



HAL
open science

**Contribution of organizational approach and decision
aiding theory for assessing risks and benefits of
outsourcing: implementing an action plan for contracts
optimization in a company submitted to authorization**

Myriam Merad, Frédéric Marcel

► **To cite this version:**

Myriam Merad, Frédéric Marcel. Contribution of organizational approach and decision aiding theory for assessing risks and benefits of outsourcing: implementing an action plan for contracts optimization in a company submitted to authorization. 40. ESReDA Seminar "Risk Analysis and Management Across Industries", May 2011, Bordeaux, France. pp.NC. ineris-00973610

HAL Id: ineris-00973610

<https://ineris.hal.science/ineris-00973610>

Submitted on 4 Apr 2014

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Contribution of organizational approach and decision aiding theory for assessing risks and benefits of outsourcing: implementing an action plan for contracts optimization in a company submitted to authorization

Myriam Merad¹, Frédéric Marcel¹

¹INERIS, France
myriam.merad@ineris.fr

Abstract

Outsourcing support activities in companies and industries is a key trend with core business strategy. This trend has increased with the hardening of the current financial crisis.

The issue of outsourcing support is a major theme in the field of risk prevention. Even if, outsourcing is considered by Preventers as a key factor of risk, Managers still consider this solution as cost-effective and in some cases that subcontractors have more expertise.

This paper will report on a methodology developed for studying the risks (financial, judicial, availability, safety) induced by outsourcing and the conclusion of a real case study performed in 2009 within a company submitted to authorization in order to optimize the management of outsourcing contracts.

We will first analyze the state of the art about risks and benefits induced by outsourcing. A description of the company and the management's request will be described in a second time.

We will then present our comprehensive methodological approach based on decision aiding framework and on the achievement of an organizational diagnosis to consider impact on working relationships and organizational conditions in managing outsourcing service delivery contracts.

Finally, we will discuss the way our recommendations were taken into account by the management staff more than two years after proposing an action plan aiming at sustaining the quality and the performances of the services delivered to the Companies.

Keywords – Outsourcing, risks, decision aiding, organizational analysis and comprehensive diagnosis.

Introduction

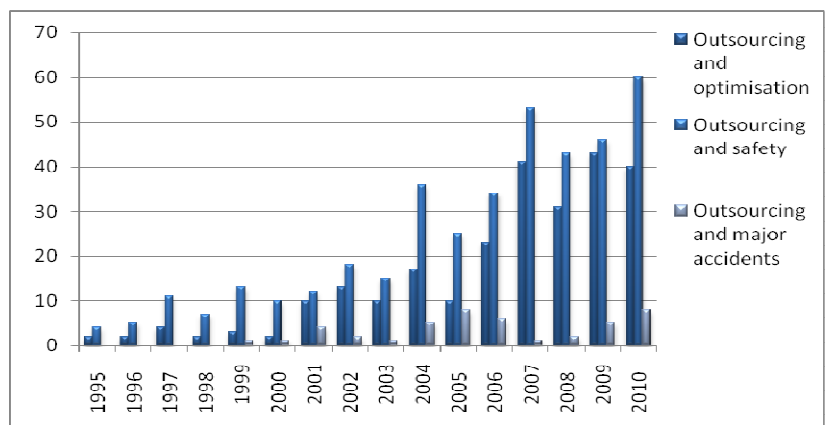
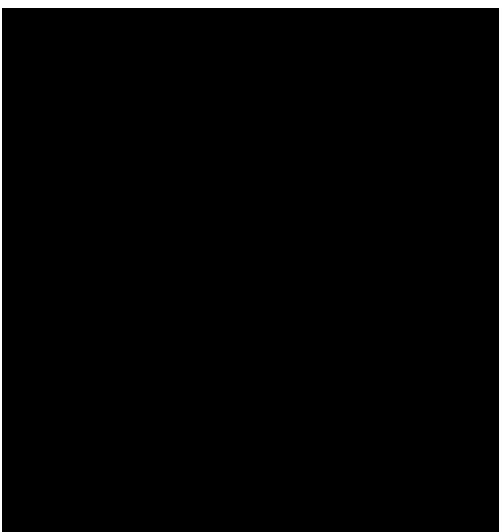
Outsourcing became in the industrial sector one of the most valued solution these last decades. More flexibility, less expenses and more concentration on core business are expected and lauded. Another trend is the risk externalization and contractualization of key resources both (human and materials ones).

