

DEVELOPING A THEORETICAL FRAMEWORK OF CONSUMER LOGISTICS FROM A COMPREHENSIVE LITERATURE REVIEW

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Abstract

Purpose: Logistics as a business discipline entered academic consciousness in the mid-1960s when work by marketing academics discussed the integration between marketing and logistics. However, the link with consumers in the point-of-origin to point-of-consumption typology was not explored until Granzin and Bahn's conceptualisation and model of consumer logistics (CL) in 1989. Since then few contributions have followed and neglecting this aspect of logistics research is difficult to understand. Firstly, the consumer represents a productive resource as an important downstream supply chain member carrying out logistics activities and tasks. Secondly, logistics activities directed towards the consumer also act along a marketing axis, i.e. satisfaction and loyalty for an overall shopping experience both from transaction-specific and cumulative levels are influenced by product quality elements and service-related dimensions. This paper presents a theoretical framework for deeper research into the topic of CL.

Research approach: A literature review was conducted first following philosophical or field conceptualization principles as a first step towards theory building. Data bases of major logistics and SCM journals were searched however the publication timeframe was not limited as the concept of CL is relatively new. Selection criteria and Boolean searches were conducted and keywords used within article abstracts and title fields of search. Due to a relative scarcity of contributions obtained by that approach and in-line with the principle of methodological triangulation, additional search strategies were applied using Google/Google Scholar searches. The majority of the cited contributions were also cross-referenced and included in the analysis if appropriate.

Findings and originality: The literature search yielded a mother population of 46 documents of which 24 have been considered relevant for further consideration. The document harvest was analysed using Granzin and Bahn's original CL issues and additional features in order to explore, structure, articulate, orient, hierarchize and delimit the field of CL in the 21st century.

Research impact: This paper updates Granzin and Bahn's work to outline new and distinctive features of CL given the obvious changes in the retail landscape since their work 27 years ago, such as the Internet and omni-channel retailing. More broadly, conceptualizing CL in a holistic manner enhances SCM theory building by questioning traditional notions of time and space ranges, isolated marketing-merchandizing/logistics considerations, traditional understandings of sites /locations, and equipment (e.g. shopping cart or basket)/ infrastructure/ layout and buying stages that are in-line with external evolutions on organizational, technological and societal levels.

Practical impact: Understanding and improving CL contributes to supply chain competitiveness via increased consumer satisfaction and loyalty, better order fulfilment via cost reductions and efficiency increases, and enhanced differentiation targeting consumers receptive for sustainability/ ethics/ mobility/ lifestyle/ life quality issues. A dedicated approach to CL also enhances management of repercussions and interactions with upstream/ B2B logistics, visible through retail stores being both a destination and a source for inventory, the rise of drop-ship vendor relationships and new fulfilment options and related infrastructure.

Keywords: *Consumer logistics, logistics and marketing, Internet and omnichannel retailing*

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Introduction

Usual definitions of logistics management are concerned with the efficient and effective flow of goods, service and information, collectively referred to here as products, from point-of-origin to point-of-consumption; i.e. into the hands of consumers who ultimately use such products. Such a definition implies that consumers are part of the supply chain and thus are involved in any logistics activities in the ‘last few miles’ or ‘last steps’ of the supply chain to put such goods into their home for that consumption.

However, for centuries consumers have obtained products at retail stores or markets and they, retailers and other supply chain members have intuitively considered that supply chain

and logistics activities end at the point-of-sale. This is a natural consideration given that for many years consumers did not have any real alternatives that would make them think otherwise. As a result, in the marketing era fostered by Alderson and Cox (1948) and Kotler (2000) retail marketers and merchandisers focused on product assortment and attractiveness and essentially took over the distribution process from the back-of-store onwards. Marketing academics embraced this concept as part of the consumer behaviour process and thus a hedonistic joy of shopping displaced any notions of consumer involvement in final distribution to the home.

Logistics as a business discipline entered academic consciousness in the mid-1960s when work by marketing academics Bowersox (1965) and Bartels (1976) appeared to discuss the integration between marketing and logistics. And still, the link with consumers was not explored until Granzin and Bahn's 1989 article provided a conceptualisation and model of consumer logistics. The model was of its time as it only considered the consumer's logistics activities in a shopping visit to a retail store; the advent of internet shopping and omni-channel fulfilment during the last quarter-century has clearly changed the consumer logistics landscape. Granzin and Bahn presented four issues that they believed required resolution before their conceptualisation would be complete and could leave its early stage of description in favour of that of prediction:

1. The basic elements of a consumer logistics structure must be identified.
2. A taxonomy for consumer logistics activities must be created.
3. Units of analysis must be chosen to facilitate knowledge exchange with other disciplines.
4. A mechanism must be established for transferring knowledge between consumer logistics and other fields of study.

We argue that these four issues have not been addressed in any meaningful way; there are few research contributions of consumer logistics. Further, given the obvious changes in the retail landscape since 1989 the original four issues should be expanded. Our article aims to update Granzin and Bahn's conceptualisation and model to outline distinctive features of what we term B2C logistics (B2CL), i.e. consumer logistics or shopper-centric logistics. To do

so we first review the literature that has been undertaken on B2CL, taking into account the new and fervent online environment, in order to present our conceptual framework and specific research propositions to provide guidance for researchers. Before turning to the literature review, we need to define CL, knowing that academic literature has failed to provide a concise definition of CL yet.

Research Objective:

Via a comprehensive literature review of CL, analyse Granzin and Bahn's (1989) original issues and additional features, in order to explore, structure, articulate, orient, hierarchize and delimit the field of CL in the 21st century.

Drawing on Granzin and Bahn's (1989) original notions, we first update and define CL as a field of study focused on functions performed by a shopper, consumer, household member, citizen, or a group of them in acquiring products either online or from the point of acquisition (sale) and transporting these products or arranging for their transportation to the point of consumption or final disposal. Consumer participation in logistics activities or distribution tasks within in the logistics chain take place both within and outside the place of residence. Thus our definition of CL considers the consumer as an important and relevant supply chain actor who participates - deliberately or unconsciously - in logistics activities and tasks, weighs up logistics service quality with economic and non-economic costs (burden, endeavours, inconvenience), and who is confronted with typical supply chain decisions such as outsourcing logistics tasks - via home delivery and electronic shopping - or internalize them - via store-based, traditional shopping.

