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The power of co-construction and dialogue to interact with industry in strategic logistics, OM and SCM research projects

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Abstract

The purpose of this paper is to study industry-academia interactions in strategic logistics, OM and SCM research projects. The paper is based on an in-depth retrospective analysis of eight research projects performed in collaboration with industry. Methodology combines single and cross-case analysis. Results point out the importance of industry-academia dialogue and co-construction at each step of a research project. They provide some guidelines to improve the management of such projects and the quality of their outputs for both parties. We conclude by suggesting some issues to deepen dialogue and enrich co-construction in strategic logistics, OM and SCM research projects.

Keywords: research project management, industry-academia interactions, strategic logistics, OM and SCM

Introduction

Most academics consider that research in logistics, OM and SCM *is* useful for companies, and almost every research work *sells* its so-called managerial contribution. But few academic papers seem to rely on genuine industry-academic collaboration. One should not conclude too quickly from a literature review based on academic journals that such research does not exist or is rare (referred as the “white space” in Frankel et al. 2005). This only shows that despite the call for a greater research variety, in particular more field research (DeHoratius and Rabinovich, 2011), logistics, OM and SCM literature remains mainly positivistic and rationalist (Näslund, 2002), and, looking for more scientific rigor, seems to have lost its connection with practice (Touboulie and Walker, 2015).

Nevertheless, for politic, economic and pragmatic reasons, this kind of research is developing. Most funded calls for research (ex: H2020) put pressure on having companies in consortia and producing more value for industry and society. Companies look for external expertise (alternative from consultancy) and diversify the partners participating in their open innovation processes. Academics look for “problems” with practical relevance combined with funding... But collaborating with industry is not so easy and many academics experience difficulties related to the *conflicting logics* behind such type of collaboration (some of them being identified in action research, e.g. Coughlan and Coughlan, 2002).

In line with the theme of the call for abstracts of EUROMA 2016, the purpose of the paper is to answer the following question: how can we improve industry-academic *interactions* to gain both in managerial, societal, and academic relevance and value, i.e. being useful and creating value for companies and society, as well as being valuable from an academic point of view with “publishable” material and innovative theoretical results?

Surprisingly, there are very few papers in logistics, OM or SCM literature that detail the way academics and practitioners interact, or should interact, with ‘industry’ (in a broad sense of this term, i.e. not restricted to industrial companies) in research projects. The ones that do are mainly papers that discuss or are based on action research (e.g. Naslund et al., 2010; Touboullic and Walker, 2015) and case study methodology (e.g. Stuart et al., 2002; Voss et al., 2002; Dubois and Gadde, 2002). In most cases, the papers describe some aspects of the interactions with respect to the context of the research (to clarify the relationship with the field in the selected methodology), to explain how the researcher(s) gathered the data (to give credibility to data quality), or to attest of difficulties in the research process. To our knowledge, the nature of reported interactions is mainly ‘technical’ and does not reveal the dynamic of interactions along the research project.

As a member of a research centre specialized in strategic logistics, OM and SCM, with a tradition of research performed in close collaboration with industry, and having a long experience in such research projects, the purpose of this paper is to report about industry-academia interactions in achieved research projects and to discuss about the importance of industry-academia dialogue and co-construction. We first present the research design for this paper. Then, we detail the results of the retrospective analysis of eight research projects. We discuss the importance of industry-academia dialogue and co-construction before concluding the paper.

Research design – description of the eight research projects

The paper is based on a reflexive thinking considering past research works conducted *in interaction* with industry. Among the research projects we have been involved in, we selected finished projects that were, since the beginning, mixing academic and industry outcomes. Another criterion was to be able to report about the overall research project process. Eight projects were eligible from 2000 to 2015. All the research projects were related to *strategic logistics, OM or SCM*, i.e. concerned the relationships between logistics, OM and/or SCM and the overall strategy of companies or organisations.

Being part of the projects since the beginning of the discussion with industry partners, and having the traceability of the overall processes, it was thus possible to think back about: the construction of each project, goals and expected results for companies vs. researchers (*ex ante*), the overall management of the project (including the making of research choices), difficulties encountered during the research process, results for the companies vs. researchers (*ex post*), potential for academic publication (and effective published papers), experience gained about how to manage industry-academic interactions.