Looking back to scientific literature (Schema 1), one can notice that the number of publications about how to optimise outsourcing has not stopped growing up from 1995 to 2010. Carta (2010) has tried to summarize motivations presented by companies when they wanted to appeal to outsourcing. She identified three main reasons that we have summarized:

- Economical constraint: reduce costs and optimize productivity.
- Knowledge and technical constraints: learning by building collaboration with experts.
- Legal constraints: export risks.

One of the solutions suggested in the papers for optimising outsourcing is to limit the number of subcontractors and condense both the different activities and subsidies on larger companies. This solution was considered as a mean to improve the quality of outsourcing governance structure: increase the control, reduce costs and export juridical risks.

Now looking back to scientific works done on outsourcing and safety, we were surprised to notice that the number of publication has increased at the same time of the publication on outsourcing and optimization. It was like if thinking about cost reduction for example has an immediate corollary that is an impact on health and work conditions and therefore on environment. More precisely, let notice that this number of publication has doubled in 2004 compared to the number of publication about outsourcing and optimisation (Schema 1).



Schema 1. Number of scientific publications about “outsourcing and optimization”, “outsourcing and safety” and “outsourcing and major accidents”

Based on four case studies, Mayhew and al (1997) suggest that factors of hazards and risks can be pre-detected when the companies appeal to subcontracting. The fact is that self-employed workers are prone to an intensification of their work and “*survival prerogatives*” like economical pressure, disorganization, inadequate regulatory control and the inability of workers to organize themselves.

In 2004, Pasma and Suter have emphasized these observation by noticing how outsourcing has contributed to transfer risk from company staff to contractor staff and have insist on the negative influence of outsourcing on safety. Especially, when the Management has not given enough attention to the inherent difficulties of subcontracting and when the subcontractors and the company staff have not the same safety culture.

The important part of the literature about outsourcing and safety focus on the Occupational Health and Safety (OHS) consequences (Mayhew and al,1997; Carta, 2010). However, one can notice that the scientific literature trying to make a link between outsourcing and major accidents started to be significant in 2001 (Schema 1). Indeed, major accidents like Bhopal (1984), NASA Challenger (1986) and AZF in Toulouse (2001) seems to have significantly stressed the perception of the negative effects of outsourcing (Dechy and al, 2004; Papadopoulos and al, 2010). The *Proposal 6* of the French *Parliamentary Commission report after AZF accident* suggests to look back, as early as possible, to the impact of a reorganization, such as for example the use of outsourcing, on safety (Dechy and al, 2004 and Bourrier, 2005).

Our aim in this paper is to consider if that is possible, before restructuring the appeal to outsourcing due to economical constraints, to reveal what can be the potential impact on safety and working conditions. In fact, many authors suggest different methodologies (Hawkins, 1984; Bourrier, 2005; Llory and al, 2011). We have decided to choose a comprehensive methodology (Merad, 2010) to perform an organizational diagnosis and analysis.

A methodology to investigate a real case study

In 2009, we have been mandated by a Company submitted to Authorization (hereafter denoted “the Organization”) to investigate, before reorganizing and optimizing the way outsourcing contracts are managed, the equilibrium between safety, working conditions and the imperative reduction of expenses. This Organization has always try to respect all the normative constraints such as ISO 9001 certification, accreditation such as NF IN 45011, ISO CEI 17025, Good laboratory practice...

The same year, the Organization was engaged in a Corporate Social Responsibility (CSR) approach that aims at finding equilibrium between economic, social and environmental considerations. By “consideration” we mean both the risk and the resilience aspects generated by reaching what can be considered as *contradictory objectives*.

With all these considerations, the management of the Organization is becoming more and more complex due to the increasing number of:

- (i) regulations to fulfill,

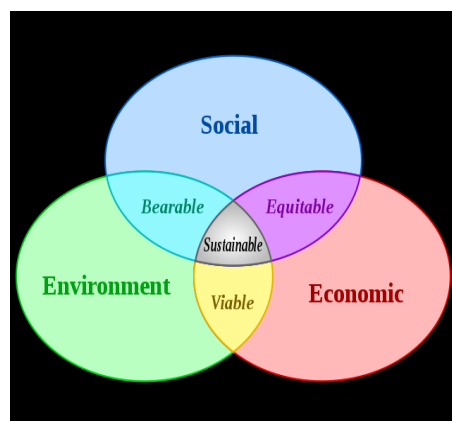
- (ii) other actors that are impacted by the decision of the Organization who must be consulted,
- (iii) indicators (parameters or criteria) to follow.