B2C marketing and CL generally have the same target, the consumer; but as opposed to marketing, CL requires consumer participation. Consumer participation, involvement or co-creation might take at operational, tactical and strategic – conceptual levels, that's why a distinction between CL, shopper logistics or B2C logistics doesn't seem indispensable for our present research purpose. In other words, an online shopper, who outsources some logistics activities to an e-retailer as opposed to traditional shopping, clearly is a logistics decision maker and thus participates in logistics activities. Croxton (2003) argues that it is only through the order fulfillment process that the customer co-creates value or interacts with

the firm, which is close to the stipulation and definition of CL. Order fulfillment involving the consumer thus seems close to the concept of CL and should be considered within our analysis. Already in 1989, Granzin and Bahn distinguish between 2 possible perspectives of CL. First, the consumer-oriented perspective, helping/ assisting consumers to make more effective decisions within the overall logistics system they are part of. According to this perspective, the consumer acts like a professional logistician making logistics decisions, doing logistics planning, carrying out logistics activities. Second, the company perspective, transferring logistics activities and decisions to the consumer. Granzin and Bahn (1989) consider consumer satisfaction or quality of life as main objectives of CL and propose to measure efficiency and effectiveness of CL via distribution cost analysis or total cost analysis.

Literature Review

In line with Srivastava (2007) and Mangiaracina et al. (2015), our paper selection process included the following stages and is detailed in Table 1:

- Classification context: the classification context used to categorize the material was first identified (i.e. consumer logistics or B2C logistics from a management point of view, covering company's/ consumer's/ several supply chain members' perspectives).
- Definition of the unit of analysis: the unit of analysis was defined as a single scientific paper published in an international peer-reviewed journal. On the other hand, conference papers, professional articles, book chapters, sectorial reports, think tank studies and similar documents were excluded from future consideration.
- Collecting publications: similarly to Perego et al. (2011), the starting point for the identification of relevant papers was a number of library databases such as Emerald. The search was conducted using combinations of keywords (i.e. "B2C" AND "logistics"; "consumer" AND logistics", used in both the abstract and the title (or content item) field. To avoid the omission of other potentially important papers, as suggested by other authors (e.g. Marchet et al., 2014), the majority of the cited contributions were also cross-referenced and, if necessary, included in the analysis. By applying this method, it was possible to assure adequate coverage of the extant body of research in this field.

Initially intended Google search (google.de) using “consumer logistics scientific” as key words was abandoned, as it yielded in 18 300 000 results. Given that number, it was indeed difficult to imagine a rigorous selection proceeding, particularly as top 3 ranked hits homogenous group of academic documents labelled “university articles” by Google revealed to be irrelevant for our issue. Google search (google.de) using “B2C logistics research” and “B2C logistics scientific” as keywords yielded in a similar number of results, the top ranked ones being also irrelevant.

We considered necessary to include “order fulfilment” AND “consumer” in our search strategies (named search strategy 8 in the table below), as in some cases, it is only through this process that the customer co-creates value or interacts with the firm (Croxtton, 2003) which is close to the stipulation and definition of CL. Indeed, the order fulfillment process is often viewed as a logistics activity or part of logistics management activities (Vitasek/ CSCMP, 2013), even if it needs input from other functional areas (Croxtton, 2003). Order fulfillment is one of the 8 transversal business processes identified by the Global Supply Chain Forum that need to be implemented within and across firms in the supply chain. It has both physical and informational components (Forslund, 2007), applies both for traditional and online shopping settings. Croxtton (2003) distinguishes between the strategic and the operational order fulfillment process. Several articles on CL – however without using this expression - would have been neglected without this additional search strategy, particularly those related to online shopping settings where there is a temporal separation between order placement, and delivery of ordered merchandise (Dholakia and Zhao, 2010).

Source/ data base	Field of search	Boolean key word search	Total number of hits (and relevant hits within brackets)
1/ Emerald	Content item (title)	B2C AND logistics	21 (9)
2/ Emerald	Content item (title)	Consumer AND logistics	6 (1)
3/ Emerald	Content item (title)	consumer AND participation	12 (0)
4/ Emerald	Content item (title)	household AND participation	2 (1)
5/ Emerald	Content item (title)	shopper AND participation	0 (0)
6/ Emerald	Content item (title)	shopper AND logistics	3 (1)
7/ Emerald	Content item (title)	shopper AND SCM	1 (1).
8/ Emerald	abstract	consumer AND order fulfilment	47 (10).
9/ Emerald	abstract	shopper AND order fulfilment	Same results as search strategy 8, but in addition: 8(3)
10/ Swedish CL research team	Internet site and cross-references		13 (7)
11/ Methodological triangulation/ other identification methods	short description (to be completed)		4 (3) to be completed by recently considered articles
<p><i>No consideration of conference papers, professional articles, book chapters, sectorial reports, think tank studies and similar documents.</i></p> <p><i>The publication timeframe was not limited as the concept of CL is relatively new. Traditional and online shopping (as well as mixes/ omni-channel retailing).</i></p>			

Table 1: Search strategies used for identification of papers (literature review).

Field delimitation and paper selection decision

During the examination of the papers that were progressively found, some were recognized to be more significant than others for the purposes of the present study. As such, number of papers published from 19xy to 2016 were considered for in-depth investigation. The authors believe that the number of publications reviewed in this study is adequate given the scope of the analysis (i.e. focus on a restricted – although promising – subject), and this is consistent with previous contributions addressing specific research themes (e.g. Marchet et al., 2014; Meixell and Norbis, 2008).

Table 2 below sums up thanks to which step the respective article had been identified (second column) and informs about the selection decision (third column), i.e. relevant or not.

One reason for paper rejection is the fact that consumers are not involved as downstream logistics actors. Indeed, the sole fact that consumers are aware of logistics and its specific characteristics and quality dimensions (such as proposing halal logistics in Fathi et al., 2016 and Tieman et al., 2013) influencing their buying decision is not sufficient to be considered as significant article for our study, because consumers' perceptions of B2B logistics is outside our issue scope. Also, key word search employing "consumer" or "B2C" often yielded in in B2C activities outside logistics (Fisher et al., 2004). Similarly, Stobart (2010) deals with interactions between retailers and customers, but without covering logistics activities, excluding his contribution from further consideration. Also, terms of "B2C" or "consumer" are often considered as an industry, market or product segment (Xu et al., 2002; Wilding and Juriado, 2004; Cline et al., 2015), without direct relevance for logistics or SCM. In the same manner, the "logistics" search keyword yielded in one article using the logistics regression model for scientific validation, without reference to our research issue or discipline (Nisel, 2001).

On the other hand, some articles undoubtedly cover CL aspects without referring explicitly to the logistics or SCM disciplines, some of them even without using the expression of logistics or SCM. This concerns Cao et al. (2005) working on system quality, information quality, service quality, reliability, responsiveness and tangibility, without labelling them LSQ elements. The same reasoning and positive selection decision applies for Kuo et al. (2004) who work on information and supporting interfaces on current B2C online sites, and more precisely on the role of order tracking and product return capacity as improvement factors. Likewise, Webb and Webb (2004) mobilize typical LSQ elements, such as reliability, responsiveness and information quality in order to test overall quality of B2C electronic commerce web sites, without formally linking them to the logistics or SCM disciplines, but their contribution clearly enters our issue scope.