Each research project is thus, for this article, considered as a case study and is analysed retrospectively. For each research project, we also considered its characteristics (main topic, duration, number of researchers, funding...) and the explicit or implicit research choices (ontology, epistemology, methodology, reasoning mode). We combined single and cross-case analysis to end with results. Table 1 and 2 give an overview of the eight cases, showing a variety of research projects. For confidentiality reasons, the names of the companies, all having leadership positions, are not mentioned.

Table 1 – About the eight cases of industry-academia research project

N°	Research project partner(s)	Origin of interaction Domain	Objective for company (<i>ex ante</i>)	Objective for researcher (<i>ex ante</i>)	Characteristics of the project
P1	Two LSPs (LSP1 and LSP2) Three academics	Companies Logistics SCM	Understand the dynamic of health distribution in France, prospective analysis to support LSPs' strategic expansion in this market	Build a research-based logistics/SCM-oriented prospective methodology	From 03-2004 to 06-2005 3 mains steps with collective decision Qualitative method
P2	Health wholesaler distributor One academic	Company Logistics	Answer the questions: Is logistics for us a "core competence"? How can we build a strategic approach based on logistics?	Deepen the study of logistics as a core competence Study logistics / strategy interactive loop in their case	From 09-2005 to 11-2005 1 step Workshop with top managers
P3	PSL1 One academic	Researcher SCM	Get a better understanding about SCI, clarify LSP's strategy and role in SCI, understand clients' view about LSP's role in SCI	Explore a LSP's points of view about its roles in SCI, compare to its clients' point of view (alignment within dyads?)	From 10-2006 to 06-2008 2 main steps Qualitative method (2 waves of interviews)
P4	PSL LSP3's role in SCI Two academics	Researcher SCM	Knowledge transfer about SCI, clarify their vision about their role in SCI and their strategy vis-à-vis their clients	Explore a LSP's points of view about its role in SCI Confirm results of P3, explore new perspectives	From 10-2009 to 11-2010 1 main step Quantitative method + focus group
P5	Industrial luxury company Three academics	Company OM-SCM	Challenge their lean-agile management approach Get prospective ideas about SSCM, eco-design and remanufacturing	Discover a new "industry" (for us) Confront theoretical concepts and previous research results to a specific context	From 02-2010 to 09-2010 2 steps Two workshops and focus groups
P6	Group of companies in consumer goods Two academics	Researcher Sustainable SCM, logistics and transport	Answer the questions: Is a collective (inter-organisational) scanning process feasible? How to prioritise collective scanning targets?	Build a "general" SSC scanning framework, compare scanning of different actors in a SC, question inter-organisational scanning feasibility	From 01-2012 to 07-2013 3 steps Meetings, two focus groups, debriefing with companies
P7	Industrial Company One academic	Company SCM-OM-logistics	Challenge their strategy related to sustainable development (related to logistics, OM and SCM issues) Share knowledge about SSCM issues	Participate to strategic thinking of a leading group Better understanding of inter-functional interfaces in strategic SSCM developments Strategic case study	From 01-2013 to... (ongoing) Prepare topics and participate to a mixed stakeholder panel every year
P8	LSP4 Two academics	Company SCM-OM	Knowledge transfer about logistics an SCM scanning activities Improve managers' scanning behaviour	Translate theoretical concepts and previous research results to a specific company	12-2015 to 01-2016 Conference + workshop with top managers