When Managers looks to classical economic and management theories, they can notice that the Organization has to make economic profit in order to maintain its activity within the market. According to this point of view, for a long time, management theories have focused on (Fayol, 1916):

- *Forecasting*. Implement, following a strategic perspective that consists of predicting and analyzing the future resulting in the implementation of a plan of action.
- *Organizing*. Create a structure for the Organization considering both human and equipment considerations.
- *Commanding*. Maintain monitoring and control of employee activities.
- *Coordinating*. Harmonize and create cross links in order to maintain appropriate means and efforts.
- *Maintaining*. Ensure that the rules and directives are followed.

Management needs to adopt a viable posture in the face of a variable environment. CSR approach has changed the way profit, costs and risks are considered. Indeed, profit is not only *financial quantification* (e.g. euro), but also represents social and environmental gains (e.g. more diversity within the organization and less pollution).

The CSR approach needs a strong political engagement (of the Top staff Management) because of the constant need to seek equilibrium between economic, environmental and social concerns (see Schema 2) that cannot be obtained without the implementation of a participative governance model (Merad and al, 2010).



Schema 2. Sustainable Development principle

To be able to implement this approach, it is necessary to develop methods and tools. Decision aid methodology (Merad, 2010) can help both to build an appropriate diagnosis of the Organization and try to frame proportioned recommendations.

In what follow we will focus on the contribution of decision aid methodology for dealing with outsourcing problems within Organizations.

The Organization constantly seeks equilibrium (to reduce risks and increase benefits) with respect to interactions within its external environment. Different actions

can be taken at different levels of decision-making within the Organization. These levels are differentiated according to: (i) the practical objectives that are sought, (ii) the nature and the level of information/knowledge that is available and (iii) the potential impacts:

- The *strategical level*. At this level, the objective of decision-making is action planning. The decision is a long term decision (more than 8 years) and is dominated by both political and regulatory dimensions. At this level, the information is abundant but imprecise and difficult to sort and select. Looking back to the case of optimizing outsourcing, we can consider that the Top management staff objective is to reduce costs and concentrate on the core activity of the Organization and maintaining a quality of service to the final customer.
- The *tactical level*. The decisions/actions are less influenced by political and regulatory dimensions than at the strategical level. At this level, the decisions are under the constraints and objectives within the Organization (social, technical and economic). This level is represented by the intermediate staff of management. Going back to the optimization of outsourcing contract, Middle staff management objective is to optimize the use of their allocated budget to increase to do more tasks knowing the limited number of their internal executive staff.
- The *operational level*. Decision-making pertains to short-term goals achieved in less than 1 year. The decisions made are more concrete involving technical information which is often specialized, precise, and more specific than the higher levels. Looking back to the case of optimizing outsourcing, we can consider that the executive staff objective is to produce task with more added value considering time and organizational constraints.

For each level of decision, different choices can be make seeking out an equilibrium between economic, social and environmental concerns (risks/costs, benefits).

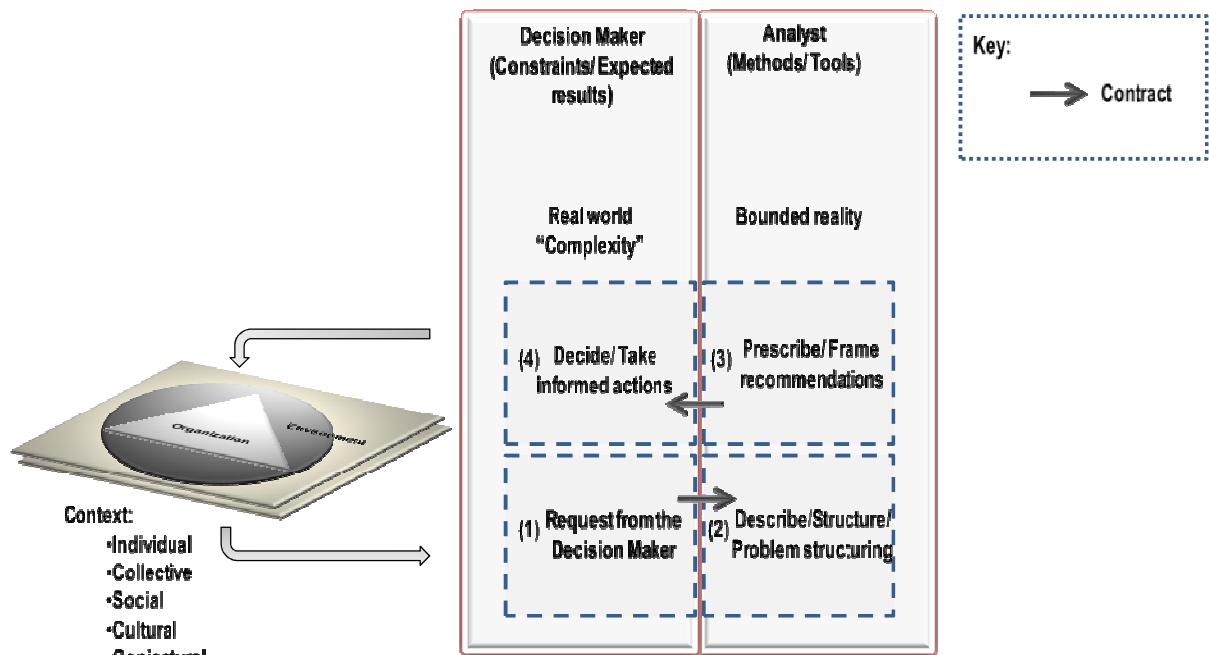
The difficulty here is to both (i) clarify what measures (actions) must be taken at each level of decision-making and (ii) consolidate all the measures at each level in order to choose the right strategy for reorganizing outsourcing with respect to the CSR approach.