The most striking example in this context is Granzin et al. (2005): although pioneer(s) of CL (1989), the word of logistics is absent in their more recent contribution. Indeed, the authors prefer using the expression of “household participation” in the supply chain, considered unambiguously as constitutive element of the CL definition. The article of Granzin et al. (2005) was identified via the Swedish CL research team and subsequent cross-referencing. Thanks to methodological triangulation, we managed to identify another relevant article written in French language (Goudarzi and Rouquet, 2013), that had formerly “escaped” to our mentioned keyword search strategy operated in English language.

	Source/ data based used for identification	Decision: relevant (R) or not relevant (N)
Alexander A. (2009), "The Co-Creation of a Retail Innovation: Shoppers and the Early Supermarket in Britain", <i>Enterprise & Society</i> , Vol. 10, Iss.3, pp. 529-558.	10	R
Altintzoglou T. and Nøstvold B. H. (2014), "Labelling fish products to fulfil Norwegian consumers' needs for information", <i>British Food Journal</i> , Vol. 116, Iss 12, pp. 1909 – 1920.	8	N (no consumer participation ; but consumer segmentation)
Baidya M. and Ghosh G., (2014), "An empirical investigation of repeat buying behavior of customers of two brands in India", <i>Journal of Indian Business Research</i> , Vol. 6, Iss. 3 pp. 255 – 268.	1	N
Bigné J.E., Mattila A.S., and Andreu L., (2008), "The impact of experiential consumption cognitions and emotions on behavioral intentions", <i>Journal of Services Marketing</i> , Vol. 22, Iss 4, pp. 303 – 315.	8	N (not related to logistics nor SCM)
Bigné-Alcañiz E., Ruiz-Mafé C., Aldás-Manzano J., and Sanz-Blas S., (2008), "Influence of online shopping information dependency and innovativeness on internet shopping adoption", <i>Online Information Review</i> , Vol. 32 Iss 5 pp. 648 – 667.	8	N (not related to logistics nor SCM; no consumer participation)
Bragg D.J., Duplaga E.A., Penlesky, R.J. (2005), "Impact of product structure on order review/evaluation procedures", <i>Industrial Management & Data Systems</i> , Vol. 105, Iss 3, pp. 307 – 324.	9	N (no CL issue; article is about production organization)
Breen, L. (2006), "Give me back my empties or else! A preliminary analysis of customer compliance in reverse logistics practices (UK)", <i>Management Research News</i> , Vol. 29, Iss. 9, pp. 532 – 551.	1	R
Cao M., Zhang Q. and Seydel J., (2005), "B2C e-commerce web site quality: an empirical examination", <i>Industrial Management & Data Systems</i> , Vol. 105, Iss. 5, pp. 645 – 661.	1	R
Chen S.-J. and Chang T.-Z., (2003), "A descriptive model of online shopping process: some empirical results", <i>International Journal of Service Industry Management</i> , Vol. 14, Iss 5, pp. 556 – 569.	9	R
Chiang W.K. and Li Z., (2010), "An analytic hierarchy process approach to assessing consumers' distribution channel preference", <i>International Journal of Retail & Distribution Management</i> , Vol.	1	R

38, Iss. 2 pp. 78 – 96.		
Chiu C.-M., Chang C.-C., Cheng H.-L., and Fang Y.-H., (2009), "Determinants of customer repurchase intention in online shopping", <i>Online Information Review</i> , Vol. 33, Iss 4, pp. 761 – 784.	8	R Fulfilment refers to the extent to which the online vendor's promises about order delivery are fulfilled. Fulfilment is one of the most crucial factors related to judgements concerning service quality in internet retailing (Wolfenbarger and Gilly, 2003).
Choy K.L., and Lee W.B., (2003), "A generic supplier management tool for outsourcing manufacturing", <i>Supply Chain Management: An International Journal</i> , Vol. 8, Iss 2, pp. 140 – 154.	8	N (no consumer participation)
Chung W.W.C., Ko C.C.Y., Cheung E.W.M. and Wong T.C.W., (2007), "IT-enhanced order and delivery process of a fast moving consumer goods (FMCG) company", <i>Benchmarking: An International Journal</i> , Vol. 14, Iss 1, pp. 123 – 139.	8	N (no consumer participation ; but consumer goods as product family)
Cline et al. (2015), "A framework for reverse logistics: the case of post-consumer carpet in the US", <i>International Journal of Commerce and Management</i> , Vol. 25, Iss. 4, pp. 466 – 489.	2	N
Cochoy F. and Hagberg J. (2015), "The forgotten role of pedestrian transportation in urban life: Insights from a visual comparative archaeology", <i>Urban Studies</i> , Vol. 52, Iss. 12, pp. 2267–2286.	10	N
Collins N. and Mack N. (1996), "Public participation and risk taking: a case study of farm households", <i>International Journal of Social Economics</i> , Vol. 23, Iss 12, pp. 15 – 29.	4	N (not related to logistics nor SCM)
Crask and McKay, (1976), "Measuring the Retail-Consumer Link in Consumer Logistics", <i>International Journal of Physical Distribution</i> , Vol. 6, Iss. 5, pp. 252 – 261.	2	R
Das P.K., (2012), "Drug vis-à-vis consumer: a retrospection", <i>International Journal of Social</i>	8	N (not related to logistics nor

<i>Economics</i> , Vol. 39, Iss 3, pp. 200 – 208.		SCM)
de Koster R.B.M., (2002), "Distribution structures for food home shopping", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 32, Iss 5, pp. 362 – 380.	9	N: (B2B implications of home shopping: warehouse organisation)
Dholakia R.R. and Zhao M., (2010), "Effects of online store attributes on customer satisfaction and repurchase intentions", <i>International Journal of Retail & Distribution Management</i> , Vol. 38, Iss 7 pp. 482 – 496.	8	R
Duffy G. and Dale B.G., (2002), "E-commerce processes: a study of criticality", <i>Industrial Management & Data Systems</i> , Vol. 102, Iss 8 pp. 432 – 441.	8	R
Elbeltagi I. and Agag G., (2016), "E-retailing ethics and its impact on customer satisfaction and repurchase intention", <i>Internet Research</i> , Vol. 26, Iss 1, pp. 288 – 310.	8	N (not related to logistics nor SCM; no consumer participation)
Espino-Rodríguez T. F. and Rodríguez-Díaz M., (2014), "Determining the core activities in the order fulfillment process: an empirical application", <i>Business Process Management Journal</i> , Vol. 20, Iss 1, pp. 2 – 24.	8	N (no consumer participation)
Fabien L., (1997), "Making promises: the power of engagement", <i>Journal of Services Marketing</i> , Vol. 11, Iss 3 pp. 206 – 214.	8	N (not related to logistics nor SCM)
Fan K.-F., Chiu C.-H., and Yang C.-C., (2014), "Green technology automotive shape design based on neural networks and support vector regression", <i>Engineering Computations</i> , Vol. 31, Iss 8, pp. 1732 – 1745.	8	N (not related to logistics nor SCM; no consumer participation)
Fathi et al., (2016), "Drivers of consumers' willingness to pay for halal logistics", <i>British Food Journal</i> , Vol. 118, Iss. 2, pp. 464 – 479.	2	N
Fisher R., McPhail R. You E. and Ash M., (2014), "Using social media to recruit global supply chain managers", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 44 Iss. 8/9 pp. 635 – 645.	1	N
Flint D. J., Lusch R. F. and Vargo S. L., (2014), "The supply chain management of shopper marketing as viewed through a service ecosystem lens", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 44, Iss 1/2, pp. 23 – 38.	7	R