Table 2 – Ex post outputs of the research projects

Project	Output for practice	Output for academia	Publications (1)
P1	Better understanding of health distribution dynamic and the potential role for LSPs Clarification of the business models they could explore (alone or within an alliance) HSDM (2)	A how-how about making Logistics-SCM oriented prospective studies Discover important methodological issues The basis for a so-called “logistics intelligence process” (LIP) we reused afterwards	No immediate publication (confidentiality) Generic results, combined with other experiences were reused in 2 conf. papers (2007), 1 article (2008), they inspired SSCM scanning conf. paper (2009) + 2 book chapters (2010, 2011) + 1 article (2011) and project P6
P2	Making company’s top managers understand the importance of its organizational logistics competence A trigger to develop strategic logistics	Confirm some hypothesis related to health SC strategic changes (P1) Refine what is a logistics core competence Confirm how creative is the logistics / strategic loop	No publication about this case (confidentiality) Generic results reused in a book chapter (2007)
P3	Realize they had not a unified approach of SCI in the company Clarify their vision of what could be their SCI strategy and their role vis-à-vis their clients’ SCI (HSDM)	In-depth understanding of the paradoxical roles a LSP can play in SCI Clarifying the relationships between LSP and its client in SCI Distinguish between being integrated in a client SC and integrating the client SC	Results published in 1 conf. paper (2007) + was the trigger for 2 conf. papers (2008), 2 articles (2008, 2009) and for project P4
P4	Realize they had not a unified approach of SCI in the company A topic discussed at the highest level of decision (executive committee)	Confirm P3 results Open doors to news ideas Projects P3+P4 permit to build a typology of LSP’s roles in SCI	Results published in 2 conf papers (2010) and 1 article (2011)
P5	New avenues for a systemic approach of eco-design, after-sales services and reverse logistics	Have a ‘revelatory’ access to a world-class company Share very strategic information, good case study	No publication (confidentiality) Inspired P7 and P8
P6	A collaborative research project that led to test a “pilot” (up to end 2013) that turned into is an effective “shared-service”	Validation of the SSC scanning framework Good qualitative data Valuable strategic information sharing	Results published in 2 conf papers (2012, 2013) and 1 article (2014)
P7	Benefit from clarification of new concepts, synthesis of state-of-the-art, emerging research results, prospective views	Learn from the many voices in the panel (not all being “scientific” ones) Catch tendencies, new ideas Share very up-to-date knowledge and signals	No publication (confidentiality)
P8	Incite managers to develop an open-minded and ‘complex’ approach of scanning	Reuse of LIP (P1) + scanning framework (P7) Know-how in knowledge transfer and production of appropriable knowledge by managers	No publication (confidentiality)

Nota: (1) List of publications is available upon request. Research reports linked to the projects are not mentioned.
(2) HSDM indicates if the projects, as far as we know, helped for strategic decision-making (HSDM).

Before giving an overview of the 8 projects, it must be explain why we chose projects performed after 2000. Following the calls for more rigorous logistics and OM research at the end of the 1990's (e.g. Ellram, 1996, for case study in logistics), from 2000 we designed more carefully the research methodology of industry-academia research projects. The aim was clearly to improve robustness of research results and to have collected data with a quality that should not stop us from publishing in academic journals.

From the 8 projects, 5 were initiated by industry, 3 by academia. Six projects involved only one company and two project more than one: P1 was a jointed project with two companies and P6 concerned a group of companies (members of the same professional association). In both case (P1 and P6), the companies knew the industry partners before launching the project. The research projects were in interaction with different kind of supply chain (SC) members: 4 with LSPs (P1, P3, P4, P8), 2 with industrial companies (P5, P7), one with a wholesaler-distributor (P2), and P6 with a mix of industry, logistics, distribution companies.

Most of the projects mixed logistics, OM and/or SCM issues. As mentioned by Larson and Halldorsson (2004, p.18) "The unclear conceptual boundaries of SCM make it difficult to design educational and research programmes in SCM without large overlap with other fields such as logistics, marketing, operations management and purchasing". It is thus not easy to delineate the precise domain of each project.

What was clear is that every project had strong strategic issues. Most of the projects (5 out of 8) had a prospective / scanning orientation (P1, P5, P6, P7, P8), and had a direct connection with companies' strategy formulation (P1, P2, P3, P4, P7). Most projects permitted to think both about relationships between logistics strategy (lS) and strategic Logistics (sL) (Fabbe-Costes and Colin, 2003).

Two projects (P2, P8) were short ones (3 months), most projects were longer than one year (P1, P3, P4, P6, P7), P5 being intermediary (8 months).

Among the 8 projects, one can be considered as action-research (P1), 3 as 'classic' qualitative and/or quantitative research projects (P3, P4, P6), and the 4 remaining as knowledge sharing (P2, P5, P7, P8) with a mix of research production (state-of-the art, results transfer and prospective).