In order to go beyond these limits, we have chosen to use a decision aid methodology. The methodology is based on a two-step approach (Schema 3).

The first step consists in “outlining and structuring the problem”. To do so, one must identify what is at stake, the constraints, the actors concerned or affected, and to choose the appropriate method according to the level and the nature of information and knowledge.

The second step is the “implementation of a method”. This step consists in restructuring the available information according to the method to be used and analyzing the results of the method in order to provide the adequate recommendation to the decision-maker.

The figure given below describes these two steps.



Schema 3. Decision aid process framing a link between the Analyst and the Decision Maker

The problematic of “Description and structuring” (Schema 3, item 2) in decision sciences is a challenging problem. We have chosen to use an Organizational Analysis (OA) technique crossed with a “contextual diagnostic” to describe the SD problem. These two techniques are imported from social sciences and help to make explicit what is at stake and what are the rationale between actors inside and/or outside of the Organization.

A. About the use of Organizational Analysis on structuring problems

OA (see Llory and al, 2011) helps in making a diagnosis about system dysfunction/pathology (e.g., production pressures) before prescribing a remedy for an obvious symptom (e.g., excessive reliance on outsourcing). The expert (analyst) thus makes an effort at the same time by contextualizing (to circumscribe) pathology by giving a causal explanation of a reported dysfunction and at the same time by de-contextualizing by highlighting the “reasons” of the emergence of the latter (Ricœur, 2008).

By widening the range of problems identified initially by the Decision Maker (DM), OA re-interrogates methodologies and the conditions of investigation. Thus, the OA reintroduces the creative idea of a “case study” to the observational sciences through the “history of problems”. The “history of problems” is the result of an interpretation, a judgment, or “giving sense to” of an investigator, of an entire set of reported experiences, experienced or perceived by operators, management staff, etc. “Giving sense to”, suggested by the OA, is made possible by using (Ricœur, 2008):

- “Method of investigation” and exploration of the Organization.
- “Network of theoretical concepts” giving intelligibility to “pathological episodes” reported by the actors of the Organization.

- “Method of analysis”, interpretation of the facts experienced by the actors of the Organization.

“Giving sense to” is based on both the *perceptive aspect of the judgment* of the investigator and the “conditions of validity” of the reported facts given by the actors according to their experiences within the Organization.

We can thus argue that the OA helps to go beyond the only individual evaluation to a collective evaluation of one situation (Douglas, 1986; Godard, 1999). This points to the delicate problem of *scientific objectivity* (Merad, 2003). With respect to this complexity resulting from incomplete information and even evolutionary partial knowledge (Khun, 1972), the investigator adopts an attitude of choice: “*one does not construct what he chooses, but chooses with what he uses to construct*”¹ (Moles, 1958).

Once the context is described, the Analyst/investigator should move to a prescriptive model (Schema 3, point 3). That means giving or framing an action plan for optimizing outsourcing contract with respect to social, environmental and economical considerations.

B. The investigation: reframing the problem?

The DM initial demand was to **elaborate an action plan for optimizing the outsourcing contracts of the Organization** (the Organization staff is equal to 600). The first step of our investigation was to reframe the initial question asked by the DM in a way that is more coherent with CSR approach. We have suggested **framing an action plan to improve the management of outsourcing and more precisely to look at the impact of outsourcing on the work organization and its effects on business continuity**. This consists in considering if the service provided by the Organization, considering the appeal to subcontracting, maintains its quality during the time with respect to the global performance.