Foss N.J., Kristensen T., and Wilke R., (2004), "Corporate communication in the emerging network economy", <i>Corporate Communications: An International Journal</i> , Vol. 9, Iss 1, pp. 43 – 49.	8	N (not related to logistics nor SCM; no consumer participation)
Fraj E. and Martinez E. (2006), "Environmental values and lifestyles as determining factors of ecological consumer behaviour: an empirical analysis", <i>Journal of Consumer Marketing</i> , Vol. 23, Iss 3, pp. 133 – 144.	8	To be completed
Fuentes C. (2014), "Managing green complexities: consumers' strategies and techniques for greener shopping", <i>International Journal of Consumer Studies</i> , Vol. 38, Iss. 5, pp. 485–492.	10	N
Garver M.S. (1999), "Logistics research methods: employing structural equation modeling to test for construct validity", <i>Journal of Business Logistics</i> , Vol. 20, Iss. 1, pp. 33-57.	11	N
Gelders D. and van Zuilen B., (2013), "City events: short and serial reproduction effects on the city's image?" <i>Corporate Communications: An International Journal</i> , Vol. 18, Iss 1, pp. 110 – 118.	8	N (not related to logistics nor SCM; no consumer participation)
Giampietri E., Finco A. and Del Giudice T. , (2016), "Exploring consumers' behaviour towards short food supply chains", <i>British Food Journal</i> , Vol. 118, Iss 3, pp. 618 – 631.	8	N (no consumer participation ; article upon variables influencing consumer purchase intention and behavior within short food supply chains
Goudarzi K. and Rouquet A. (2013), « Les rôles des clients dans la logistique de distribution des produits », <i>Décisions Marketing</i> , N°69 Janvier-Mars 2013, pp. 111-116.	11	R
Granzin, K. L. and Bahn, K. D. (1989). Consumer logistics: Conceptualization, pertinent issues and a proposed program for research. <i>Journal of the Academy of Marketing Science</i> , Vol. 17, Iss. 1, pp. 91–101.	10	R
Granzin, K. L., Painter, J. J. and Bahn, K. D. (2005), "An empirical test of households' participation in	10	R

the distribution supply chain process”, <i>Journal of Marketing Channels</i> , Vol. 12, Iss. 4, pp. 67-89.		
Granzin K.L., Painter J.J. and E.K. Valentin E.K., “Consumer logistics as a basis for segmenting retail markets: An exploratory inquiry”, <i>Journal of Retailing and Consumer Services</i> , Vol. 4, Iss. 2, April 1997, pp. 99–107.	11	R
Granzin, K. L. (1990), “The consumer logistics system: a focal point for study of the household-consumption process”, <i>Journal of Consumer Studies and Home Economics</i> , Vol. 14, Iss. 3, pp. 239–256.	10	R
Gremyr I. and Hasenkamp T., (2011), "Practices of robust design methodology in practice", <i>The TQM Journal</i> , Vol. 23, Iss 1, pp. 47 – 58.	8	N (not related to logistics nor SCM; no consumer participation)
Grossberg K.A., (2009), "Marketing in the Great Recession: an executive guide", <i>Strategy & Leadership</i> , Vol. 37, Iss 3, pp. 4 – 8.	8	N (not related to logistics nor SCM)
Gummerus J., Liljander V., Pura M and van Riel A., (2004), "Customer loyalty to content-based Web sites: the case of an online health-care service", <i>Journal of Services Marketing</i> , Vol. 18, Iss 3, pp. 175 - 186	8	R
Hagberg J. (2016), “Agencing practices: a historical exploration of shopping bags”, <i>Consumption Markets & Culture</i> , Vol. 19, Iss. 1, pp. 111-132.	10	N
Hagberg J. and Normark D. (2015), "From basket to shopping bag", <i>Journal of Historical Research in Marketing</i> , Vol. 7, Iss. 4, pp. 452 – 475.	10	R
Hopkins J.L. (2012), "Can Facebook be an effective mechanism for generating growth and value in small businesses?", <i>Journal of Systems and Information Technology</i> , Vol. 14, Iss. 2, pp. 131 – 141.	1	N
Hu M., Huang F., Hou H., Chen Y. and L. Bulysheva , (2016), "Customized logistics service and online shoppers’ satisfaction: an empirical study", <i>Internet Research</i> , Vol. 26, Iss 2, pp. 484 – 497.	6	R
Huang Y.Y., and Tan B., (2007), "Applications of quality function deployment to apparel design in Taiwan", <i>Journal of Fashion Marketing and Management: An International Journal</i> , Vol. 11, Iss 2, pp. 215 - 237	8	N (not related to logistics nor SCM; no consumer participation)
Janda S., Trocchia P.J. and Gwinner K.P., (2002), "Consumer perceptions of Internet retail	8	R

