensson (2002) proposed that Alderson’s Functionalist Theory of Marketing should apply. Halldorsson, Kotzab, Mikkola, & Skjøtt-Larsen (2007) proposed that principal-agent theory, transaction cost analysis, network theory and resource-based view could each be used, together or separately, to explain SCM depending on the situation. Fayezi, O’Loughlin, & Zutshi (2012) opined that agency theory is the most informative, while Priem & Swink (2012) argued for resource advantage theory over resource-based view. Despite a lack of agreement on the definition and underpinning theory/theories of SCM, research and practice have accelerated.

“From a theoretical perspective, it is impossible to develop sound SCM theory until valid constructs and generally accepted definitions of terms are developed. Since theory development is paramount to scientific pursuit, the absence of a consensus SCM definition will lead to theoretical ambiguity.” (Stock & Boyer, 2009)

“There is no such thing as a ‘unified theory of SCM’” (Halldorsson et al., 2007)

“There exists a gap in the literature available in the area of supply chain management (SCM) studies, on providing theoretical support for explaining
the existence and the domain of SCM.” (Miri-Lavassani, Movahedi, & Kumar, 2009).

4.2 S-D Logic theory
Vargo & Lusch have made it clear that S-D logic is not a theory but is rather a lens or mindset:

“Our characterization of a generalized S-D logic is that it is a mindset, a lens through which to look at social and economic exchange phenomena so they can potentially be seen more clearly. That is, S-D logic functions at the pre-theoretic, paradigm level—though it is also not a paradigm because it does not have ‘worldview’ status.” (Vargo & Lusch, 2008).

5. Further Practical Issues
In addition to these two issues, we must also consider two more. The first is that SCM has not historically viewed customer satisfaction (and therefore consumer-centricity) as being of central importance, except through cost reductions and on-time delivery. The second is that S-D logic considers consumer-centricity to be inherent within it and therefore it is not problematized.

5.1 SCM and customer satisfaction
While most generally accepted definitions include customer satisfaction – and therefore being customer-centric – as an objective (Stock, Boyer, & Harmon, 2009; Stock & Boyer, 2009; Wong, Skipworth, Godsell, & Achimugu, 2012), the definition of that often unclear. Many papers, which see SCM primarily in terms of logistics, generally focus only on reduced cost and speedier delivery (eg. Borade & Bansod, 2008; Collin, Eloranta, & Holmström, 2009; Melnyk, Davis, Spekman, & Sandor, 2010).

“Ultimately, the goal of SCM is to achieve greater profitability by adding value and creating efficiencies, thereby increasing customer satisfaction.” (Stock & Boyer, 2009)

“Despite general agreement on the need for supply chain alignment to achieve shareholder and customer value, SCM research and practice lacks knowledge on how exactly such an alignment can be achieved and what performance implications it has.” (Wong et al., 2012).

However, a view is emerging that that the primary purpose of a supply chain is to deliver what customers perceive to be of value – that is, to become consumer-centric – and not simply to assume what is important to them (Stock et al., 2009; Wong et al., 2012). Recent papers highlight the importance of understanding customer needs (Bustinza, Parry, & Vendrell-Herrero, 2013; Hilletofth, 2011; Jüttner, Christopher, & Baker, 2007; Jüttner, Christopher, & Godsell, 2010; Stank, Esper, Crook, & Autry, 2012).
“Maximization of value is achieved through appropriate integration of supply and demand chains into a value chain focused on final customer requirements” (Bustinza et al., 2013)

“A primary focus of SCM is the optimization of customer satisfaction, a broad term encompassing the combined efforts of many organizations, organizational functions and processes to meet the needs of customers.” (Stock et al., 2009).

Customer satisfaction ought to engage perfectly with S-D logic and its concepts of value propositions, value-in-context and value co-creation within a value framework (Ng & Phillips, 2013).

5.2 S-D logic and customer satisfaction

However, S-D logic considers that customer-centricity is inherent within its worldview because the consumer is within the end-to-end process. In chapter 3 of “The Service-Dominant Logic of Marketing” (2006), Vargo & Lusch say:

“S-D logic makes the consumer endogenous to the value-creation process... value... is always determined by the consumer (p.44)... with S-D Logic, the consumer orientation becomes redundant. (p.47)”.