To be able to identify proportioned actions aiming at optimizing the management of outsourcing contracts and considering the potentialities and the limits of the Organization_ and then avoid loss of energy and means_ we have used a comprehensive approach that consists in:

- Performing semi-directive or open interviews focusing on the “work” done by the operators/contract managers.
- Using approaches that focus on the “work” and “activity” organization.
- Using an organizational diagnosis and analysis.

We have fixed our working plan in January 2009 and our operating very early in order to be able to mobilize the staff concerns and/or impacts directly/indirectly by the outsourcing optimization. Indeed, we have considered that when looking to all outsourcing aspects, it was necessary to interview different Divisions and Units within this Organization:

¹ « il ne construit pas ce qu’il lui plaît, mais il choisit ce qu’il lui plaît de construire » (Moles, 1958).

- General Secretaries division (GSD) that is responsible of the maintenance, the technical assistance (Unit X1), projects owner and engineering consulting (Unit X2) and central services (Unit X3). 12 interviews were performed within this division. The staff interviewed was responsible of following, at that time, more than 190 outsourcing contracts.
- Health and safety department (HSD) (1 person was interviewed), Juridical department (JD) that is responsible of designing the administrative side of the “call for contribution” but also the selection of subcontractors (2 persons were interviewed), the Financial Division (FD) (1 person was interviewed) and the number 2 of the Organization.

We have decided to widen our investigation by consulting documents and other sources of information like: outsourcing contracts databases, the history of organization and reorganization of the activities within the Company and incidents and accidents database. Our objective was principally to let emerge based on the perception and the history of the interviewees their point of views and their visions of what are both the positive and the negative sides of having recourse to outsourcing.

The Organization appeals to subcontracting/outsourcing for different objectives: maintenance, work control prerogatives (normative, health and safety), energy distribution ...

The 190 outsourcing contracts were followed by 9 employees working on different divisions and units. We have mapped for each employee (e_i , $i=1$ to 9) the number of contracts they have to follow. The conclusion was that:

- GSD: **51 contracts** followed by employee e_1 .
- X1: 3 contracts followed by employee e_2 .
- X2: 6 contracts followed by e_3 + **21 contracts** followed by e_4 + **21 contracts** followed by e_5 .
- X3: 2 contracts followed by e_6 + **80 contracts** followed by e_7 + 3 contracts followed by e_8 + 3 contracts followed by e_9 .

Some observations and findings

We were surprised to notice that some employees have to follow sometimes more than 80 contracts alone.

A. Some answers to key questions

We have then asked both the management staff and the operators to tell us what “*managing and following an outsourcing contract means for them*”. The answers to this question were different according to their Division of affiliation:

- For GSD:
 - Organize the consultation (choosing the right subcontractor) and develop the specifications, assess a comparison of the costs and choose the right subcontractor. They have precised that their work is dependent on the arbitration of the JD that is in charge of lowering, according to them, the cost of outsourcing. Their role is to precise the technical specification with JD. Once the outsourcing contract is

operational, members of the team are responsible for the liaison with the subcontractor.

- Some single technical operations that are done with a subcontractor are not identified by a continuous contract.
 - Outsourcing can be done for curative tasks (e.g. maintain the facility in life) and controls tasks (preventive).
 - The follow-up depends on the contract: it can be bi-annual, quarterly,...
Management Assistants: responsible for the administrative and financial follow-up.
- For HSD:
 - Follow all the tasks dealing with quality and safety.
 - For JD:
 - They consider that their role is to be an "opponent" and to be able to delimit the contractual and the legal risks of subcontracting.

As we can notice, being in charge of an outsourcing contract seems to be really complicated and complex due to the different technical dimensions to follow and the different interaction to respect within the department. We have then asked them “*What are the necessary competencies to have when been in charge of an outsourcing contract?*”, The answers were the following:

- To be able to master both the technical and the regulatory aspects.
- Be able to develop contract specification.
- Be able to check if the response of the subcontractors is realistic knowing that JD will select the subcontractors on basis of "lowest bidder".
- Monitor the progress of the contract: check, charge, and know whether to claim.
- Have enough clear time to perform the set of actions.

It appears to us that the employees in charge of following the outsourcing contracts seem to do it fulltime. We have then asked them to tell us what they do think about “*Interest and the complexity they see in this work?*”. They have considered that managing an outsourcing contract presents different dimension of richness and diversity:

- Master both administrative and technical constraints.
- Provide de possibility to work in a collaborative framework with different departments GHD, HSD, JD and FD.
- Work for *Internal clients*: staff and laboratories.