service quality", <i>International Journal of Service Industry Management</i> , Vol. 13, Iss 5 pp. 412 - 431		
Jin X., Deng S. and Alon I., (2011),"Consumption behavior of Chinese urban residents during economic transition ", <i>International Journal of Emerging Markets</i> , Vol. 6, Iss 3, pp. 187 – 199.	8	N (not related to logistics nor SCM; no consumer participation)
Jiwa S., Lavelle D. and Rose A., (2004),"Netrepreneur simulation: enterprise creation for the online economy", <i>International Journal of Retail & Distribution Management</i> , Vol. 32, Iss. 12, pp. 587 – 596.	1	N
Kang J.-Y.M., (2014),"Repurchase loyalty for customer social co-creation e-marketplaces", <i>Journal of Fashion Marketing and Management</i> , Vol. 18, Iss 4, pp. 452 – 464.	8	R
Khalifa M. and Shen K.N., (2008),"Explaining the adoption of transactional B2C mobile commerce", <i>Journal of Enterprise Information Management</i> , Vol. 21 Iss. 2 pp. 110 – 124.	1	N
Koku P.S., (2007), "Turf wars or a misunderstanding of roles: an examination of the relationship between marketers and lawyers within the corporation", <i>Journal of Services Marketing</i> , Vol. 21, Iss 1, pp. 15 – 23.	8	N (not related to logistics nor SCM; no consumer participation)
Kotzab H. and Teller C., (2003),"Value-adding partnerships and co-opetition models in the grocery industry", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 33, Iss 3, pp. 268 – 281.	8	N (no consumer participation; "consumer" keyword relates to ECR).
Kumar M., Kee F.T. and Manshor A.T., (2009),"Determining the relative importance of critical factors in delivering service quality of banks", <i>Managing Service Quality: An International Journal</i> , Vol. 19, Iss 2, pp. 211 – 228.	8	N (not related to logistics nor SCM; no consumer participation)
Kuo H.M., Hwang S.L. and Wang E.M. (2004),"Evaluation research of information and supporting interface in electronic commerce web sites", <i>Industrial Management & Data Systems</i> , Vol. 104, Iss. 9, pp. 712 – 721.	1	R
Leem C.S., Suh H.S. and Kim D.S., (2004),"A classification of mobile business models and its applications", <i>Industrial Management & Data Systems</i> , Vol. 104, Iss. 1, pp. 78 – 87.	1	N
Limbu Y.B., Wolf M., and Lunsford D., (2012),"Perceived ethics of online retailers and consumer behavioral intentions", <i>Journal of</i>	8	N (not related to logistics nor SCM, examines

<i>Research in Interactive Marketing</i> , Vol. 6, Iss 2, pp. 133 – 154.		the effects of consumers' perception of online retailers' ethical behavior on consumer purchase and revisit intentions
Magrath V. and McCormick H., (2013), "Marketing design elements of mobile fashion retail apps", <i>Journal of Fashion Marketing and Management: An International Journal</i> , Vol. 17, Iss 1, pp. 115 - 134	8	N (not related to logistics nor SCM; no consumer participation)
Mangiaracina R., Marchet G., Perotti S. and Tumino A., (2015), "A review of the environmental implications of B2C e commerce: a logistics perspective", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 45, Iss. 6 pp. 565 – 591.	1	R
McLaughlin E.W., Perosio D.J., Park J.L., (1998), "Retail logistics and merchandising in the USA: current status and requirements in the year 2000", <i>International Journal of Retail & Distribution Management</i> , Vol. 26, Iss 2, pp. 97 – 105.	8	N (no consumer participation; "consumer" keyword relates to consumer products and ECR).
Mejías-Sacaluga A., and Prado-Prado J.C., (2002), "Integrated Logistics Management in the Grocery Supply Chain", <i>The International Journal of Logistics Management</i> , Vol. 13, Iss 2, pp. 67 – 78.	8	N (no consumer participation; "consumer" keyword relates to ECR).
Nguyen T. and Lindenmeier J., (2014), "Catastrophe risks, cat bonds and innovation resistance", <i>Qualitative Research in Financial Markets</i> , Vol. 6, Iss 1, pp. 75 – 92.	8	N (not related to logistics nor SCM; no consumer participation)
Ni Y. and Wang Y., (2015), "A double decoupling postponement approach for integrated mixed flow production systems", <i>Kybernetes</i> , Vol. 44, Iss 5, pp. 705 – 720.	9	N (article is about production planning and operations research)
Nisel R., (2001), "Analysis of consumer characteristics which influence the determinants of buying decisions by the logistic regression model", <i>Logistics Information Management</i> , Vol. 14, Iss 3, pp. 223 – 228.	2	N

Noad J. and Rogers B., (2008), "The importance of retail atmospherics in B2B retailing: the case of BOC", <i>International Journal of Retail & Distribution Management</i> , Vol. 36, Iss. 12, pp. 1002 – 1014.	1	N
Olson J.R. and Boyer K.K., (2005), "Internet ticketing in a not-for-profit, service organization", <i>International Journal of Operations & Production Management</i> , Vol. 25, Iss 1, pp. 74 – 92.	9	N (not related to logistics nor SCM)
Page-Thomas K., Moss G., Chelly D. and Yabin S., (2006), "The provision of delivery information online: a missed opportunity", <i>International Journal of Retail & Distribution Management</i> , Vol. 34 Iss 4/5 pp. 258 – 277.	8	R
Philipp B. and Grant D.B. (2015), "Does B2C online logistics service quality impact urban logistics?", <i>Logistique & Management</i> , vol. 23, n° 2, pp. 45-54.	11	R
Porter L., (2007), "Library applications of business usability testing strategies", <i>Library Hi Tech</i> , Vol. 25, Iss 1, pp. 126 – 135.	8	N (not related to logistics nor SCM; no consumer participation)
Punakivi M., Yrjölä H. and Holmström J., (2001), "Solving the last mile issue: reception box or delivery box?", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 31, Iss. 6, pp. 427 – 439.	1	R
Rao S., Goldsby T.J. and Iyengar D., (2009), "The marketing and logistics efficacy of online sales channels", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 39, Iss. 2 pp. 106 – 130.	1	R
Saiki D. and Robbins A., (2008), "Trends in information categories on costume and textile collection web sites", <i>The Electronic Library</i> , Vol. 26, Iss 6, pp. 821 – 832.	8	N (not related to logistics nor SCM; no consumer participation)
Semeijn J. and Vellenga D.B., (1995), "International logistics and one-stop shopping", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 25, Iss 10, pp. 26 – 44.	6	N (B2B logistics: One-stop shopping for logistics services).
Shepherd-Walwyn S., (1997), "A vision of sourcing for a global market", <i>Journal of Fashion Marketing and Management: An International Journal</i> , Vol. 1, Iss 3, pp. 251 – 259.	8	R
Shneur R., (2012), "Influences of culture, geography and infrastructure on website localization	1	N