Consumer-centricity is therefore not problematized within S-D logic for it to be studied. Of course, in the S-D logic mindset, consumers – being co-creators of the value they obtain from a value proposition – are themselves responsible for deriving their own satisfaction. So while customer-centricity is inherent, the outcome of customer-centricity – customer satisfaction – is backgrounded. Supply chains can improve their value propositions with a consumer-centric orientation but ultimately have no control over customer satisfaction.

6. Where Are We Now?

So we have a history in SCM of consumer-centricity being considered simply through cost-effective on-time delivery (though this is starting to change as SCM moves beyond logistics), and an S-D logic view that consumers are so intrinsically part of the end-to-end value creation process that consumer-centricity is redundant. How to bring these two disparate views together in a situation where no underpinning theories exist on either side?

The challenge is twofold. The one is to establish how in practice SCM can improve its value propositions by finding out what consumers’ needs are and so become consumer-centric, but the other and academically more important challenge is to determine what constructs, principles, theories or meta-theories can underpin the practice. What is required to address these two challenges? What research questions should be asked? What theories can be applied to form a new and extended foundation for SCM? Can S-D logic be incorporated into SCM? (Lusch, 2011). Or is it the other way round? Or, since neither yet has an agreed theoretical underpinning, is it even possible?
7. Relevant Research Streams and Theories

There are three research streams which can contribute. The first is consumption theory, consumption being the basis of value co-creation. The second is work being done to understand how S-D logic can support SCM. The third is Resource-Advantage Theory.

7.1 Consumption

Consumption is co-creation of value in context by the consumer. The consumer exploits the affordances of the offering in their context using their resources as effectively as they can within their constraints. The value that a particular consumer co-creates may be enhanced or reduced by location or time, and different consumers will co-create different value due to differing resources, contexts and constraints. There is therefore the potential for significant contextual variety (Ng & Briscoe, 2012). Some of the contexts and constraints may be related to the perceived meanings of an offering’s consumption, including the perceived views of others. Ilmonen’s recent book, “A Social and Economic Theory of Consumption” (Ilmonen, 2011) summarises the development and current status of consumption theory.

Following a survey of its origins, he comments on how attitudes and approaches to consumption established in the 19th century still persist, including conspicuous consumption and fashion as an indicator of wealth. He mentions the rise of views which challenge consumption, such as the critiquing of unnecessary consumption and the issues which can arise from consumption being a central aspect of people’s lives. Referring to the development of four strands of consumption research in the 1980s and early 1990s (meanings of consumption, food, circulation of goods and aesthetics of commodities), he then comes to up to date with the focus on the meanings of consumption. Here Ilmonen first highlights the “experiential side of consumption”, and the “emotional link between person and object”. He then indicates a current area of research as being “consumption routines” and the temporal and spacial arrangements embedded in them, mentioning how ICT is affecting these arrangements. The experiential side of consumption is expanded by Pine & Gilmore (1998) who defined the “experience economy” as being the fourth phase of business following commodities, goods and services.

Within many of these aspects, we can see that value is not just determined by the offering consumed (eg. physical item, service, experience) but also from the experiences of the consumer (meanings, experiential side) and the perceptions of others (conspicuous consumption, unnecessary consumption). These aspects of value can be as important to the consumer as the offering itself, and the breakages that these cause to Goods-Dominant logic are clear – value is not intrinsic to the offering but dependent on a range of other aspects. In contrast to G-D logic, S-D logic recognises these.

7.2 S-D logic and SCM

Work is being done within the discipline of S-D logic to examine how it can underpin SCM. S-D logic views supply chains as “value co-creation networks” and “redefines the role of the supply chain as finding innovative ways to integrate the resources
necessary for service provision” (Tokman & Beitelspacher, 2011). This leads to a consideration of how consumers can become more included within supply chain processes, for example how they can “supply perspective that is not currently covered by marketing researchers” (ibid.). This provides a justification for customer-centricity within SCM but not as yet a theoretical foundation.