Elements of complexity come when:

- dealing with several subcontractors and different issues (e.g. regulatory);
- negotiate both technical and administrative aspects with subcontractors;
- working for difficult internal clients;
- Monitoring within the time different contracts at the time.

- There is a lack of means (staff and time).

We have then try to map the distribution of the 190 contracts on the 89 subcontractors (Table 1). We have noticed that, with each subcontractor, the Organization can have from 2 to 15 contracts meaning that the subcontractors can be in charge of different tasks/activities.

Surprisingly, the two subcontractors having more than 11 and 15 tasks (contracts) were managed within the Organization by e_7 that have more than 78 other contracts to follow at the same time. These complex contracts are respectively maintenance contracts and energy distribution contracts.

Table 1. Distribution of the contracts within the subcontractors

Number of contracts/ subcontractors	Number of subcontractors
2	12
3	9
4	7
5	1
6	3
8	1
11	1 (contract B ₁)
15	1 (contract B ₂)

We have then asked the employees “*why, according to them, our intervention for optimizing outsourcing contracts, were asked by the General Direction?*”. They have informed us that it was due to an accident within a subcontractor in 2005, to several problems encountered with a subcontractor and to a problem of reorganizing an activity. More precisely:

- Following a problem with company B₁: the offer was not well detailed and the subcontractor has misused the Organization (technically and financially seeking). A staff member has detected the drift. It was decided with JD to give more precisions in the specifications.
- A need therefore to closely examine all the elements of the chain of relationship between the Organization and the set of subcontractors.
- The Gas distribution was followed by one employee. This employee has retired and the Organization has no visibility and legibility since his departure.
- Accidents of a subcontractor followed by e_7 in 2005: person responsible for the maintenance of the facilities. Drop from less than 3 m height. Contusion to the head, the front, and shoulder.

The employees have also insisted on some other outsourcing contracts that reveal, according to them, in-depth problems. They have indicated that the management staff always takes repair actions where preventives actions are needed (see failures to learn and implement corrective actions *in* Dechy and al, 2010). Indeed, they precise that there is a significant and chronic lack of staff for example the activities like gas distribution. They have specified that the decision of externalizing the activity of gas distribution was a strategic decision and not an operational one (see chapter Methodology to investigate a real case study). For Health and Safety support, the employees have indicated that they need a strong support from the HSD and they

admit their technical and regulatory limits for e.g. asbestos case and also administrative limits during the framing of the technical subcontracting documents.

B. Going back to the history of the Organization

Our investigation makes us go back 7 or 8 years ago, where an audit on the general services Organization was conducted in order to reduce the number of employees in this support division based on the principle of economy. The staff has specified that this audit was not the only one mandated to decrease the number of employees within this department. Indeed, more than 3 audits were conducted and have led to what the staff has qualified as a "natural" decrease of the workforce and a progressive externalization and transformation of the activity using outsourcing.

Following historical incidents with subcontractors, Middle Management staff has only taken curative measures contract by contract. The need for "preventive approach" is strongly sought and advocated. By preventive approaches they mean to rethink the way the structure, the organization and the management of contracts are structured/framed. The employees interviewed also proposed to limit, prevent and manage in a proportionate manner the dependence on external service providers in order to be able to reduce the risk of loss of availability of the working tools.

We have asked the employees to think about the dual problems of what can be qualified as a success, in terms of both good quality of work respecting safety, of the present organization and what can be qualified as a failure (giving an example). For GSD staff, the positive aspects of the actual organization are that each person contributes to the functioning of the whole organization. Indeed, the work of their staff is recognized positively by other employees (good score in the satisfaction survey). However, workloads increase shows that they will not be able to work with these constraints for a long time: there may be a need to reorganize. They have also noticed that there is a problem of data and knowledge sharing between department (JD, FD). For more preventive actions, they have signaled that the outsourcing databases_ that are not shared and are not structured the same way for all the departments_ must be federated. Good examples of good collaboration and good management of outsourcing contracts are the contract A₁ (maintenance) and radiation protection and the contract A₂ of gas detection.