decisions", <i>Cross Cultural Management: An International Journal</i> , Vol. 19, Iss. 3, pp. 352 – 374.		
Siu K.W.M. and Xiao J.X, (2016),"Design and management of recycling facilities for household and community recycling participation", <i>Facilities</i> , Vol. 34, Iss 5/6, pp. 350 – 374. Enhancing the convenience of public facilities could motivate household and community participation in recycling.	4	R
Småros J., Holmström J. and Kämäräinen V., (2000),"New Service Opportunities in the E-grocery Business", <i>The International Journal of Logistics Management</i> , Vol. 11 Iss 1 pp. 61 – 74.	9	R
Stobart J. (2010),"A history of shopping: the missing link between retail and consumer revolutions", <i>Journal of Historical Research in Marketing</i> , Vol. 2, Iss. 3, pp. 342 – 349.	10	N
Subrahmanyam S. and Gomez-Arias J.T., (2008),"Integrated approach to understanding consumer behavior at bottom of pyramid", <i>Journal of Consumer Marketing</i> , Vol. 25, Iss 7, pp. 402 - 412	8	N (not related to logistics nor SCM, Consumer behavior in marketing),
Tarn J. M., Razi M. A., Wen H. J. and Perez A. A., (2003),"E-fulfillment: the strategy and operational requirements", <i>Logistics Information Management</i> , Vol. 16, Iss 5, pp. 350 – 362.	8	N (no consumer participation)
Teller, C., Kotzab, H. and Grant, D. B. (2012), "The relevance of shopper logistics for consumers of store-based retail formats", <i>Journal of Retailing and Consumer Services</i> , Vol. 19, Iss. 1, pp. 59–66.	10	R
Tieman et al. (2013),"Consumer perception on halal meat logistics", <i>British Food Journal</i> , Vol. 115, Iss. 8, pp. 1112 – 1129.	2	N
To M.L. and Ngai E.W.T., (2006),"Predicting the organisational adoption of B2C e-commerce: an empirical study", <i>Industrial Management & Data Systems</i> , Vol. 106, Iss. 8 pp. 1133 – 1147.	1	N
Trim P.R.J. and Lee Y.-I., (2006),"The role of marketing intelligence officers in strategy formulation and implementation", <i>Handbook of Business Strategy</i> , Vol. 7, Iss 1, pp. 125 – 130.	8	N (not related to logistics nor SCM; no consumer participation)
Tronvoll B., (2011),"Negative emotions and their effect on customer complaint behaviour", <i>Journal of Service Management</i> , Vol. 22, Iss 1, pp. 111 – 134.	8	N (not related to logistics nor SCM; no consumer participation;

		fulfilment refers to needs, not to orders
Tsaih R., Chang H.-I. and Huang C.-Y., (2005), "The business concept of utilizing the interactive TV", <i>Industrial Management & Data Systems</i> , Vol. 105, Iss. 5, pp. 613 – 622.	1	N
Tu C., Hwang S.-N. and Wong J.-Y., (2014), "How does cooperation affect innovation in microenterprises?", <i>Management Decision</i> , Vol. 52, Iss 8, pp. 1390 – 1409.	8	N (not related to logistics nor SCM; no consumer participation)
Tung W.-F. and Yuan S.-T., (2008), "A service design framework for value co-production: insight from mutualism perspective", <i>Kybernetes</i> , Vol. 37, Iss 2, pp. 226 – 240.	8	N (not related to logistics nor SCM; no consumer participation)
Walker B., Bovet D. and Martha J., (2000), "Unlocking the Supply Chain to Build Competitive Advantage", <i>The International Journal of Logistics Management</i> , Vol. 11, Iss 2 pp. 1 – 8.	8	R
Wang L.-C. and Shih H.-L., (2011), "An advanced overlapping production planning model in manufacturing supply chain", <i>Journal of Manufacturing Technology Management</i> , Vol. 22, Iss 7, pp. 870 – 890.	9	N (article is about production planning)
Webb H.W. and Webb L.A., (2004), "SiteQual: an integrated measure of Web site quality", <i>Journal of Enterprise Information Management</i> , Vol. 17, Iss. 6 pp. 430 – 440.	1	R
Weltevreden J.W.J., (2008), "B2c e-commerce logistics: the rise of collection-and-delivery points in The Netherlands", <i>International Journal of Retail & Distribution Management</i> , Vol. 36, Iss. 8 pp. 638 – 660.	1	R
Wilding R. and Juriado R., (2004), "Customer perceptions on logistics outsourcing in the European consumer goods industry", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 34, Iss. 8, pp. 628 – 644.	2	N
Willmer M., (1981), "Venture forth", <i>Industrial and Commercial Training</i> , Vol. 13, Iss 12, pp. 414 – 415.	8	N (not related to logistics nor SCM; no consumer participation)
Winch G. and Joyce P., (2006), "Exploring the dynamics of building, and losing, consumer trust in	1	N

B2C eBusiness", <i>International Journal of Retail & Distribution Management</i> , Vol. 34, Iss. 7 pp. 541 - 555.		
Without author, (1999) "Home shopping and logistics", <i>Facilities</i> , Vol. 17, Iss: 5/6.	6	N (B2B logistics issue on warehouse infrastructure):
Without author, (1944)," <i>British Food Journal Volume 46 Issue 4 1944</i> ", <i>British Food Journal</i> , Vol. 46, Iss 4, pp. 31 – 40.	8	N (not related to logistics nor SCM; no consumer participation)
Xing Y., Grant D.B., McKinnon A.C., and Fernie J., (2010),"Physical distribution service quality in online retailing", <i>International Journal of Physical Distribution & Logistics Management</i> , Vol. 40 Iss 5, pp. 415 – 432.	8	R
Xing Y. and Grant D.B., (2006),"Developing a framework for measuring physical distribution service quality of multi-channel and “pure player” internet retailers", <i>International Journal of Retail & Distribution Management</i> , Vol. 34 Iss 4/5 pp. 278 – 289.	9	R
Xu Y., Yen D.C., Lin B. and Chou D.C., (2002),"Adopting customer relationship management technology", <i>Industrial Management & Data Systems</i> , Vol. 102, Iss. 8, pp. 442 – 452.	1	N

Table 2: Field delimitation and paper selection decision

Analyzing relevant articles against Granzin and Bahn’s (1989) 4 points

The research method now adopted concerns analysing the articles content. In detail, we explore Granzin and Bahn’s (1989) four issues necessary for completing conceptualisation of CL, considering obvious changes in the retail landscape since 1989. Research articles from CL founding fathers’ times to 2016 were analysed against these 4 points. Thanks to this method, we are able to discover themes arising from the review, suitable for the identification of areas for further research.

1. The basic elements of a consumer logistics structure must be identified.

This point refers to the different structure elements or nodes in the network or chain, including actors or channel members. The space and time range of CL is broad, as it aims both forward and reverse flows, traditional and digital shopping, questioning traditional

notions of sites/ locations, equipment (e.g. shopping cart or basket)/ infrastructure/ layout and buying stages.

The online shopping context combined with recently increasing environmental/ sustainable and mobility requirements explains the necessity for dedicated nodes and infrastructure, such as collection and delivery points (Weltevreden, 2008) or, for the specific case of unattended home delivery, the reception box versus the delivery box concepts (Punakivi, 2001). The e-commerce has extensively changed the infrastructure landscape, illustrated via the virtual shopping cart which has been analysed beyond our SCM or logistics disciplines (see Kuo et al., 2004 and point 4 below in line with Granzin and Bahn's conceptualization). In their historical analysis mobilizing actor-network theory, Hagberg and Normark (2015) investigate CL, considered as a "mundane but complex phenomenon", through various interactions or assemblages over time (3 decades) between channel members (particularly retailers and shoppers), infrastructure (vehicles, store equipment, parking lots) and materiality elements such as shopping bags.