Concerning outputs, it can be noticed from table 1 and 2 that the 8 projects produced outputs generally in line with expected results. Some project can be considered as being more 'valuable' for companies, others for researchers. Almost every project (except P7 and P8 that are the more recent ones) leads directly or indirectly to publications (conference papers – most of them at Euroma or Nofoma conferences – and articles in peer-reviewed OM and SCM academic journals), sometimes not immediately after the research, not using the collected data and not directly related to expected results.

Looking back at the outputs for researchers, this type of projects have long-lasting effects and strong impact the overall researchers' agenda, probably because of the richness of the structured and, more importantly, the unstructured data researchers collect and the many ideas and questions raised during the course of the project. Most of the 'revelatory' data (Yin, 2009) could not be published, which is somehow frustrating, but enriched researchers' knowledge of strategic logistics, OM and SCM thinking and practices, orienting further research topics.

Findings related to industry-academia interactions

The in-depth analysis of the 8 research processes provides insights about industry-academic interactions in logistics, OM and SCM strategizing and organizing research projects (Whittington, 2003). Table 3 presents main results for the single case analysis.

Table 3 – About the industry-academia interactions during projects

Project	Main difficulties / key success factor	Lessons for researchers	About dialogue Co-construction
P1	Strategic objectives of companies were not clearly communicated (considered as too confidential) Difficult to decide about research orientation at each step (companies were reluctant to make choices) Quality of results convinced industry partner	Learning process about how to interact with “unknown” companies in action research projects Time for the project (short) had impact on methodology (and data quality) It is necessary to design ex ante a robust methodology to have publishable data	No experience of working together At the beginning, a lack of trust between the 2 companies and between companies and academics => dialogue was not easy Importance of time to tame each other and dare co-construct step by step
P2	The company’s objective was clear and focused Role of academia was clear but challenging	Credibility is important Working with top managers is challenging but permits to have access to key strategic data	Company attended a public presentation of some of the results of P1 => researcher was credible and dialogue easy
P3	Integration, SCI, were not clear concepts for LSP1 => it was difficult to “sell” the project After discussion, the main objective of both parties was to gain in-depth understanding of what is SCI, perceived as a <i>complex</i> phenomena => ended aligned	Clarifying concepts, getting sure that objectives are aligned is not a lost of time Access to key informant is a key success in qualitative research, in particular for topics related to strategic issues Robust, clear and detailed methodology helps “selling” a project	Being partners in P1, facilitated interactions and the access to key informants within LSP1 and its clients Since LSP1 “bought” the project, no-construction Interesting dialogue about the “surprising” results (for both industry and academia)
P4	Having contact with key managers in the company was helpful to “sell” the project Demand was only to spread questionnaires to a select number of persons	A project not time consuming for the company is quite easy to sell Importance of debriefing strategic issues raised by results with the top management	LSP3 was a teaching partner in master program => dialogue was easy Company was not so interested in the results => no co-construction but challenging discussion about results
P5	Confidentiality was the main problem for researchers (impossible to publish nor communicate anything)	It is important to overcome frustration not to be able to publish data Understand that value of a project can be in the experience	To sign a strict contract concerning confidentiality helps partners to be in an “open” knowledge sharing perspective
P6	Coherent group of leading companies developing collaborative sustainable logistics projects => easy to manage	Robust focus group method produced very good data Frontier between research and consulting needs to be regularly reaffirmed	Clear research objective helps maintaining the research focus of the researchers’ role
P7	Clear role for researchers: stakeholder among others in a stakeholder panel A panel, it is not a ‘scientific’ context	A panel is not the best situation to an in-depth case study The panel experience is stimulating but topics are not deeply studied => to develop	Polyphony in a panel is rich and raise lots of ideas and questions, it helps ‘surfing over the wave’ of new trends and tendencies
P8	Important to get sure that we shared the vision of the expected outcome (not best practices) Clear demand from the chief executive	Important to be able to communicate about complex concepts (sometimes adapting language) Useful to make company validate the ‘production’	Important to dialogue about the understanding of key concepts (e.g. scanning, eco-system, innovation...)