However, strong difficulties are encountered. The staff of the different divisions indicated that different typologies of risk remain:

- *Individual risk (/person)*: according to the significant number of contracts to follow, the risk of forgetting a contract and of not being technically competent to follow all the needed dimensions increased significantly; and the risk of being accused of error increased proportionately. They have given the example of regulatory contracts and in particular radiation protection. They have indicated "We are *general practitioners*, not *specialists*".
- *Collective risks (/all the Organization or for the Division)*. They have identified different categories:
 - Financial risk: control invoices (e.g. energy distribution case).
 - Contracts "hygiene".
 - Risk of gas leak.
 - Contracts "pressure machinery" like autoclave and compressed air. They were frightened by the risk of forgetting a material.

- Risk dealing with handling. The subcontractors' risks and regulatory control.
- Risk of forgetting an internal inspection. E.g. case of fire extinguishers.
- Management of drinking water and discharges (risk of legionellosis).

Following these interviews, two other observations have emerged. First, is that the "contract risk" is not integrated with workplace' safety studies. Second, is that a lot of good practices framed by the National Institute of research on Safety in working conditions (INRS) were neither considered nor taken into account in internal procedures at that time.

According to the interviewed staff, the "energy distribution" contract B₁ (see Table 1) is the most difficult one. Principally because it is a big contract (cost) that fluctuates during the time and impact all the employees. Both the person in charge of this contract and his Management have qualified this contract as "wear contract" where many difficulties remains with "internal customers". They have given the example of electric heating where the employees have difficulties in understanding that non-compliance with the level 21°C have an impact on the cost of the energy subcontract and on the environment pollution. They indicated that the employees are "not factual on perceptions". At the same time, the subcontractor is minimizing his work compared to what is fixed within the contract and use only one technician to follow the energy distribution for more than 600 people.

The staff of GSD has indicated some curatives measures that can improve the B₁ and other contracts management. More generally, the staff insists on the need of more internal communication on topics such as expenses, safety and contracts risks. Specifically, the staff highlights the need to:

- Recruit a person for gas contract. Balancing externalization and internalization consideration.
- Anticipate the retirement of key-employees to prevent the loss of knowledge on outsourcing management.

The JD staff has insisted on the need to develop a common database or to share and update the existing DB on outsourcing; to be consulted on the follow-up of outsourcing contracts to choose the right preventive actions and avoid conflicts; to organize coordination meetings between GSD and JD in order to develop a common language in terms of outsourcings contracts.

The HSD has insisted on the need to recruit a person who will be a gate-keeper between health and safety problematic and general secretaries problematic.

C. Some elements of discussions with the Top Management staff and some recommendations

After more than 3 months of investigations, we have exposed the organizational diagnostic and analysis to the General Secretary, the Financial Director, the Juridical Director and the Health and Safety Delegate. Some observations made by the employees were considered as difficult to hear by the Management staff and were sometimes not considered at its rights positions. The management staff has considered that it was just a problem of perception and overestimation of risks.

After 1 month of discussion, we came to propose an action plan to the top management staff. This action plan was co-framed with the support of the 9

employees that have a considerable role to play within the following up of outsourcing contracts. Four actions were proposed:

1. *In terms of organization of work to reduce vulnerability:* it was suggested to avoid concentrating contracts on one person. We have also suggested organizing a redundancy in contract management. We have also insisted on the need to develop a stronger collaborative framework between GSD, HSD, JD and FD by using for example:
 - collaborative and brainstorming meetings;
 - putting in place a person in charge of reinforcing links between HSD and GSD;
 - federate GSD and JD databases.
2. *In terms of structure and organization:* we have proposed to recruit more staff in GSD to strengthen the existing and avoid tense flow management. The transition to a preventive mode requires an investment which can be hopefully recovered within the time. We invited the Management staff of GSD to speak frankly about the need of more staff. In case of a failure to recruit, for some reason or other, organize a *minina* a binomial assignment of work in terms of outsourcing management.

We have also invited the top Management staff to sponsor an external audit on both financial aspects (the subcontracting solutions seems at short terms less expensive but is very expensive with a long-term point of view) and structural aspects (given the Organization evolves, what should be the organization and the need of GSD to be able to support all the expected evolution).

3. *In terms of internal communication:* It was suggested to communicate about the contributions and the internal constraints of GSD activities.
4. *In terms of risk mapping and availability of the system.* We have suggested to assess the risks of the different contracts (internal and external, and different typologies) and their impacts on the availability by both identifying short term risks (e.g. link with the business internal continuity plan and be sure that subcontractor have also frame a continuity plan) and medium/long term risks.

Summary & Conclusions

This paper has offered us the opportunity to discuss on a real case of organizational analysis of how a Company can optimize the management of outsourcing contracts.