2. A taxonomy for consumer logistics activities must be created.

Following Granzin and Bahn (1989), CL logistics can be hierarchically classified and accordingly aggregated into functionally-oriented subsystems, e.g. the transportation function performed by the logistics system. Based upon a previous empirical study, Granzin et al. (1997) propose eight generic CL functions referring to both physical and informational flows: storage management, independent transportation management, interdependent transportation management, inventory acquisition, materials handling, logistics coordination, extended shopping, and convenient shopping. Eight years later, Granzin et al. (2005) propose a refined set of CL functions: inventory needs assessment, transportation management, interdependent transportation, contingent transportation, materials handling, storage management, and location of acquisition, intra-household communications, information search, and intra-store communications. The focus on reverse logistics (Breen, 2006) or CL's potential sustainable or environmental impacts (Mangiaracina et al., 2014; Wai et al., 2016) represents an illustration for such a taxonomy. More generally, the shopping or distribution modality (traditional, online, mixed, multichannel...) shapes the CL activities in a concrete manner. The shopping or distribution modality also codetermines the outsourcing

or inhouse decision for logistics operations, as they differ in their nature, scope, moment in time, duration, complexity etc. Content delivery, order fulfilment, order management and payment collection (Rao et al., 2009) are often different for traditional shopping as opposed to electronic shopping, impacting the outsourcing versus inhouse decision. Home delivery can also be considered as a particular CL subsystem relevant for specific goods and shopping situations and modes, particularly e-commerce (Weltevreden, 2008; Punakivi, 2001).

3. Units of analysis must be chosen to facilitate knowledge exchange with other disciplines.

First of all, the relevant unit of analysis determines the motivation for CL, its goals, its inputs/resources and outputs and its (marketing) target. Already Granzin et al. (1997) distinguish between micro and macro levels of analysis, particularly for CL performance matters. Indeed, the unit of analysis translates the adopted perspective for CL. Accordingly, CL outputs refer to value creation, logistics service quality or time and place utility (Granzin and Bahn, 1989) or performance delivery for the consumer, for another supply chain member (i.e. the focal company) or for several supply chain members. Value creation in marketing and logistics is traditionally approached via the good-dominant logic lenses, whereas service-dominant logic (Flint et al. 2014) or consumer dominant-logic perspectives (Meyer et al., 2016) seem particularly promising for CL.

Taking the company's (retailer's) perspective means focussing on the shopper or consumer and soliciting his active participation, particularly because he is not always aware of his (new) role as a logistician (Granzin and Bahn, 1989; Goudarzi and Rouquet, 2013); necessary incentives or motivation factors call for logistics performance and LSQ, such as ease of finding the product and its assortment (Rao et al., 2009), convenience/ mobility (Punakivi, 2001; Wai et al., 2016), fulfilment (Chen and Chang, 2003), vicinity and network density translating in a critical distance of e.g. 5 driving minutes (Weltevreden, 2008), even if LSQ also is shaped accordingly to the other 3 points proposed by Granzin and Bahn (1989). For traditional shopping, convenience includes the distance separating the shopper's residence from the point of sale. Shopping distance can be measured geographically or via time, and already Crask and McKay (1976) empirically found in their CL pioneer article that cognitive distance is a more reliable predictor of shopping behaviour than actual or geographic distance, particularly for the individual shopper as unit of analysis.

According to Hu et al. (2016) empirical results, customized logistics services, measured via responsiveness and shipping time, positively impacts Asian online shoppers' satisfaction. Still for B2C online shopping, Xing and Grant (2006)/ Xing et al. (2010) develop and test empirically a physical distribution service quality framework, reporting differences in consumers' LSQ perceptions between pure players and multichannel retailers. Chiu et al. (2009) introduce and test e-service quality dimensions in the development of a theoretical model to study online shoppers' loyalty; perceived ease of use which can be interpreted as LSQ dimension (convenience) is found a significant predictor of repurchase intentions. Janda et al. (2002) find LSQ or performance (potential, process and result orientations) as strong predictor of customer satisfaction with the online retail experience. Dholakia and Zhao, (2010) find that order fulfillment variables, particularly on-time delivery (i.e. a LSQ dimension), dominate the effects on overall online customer evaluations and satisfaction. For social co-creation settings, Kang (2014) finds that certain web site quality dimensions are positively related to value equity that further impacts positively satisfaction. Among the significant web site quality dimensions, they find LSQ dimensions such as usability and information quality and interactivity. Social co-creation refers to the process of using social media as a vehicle to carry out customer co-creation engagements; it includes logistics tasks such as co-distribution and co-disposal.

For the specific case of home delivery, unattended delivery options can significantly increase consumer's LSQ via independence of the delivery time windows and logistics service providers (Punakivi, 2001). Referring to seven rights (Mentzer *et al.*, 1999, 2001; Bienstock *et al.*, 2008) has proved to be useful in order to propose a holistic construct of consumer LSQ (Philipp and Grant, 2015). Ultimately, CL strives for and contributes to business goals such as supply chain competitiveness via increased consumer satisfaction and loyalty (Philipp and Grant, 2015), better order fulfillment via cost reductions and efficiency increases, and enhanced differentiation targeting consumers receptive for sustainability/ ethics/ mobility/ lifestyle/ life quality issues. The unit of analysis also refers to the question if CL is operated jointly with B2B logistics or not. Indeed, necessary incentives increasing customer participation or, on the other hand, financial and operational impacts of the customer's non-compliance might differ according to the considered business relationships (Breen, 2006).

The relevant unit of analysis also concretizes the actor's cost-benefits reasoning, e.g. online retailer determining the optimal size of the service network, his antagonists being revenues versus significant delivery costs. In the same manner, the financial loss due to consumer non-compliance within reverse logistics systems is potentially different in CL than in combined CL/ B2B relationships or pure B2B settings (Breen, 2006). Academic literature (still) is dominated by the adoption of a single company's perspective (Mangiaracina et al., 2014; Weltevreden, 2008) rather than following a holistic supply chain view. Some researchers adopt a mixed company/ consumer perspective (Rao et al., 2009; Page-Thomas et al., 2006; Punakivi, 2001; Wai et al., 2016), even if the reason behind might be to obtain consumer insights increasing the efficacy of retailer's marketing and logistics operations and strategies. Xing et al. (2010), Chiu et al. (2009), Janda et al. (2002), Dholakia and Zhao (2010), Hu et al. (2016), Chen and Chang (2003) and Gummerus et al. (2004) adopt the online shopper's/ consumer's perspective.