Table 4 presents main results of the cross case analysis pointing out the results concerning dialogue and co-constructions at each step of a research project as well as the success factors facilitating both.

Table 4 – About the dialogue and co-construction during projects

Project phases	About dialogue content	About co-construction	Influencing factors
First contact up to “go” decision	Why launching and participating in the project? What about the topic, the potential methodology and the expected outputs Clarify the underlining concepts, theories Exchange can help finalizing the project, sometimes giving another orientation	At this stage partners can influence research orientation to align the project with their expectations, think about potential difficulties with fieldwork, raise potential problems (e.g. related to confidentiality, public publications of results)	Reputation of partners Capacity to communicate clearly about the project Ability to convince about the project interest Level of experience and trust with the partner(s) Previous projects done together Inter-personal previous experience Easy access to decision-makers of both partners
Contracting	Be sure that objectives are clear (prevent from misunderstandings) Clarify the details of the research process: steps, duration, work-packages, deliveries, support and finance from partners, role of industry partners vs. researchers, expected results and publications	Do not buy projects unquestioningly, except if it fits your plans. The objective is to design a feasible and valuable project for both parties, getting sure that the project can feed each partner’s perspective (not necessarily aligned)	Previous projects done together (e.g. vis-à-vis confidentiality, ethics) Previous experience in contracting for research projects Templates available to limit comings and goings Support of jurists to analyse contractual issues (e.g. risks)
Making the research	Data and knowledge sharing Traceability of the research execution Encountered difficulties, how to overcome them Negotiate about ‘quick production’ of results	Depending on contract agreement, precise definition of field research choices Execution of research together Making common / controversial analysis	Access to and availability of key managers and senior researchers during the project Degree of partners’ ‘interest’ in the results Research skills of partners Research know-how
Direction - redirection	Negotiate about unexpected but necessary redirections Making decision about time constraints and delays	Taking together the decision about new orientations Analysing their impacts	Research know-how Strategic milestones for partners (deadlines to produce results, to take decisions)
Results analysis	Importance of debriefing strategic issues raised by results with the top management What are the “surprising” results (for both industry and academia)?	Some results cannot be obtained without working hand-in-hand Results can be challenged by partners	Critical vision of results Ability to stand back and think about what each partner learned
Concluding the project	Debriefing: what about satisfaction of partners? What about the project? Think about ‘next’ step?	Making a common return from experience about the project Learning process	Interest for research process and production Long-term vision of partnering in research

As mentioned before, for the 8 selected projects, we were involved from the beginning of the contract negotiation, we participated to methodology design, data collection and analysis, and we were associated to every key decision in the research processes.

Even if each project was initiated by one of the partners (see table 1), the general problematic revealed to be of strategic relevance both for academics and practitioners. The discussions during the first steps of project researches helped in refining the research design in order to fit with the objectives of each party. In some projects, they were not fully aligned which was not a problem since what is shared is the project.

Working on refining together the research design, we often experienced the “unclear conceptual boundaries” between logistics, OM and SCM. The statement of Larson and Halldorsson (ib.) remains valid today. And this is true for every keyword of a research project (e.g. *integration* for P.3 and P4, *scanning* for P6 and P8, *sustainable logistics and sustainable SCM* for P5, P6 and P7). When researchers and practitioners work together it is worth checking they understand each other. If this is not done at the beginning of the project, the problem may occur later with incidence on the quality of the research. In-depth discussion of concepts (e.g. in P3, P8) fosters the sharing of visions improving interactions during the project and quality of its outputs. It is important, in particular when researchers initiate a project (P3, P4, P6), that the theoretical aspects do not hinder dialogue with companies. Each has to go towards the other.

When companies come to academia, in particular for those who are not used to work with researchers, they often look for ‘best practices’, ready-to-use or fast appropriable solutions. Underlining logic is there *are* ‘best practice’ (cf. ontology). Considering that strategic logistics, OM and SM projects needs a systemic approach and a reference to complexity thinking (in particular for scanning and prospective projects), some discussion were needed to check that the vision of industry partners was compatible (there is no ‘one best way’, one fits all approach). For those who were not so convinced at the beginning, but dared to make the project, they were happy to end with a more complex view of the initial problematic and news questions.