Another strand of research is using S-D logic to understand performance-based contracting (PBC). PBC focuses on “collaborative performance-based supply chain strategies” by “leverag[ing] long-term relationships, network risk reduction, co-investment, customer interactivity, and knowledge based exchanges to create improved performance and decreased life cycle cost... The product is merely an element supporting the value proposition” (Randall, Pohlen, & Hanna, 2010). Because of this, “The S-D logic and PBL concepts of service dominance and performance-based outcomes appear to be very similar. SDL and PBL focus on the outcome of inter-firm value creation and not the delivery of a product” (ibid.). The links between S-D logic and at least this (growing) aspect of SCM indicate that it could be a fruitful area for further research, as indicated by recent research by Randall, Wittmann, Nowicki, & Pohlen (2014) which found that PBL is “S-D logic in practice”.

However, using S-D logic to support SCM is not providing a theoretical underpinning, merely another perspective.

7.3. Resource-Advantage Theory
A theory that has been proposed to underpin S-D logic is Resource-Advantage (R-A) Theory (Hunt & Madhavaram, 2006). This theory uses a resource-based view of the firm to explain competition. It sees firms as “combiners of heterogeneous, imperfectly mobile entities that are labelled ‘resources’” (ibid.). Furthermore, it views “demand as significantly heterogeneous with respect to consumers’ tastes and preferences” such that “different market offerings... are required for different market segments” (ibid.). These authors consider that R-A Theory provides a theoretical foundation for S-D logic, and the fact that this is demonstrated in the firm suggests that it permits S-D logic to underpin SCM via R-A Theory.

This may provide an underpinning theory for S-D logic, and therefore for SCM at least in the area of performance-based contracting.

8. Where Next?
Motivation is the precursor to consumption, and absence (Bhaskar, 1998) the precursor to motivation. There are several theories of motivation and one of us (Ward) has extended the recent Unified Model of Task-Specific Motivation (UMTM, de Brabander & Martens, 2014) to encompass S-D Logic and the integrated framework of value (Ng & Phillips, 2013), as in figure 3. This “Unified Contextual Consumption Model” (UCCM) shows how much is “going on” in the consumption context and so how relatively little effect the supply chain may have on customer satisfaction. Hence the challenge for supply chains to both understand the context and enhance their value propositions to “absorb” as much of the contextual variety
as possible in order to maximise the opportunity for positive outcomes – and hence customer satisfaction.

To bring consumption into the orbit of the supply chain – the endogenous consumer – we have posited a new supply chain construct, the “last yard”. This term, analogous to the “last mile” (Aized & Srai, 2013; Chakravarty, 2014) and the more focused “last 50 yards” (Cooke, 2012), represents the consumption of the value proposition, perhaps “from hand to mouth”. From the S-D logic perspective, this same construct would be considered the “first yard” since the consumer is at the start of the value chain and not the end.

8.1 How can we move forward?
With this, we can see the linkage of linking supply chains with consumption through absence-generated motivation in S-D logic consumption context and the “last yard”/“first yard” construct which legitimises consumers as being endogenous to the supply chain. This is probably sufficient to justify the work that supply chains must do to understand consumer needs in context so that they can deliver enhanced value propositions.

What it does not do is confirm the theoretical grounding for supply chains, for S-D logic or for the linkage of supply chains with consumption in the S-D logic space. We have the potential for S-D logic to be theoretically supported by Resource-Advantage Theory and for S-D logic to theoretically support performance-based contracting – a subset of supply chains. But we do not have the complete picture.

![Figure 3 Unified Contextual Consumption Model, after UMTM (still under development)](image-url)
8.2 Questions to be considered

The questions we would like to seek input on are these:

1. What underpinning theories for supply chains and S-D logic-based consumption have we missed?
2. What underpinning theories for uniting supply chains with consumption – the end-to-end value realisation process – have we missed?
3. What questions should we be asking in order to build stronger constructs and theories for this area?

We look forward to receiving significant assistance from our colleagues and thank them in advance for their help and support.
References