More generally, we notice that academic literature has neglected so far asking and answering the following question: what supply chain actor bears the design, the governance, the responsibility, the operations, the assessment and the control of CL and its fulfilment process? Close to this is the question on CL coordination and cooperation between supply chain actors which has not been sufficiently addressed neither by the scientific community. The unit of analysis is also closely related to the question where CL is situated within the overall supply chain: obviously, CL is generally located in the downstream area of the SC, but can also be perceived as beginning of a new, consumer-initiated, supply chain ("household production activities", cf. Granzin and Bahn, 1989; Granzin et al., 2005), close to similar cycle considerations valid for reverse logistics understanding the consumer as "producer" of waste.

4. A mechanism must be established for transferring knowledge between consumer logistics and other fields of study.

Crask and McKay (1976) were amongst the pioneers of CL research, and they already stressed the need to borrow constitutive concepts such as consumers' spatial behavior from numerous disciplines, including psychology, cognitive psychology, geography, economic

geography, marketing, urban and regional planning, and the environmental areas. To be meaningful, segmentation of shoppers often needs consideration of both CL and marketing/ social/ demographic aspects (Granzin et al.,1997; Granzin et al., 2005). CL needs indeed integrated / seamless approaches involving supply chain management (SCM), marketing, demand chain management, retailing and merchandising, as the traditional distinction between information search stage – purchase stage and post-purchase stage of consumers' buying processes disappears, particularly due to recent evolutions in technology, demand patterns, organization and retail management. Mobilizing the 'seven rights' of logistics service quality (LSQ) (Mentzer *et al.*, 1999, 2001; Bienstock *et al.*, 2008) has proved to be a useful tool to delimit the space and time range of CL in this context and to point out conceptual interfaces with other research streams and disciplines, while offering a holistic construct for consumer LSQ (Philipp and Grant, 2015).

Historical marketing also can favor exchange with CL, particularly concerning the evolution of consumer mobility over time (Hagberg and Normark, 2015). Shopping bags, "one of the most mundane objects in consumption and markets" (Hagberg, 2016), serve as advertisement medium and foster impulse shopping behavior following the marketing approach, but also impact shopping frequencies and distances as well as shoppers' carrying capacities relevant for CL (Hagberg and Normark, 2015). Academic contributions in service quality, even if not dedicated to the logistics or SCM disciplines, seem indispensable, particularly for online shopping environments showing specific infrastructures, elements, processes and nodes (see above: point 1 relating to CL structure and point 2 relating to the taxonomy of activities).

Web site quality and web site effectiveness and their respective items analysed by Cao et al. (2005) and Webb and Webb (2004) - system quality, information quality, service quality, reliability, responsiveness and tangibility - can indeed be considered as LSQ elements as they cover the range of the seven rights (Mentzer *et al.*, 1999, 2001; Bienstock *et al.*, 2008; Philipp and Grant (2015), even if the above mentioned authors are formally affiliated to information and technology management disciplines. In their survey, Page-Thomas et al. (2006) identify that consumers rate delivery pricing guides, delivery guarantees and delivery schedules as the most important delivery information they expect online prior to purchase.

Order tracking and product return capacity analyzed by Kuo et al. (2004) within industrial engineering/ data systems disciplines also refer to LSQ or logistics performance. LSQ also influences channel preference and consumers' attitudes towards different shopping channel within distribution and retail research (Chiang and Li, 2010), stressing the benefits of bidirectional knowledge transfer with logistics/ SCM. Meeting demand by being more responsive to current conditions, emerging demand (digital demand signals, pre-demand) and user feedback (Webb and Webb, 2004) requires both merchandising/ marketing and supply chain planning, thus CL logistics.

Results

Table 3 below notes the results of this review.

Contextual factors, drivers, initiators		Granzin and Bahn's (1989) 4 points	Explanation, examples, modalities	Related issues; implications; consequences; suggested tools	Emerging variables
<ul style="list-style-type: none"> • increasing part of online shopping versus traditional shopping • ecological aspects/ inclusion of reverse flows, in addition to traditional forward flows • other sustainability/ ethics/ mobility/ lifestyle/ life quality issues 	⇒	① basic elements of CL structure	space and time range (e.g. location in the SC); nodes and infrastructure/ vehicles		<ul style="list-style-type: none"> • location within the supply chain
	⇒	② taxonomy of CL activities	<i>hierarchical classification/ subsystems:</i> transport management; reverse logistics; home delivery etc.	outsourcing/ inhouse decision; CL as holistic concept or stand-alone issue (e.g. management of oos situations)	<ul style="list-style-type: none"> • logistics flow concerned by consumer participation: physical, informational. • consumer's participation and value creation level: strategic vs. operational; high vs. low.
	⇒	③ unit of analysis	<i>adopted CL perspective:</i> single company; consumer; mixed company/ consumer; holistic SC view	motivations and incentives for CL; CL goals; CL inputs and resources; CL outputs and performance; CL target; combined CL/ B2B approaches versus pure B2B settings; CL's governance; CL cooperation; CL's location in the SC	<ul style="list-style-type: none"> • consumer's awareness of being a logistician. • LSQ/ logistics performance/ value. • utilitarian vs. hedonic value creation.
	⇒				
	⇒	④ transfer with other disciplines	<i>CL theoretical framework development needs bidirectional knowledge transfer with numerous other disciplines:</i> marketing, service quality, information	mobilization of seven 'rights' concept in order to delimit CL's time and space range	<ul style="list-style-type: none"> • LSQ.

			management etc.		
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Table 3: Theoretical framework of CL as a result of our comprehensive literature review

Our resulting research propositions

Research proposition	Link with Granzin and Bahn's (1989) 4 points (see Table 3)
RP1: The lower the consumer's awareness of co-performing CL tasks within the supply chain, the higher his perceived importance (or receptiveness) of LSQ levels to be performed the business actor (retailer, e-retailer etc.).	③; ④
RP2: The consumer perceives high levels of LSQ as utilitarian value, whereas he perceives high levels of marketing and general service quality as hedonic value.	③; ④
RP3: The consumer's awareness of co-performing CL tasks within the supply chain depends significantly on the location where it takes place, e.g. it is higher during homewards transportation than in-store; it is higher in-store than at-home.	①; ③
RP4: The consumer's awareness of co-performing CL tasks is higher for a consumer-initiated supply chain (in line with Granzin and Bahn's, 1989 "household production activities") than for "ordinary" retail supply chains initiated by business actors in order to satisfy consumers' basic needs.	③
RP5: The consumer's awareness of co-performing CL tasks within the supply chain is high concerning operational tasks, whereas it is low concerning strategic/ conceptual tasks.	③; ②
RP6: The consumer's awareness of co-performing CL tasks within the supply chain is high concerning the logistics physical flow, whereas it is low concerning the logistics informational flow.	③; ②