Interacting with companies, in particular when they are waiting for ‘results’ (e.g. P1), can lead to adopt ‘weak’ methodology (less robust than expected) to reach results quickly, but ending with data difficult to reuse for publications. Time can be an important issue vis-à-vis research quality. Academics’ time horizons are generally much longer than practitioners, resulting sometimes in conflicts during the execution of the project. Common decision-making about such critical aspect of projects can prevent from dissatisfaction of both parties, leading sometimes to decide redirecting the project.

To interact about “strategic logistics and SCM” projects, it is necessary to have access to top managers (key informants). Since these projects include confidential information sharing, company needs to trust researchers; ethical behaviour is a key issue. Previous experiences with the partners were a success factor for P2, P3, P4, P5 and P7. Time is needed to convince partners to open the doors and share information.

For most projects, we worked under a contract on behalf of our university, specifying, among other points confidentiality and intellectual properties issues. What was considered at the beginning as a constraint, an administrative task and a waist of time, revealed much more important and useful than expected. The time (particularly long for some projects) spent to discuss about duration of the project, the expected results for both parties, the methodological choices, the different steps in the project and if the ‘door is open’ to redirection of the project, was not a “lost time”. It was also important to state about what could be done afterwards in term of publications (an important point nowadays for researchers). Quality of collected data (P1), confidentiality issues (P2, P4, P7, P8) sometimes prevent from publishing results or data related to research project made in interaction with companies. However, publishing is not the unique value added of research projects performed in close collaboration with

industry. More important sometimes is to have access to revelatory data (P5), to feed one's scanning process (P7), to test the relevance of knowledge for companies (P8).

Finally, looking back at the overall panel of projects we analysed, we realized how interconnected these projected were because of the topics (e.g. P3 and P4 with SCI) or because of the partnerships (e.g. P1 and P3). P1 led to P2; P4 was built upon P3; P6 incited companies to launch P7 and P8. The related partners acknowledged how important dialogue and co-construction were to build confidence and create a sense of intimacy, as well as to develop a know-how working together.

Discussion / contribution

The results of our case analysis give some highlights about industry-academia interactions in research projects. They provide some guidelines to improve the management of such projects and the quality of their outputs for both parties. The results suggest that 1) the *co-construction* of such type of research project is a critical key success factor; and that 2) to support this process, more industry-academic *dialogue* leads to more valuable results for both parties.

Co-construction helps partners to clarify and align expected outcomes, to co-design the research process (specifying the managers' and researchers' roles) and to collaborate in the research execution. The dialogue supporting the co-construction permits to show off *controversial points* (e.g. having fast results/having time to collect good set of data), or ontological and epistemological *mismatches* between researchers/managers visions, both being source of potential conflicts (e.g. about the 'reality' of best practices).

The dialogue can help researchers to refine the reasoning mode and the methodological choices, improving the feasibility and the rigor of the project (a key point for publishing action research, Näslund et al. 2010). Adopting a systemic approach, we design a framework of interactions between the key topics of dialogue identified in our set of research projects.

The paper provides guidelines about how to manage industry-academy interactions in strategic logistics, OM and SCM research projects. The research identifies a list of points (see table 3 and 4) partners launching a common research project could consider and suggests to take time to dialogue, using the dialogic principle (Shotter, 2008), to co-construct the project... not a wasted time considering differences between academic and practitioner (Bartunek and Rynes, 2014).

In line with the underlying constructivism epistemology of our research (Avenier, 2010), our paper does not give any 'best practice' but proposes principles for practicing research.

Conclusion

Some limits can be mentioned. We have not selected projects that failed at an early stage. Long negotiations for two important projects with leading companies broke down when the two parties were unable to agree on the resources (finance and person-months), intellectual properties and confidentiality issues). Some lessons from these 'failures' could enrich results.

We did not include supervised PhD projects with high interaction with companies during the period 2000-2015. Since it is the PhD student who was interacting, it would be necessary to collect his/her point of view to be able to include these cases. This could be done when expanding the paper.

Some more work is needed to develop a comprehensive framework and to discuss it in the light of previous work in organisation studies, expanding the discussion section of this paper.

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