Based on the perception and the experience of the Organization staff, we were able to identify a set of both organizational deficiencies and local adaptations of the employees to a continuing externalization of their activity. This externalization of the activity, that has end up at appealing more and more within the time to outsourcing, has deeply transformed the nature of the activity of the Organization' employees from "technical" to "contract management" and has strongly contributed to a significant loss of competency and then of self-confidence of the employee on both their limits and their knowledge.

More than two years after this organizational investigation of outsourcing contracts, the Top Management staff has challenged some of these organizational objectives and has taken some actions to improve the past situation. A new staff member was

recruited at the HSD to support the employees in the Health and Safety (HS) dimensions. The activity of this new member was not only devoted to outsourcing, but it has significantly contributed to reduce the perception of the employees of being alone when facing difficulties with HS within outsourcing activities. Outsourcing database were also revised and improved sharing the information coming from the different departments (HSD, GSD, JD and FD).

In 2011, an accident has occurred with a subcontractor that has made patent the factors of organizational vulnerabilities (like for example managing different outsourcing contracts at the same time). However, the different incidents, accidents and recurrent problems that are in fact “symptoms” of a “deeper organic/structural problems” have not reoriented the tendency to appeal to outsourcing but have just contributed to change the configuration of outsourcing to more concentration on “big subcontractors”.

However, the trend is that “big contractors” use “subcontractors” to reduce their costs; and the Organization is facing again a new complex configuration of outsourcing: *cascade of subcontracting*.

References

- [1]. Book coordinated by Llory M. et Montmayeul R. en collaboration avec Dechy N., Dien, Y., Fanchini H. et Merad M. (2011). *L'accident et l'organisation*. ISBN 978-2-911221-47-8, 176 pages. Editions: Préventiques.
- [2]. Bourrier M. (2005). *The Contribution of Organizational Design to Safety*. *European Management Journal*. Vol. 23, No. 1, pp. 98–104.
- [3]. Carta G. (2010). *Socio-technical study about subcontracting impact on railway safety at the RATP*. *Proceeding of the LM 17 Conference*, 5 -7 october 2010. La Rochelle, France.
- [4]. Dechy N., Dien Y., Llory M. (2010). *For a culture of accidents devoted to industrial safety*.
- [5]. Dechy, N., Bourdeaux, T., Ayrault, N., kordek, M.-A., Le Coze, J.-Ch. (2004). *First lessons of the Toulouse ammonium nitrate disaster, 21st September 2001, AZF plant, France*. *Journal of Hazardous Materials* 111, 131–138.
- [6]. Fayol H. (1916). *Administration industrielle et général*. *Bulletin de la Société de l'Industrie Minérale*, N° 10, 5-164, Rééditions régulières par Dunod depuis 1918.
- [7]. Hawkins, F. H. (1993). *Human factors in flight*. Edited by H.W. Orlady. Burlington: Ashgate.
- [8]. Kuhn T. S. (1972). *La structure des évolutions scientifiques*. Paris : Flammarion.
- [9]. Mayhew C., Quintan M., Ferris R. (1997). *The effects of subcontracting/outsourcing on occupational health and safety: Survey evidence from four Australian industries*. *Safety Science*, Volume 25, Issues 1-3, February-April 1997, Pages 163-178

- [10]. Merad M. (2003). *Apport des méthodes d'aide multicritère à la décision pour l'analyse et la gestion des risques liés aux mouvements de terrains*. Thèse de doctorat. Université Paris-Dauphine.
- [11]. Merad M. (2010). *Aide à la décision et expertise en gestion des risques*. Editions Lavoisier. ISBN-10: 2-7430-1265-X.
- [12]. Merad M., Dechy N., Marcel F. (2010). *About the use of participative framework for managing organizational change in response to environmental demands: example of the implementation of a sustainable development plan*. Lambda-Mu conference. 5-7 october 2010, La Rochelle, France.
- [13]. Moles A. (1956). *La création scientifique*. Genève : Université de Paris, Ed. René Kister
- [14]. Papadopoulos G., Georgiadou P., Papazoglou C., Michaliou K. (2010). *Occupational and public health and safety in a changing work environment: An integrated approach for risk assessment and prevention*. Safety Science, Volume 48, Issue 8, , Pages 943-949.
- [15]. Pasman, Suter G. H.J.(2004). *EFCE Working Party on Loss Prevention and Safety Promotion in the Process Industries*. Chemical Engineering Research and Design, Volume 82, Issue 12, December 2004, Pages 1563-1566.
- [16]. Ricoeur P. (2008). *Ecrits et conférences 1. Autour de la psychanalyse*. Edition Seuil. Paris. 329 pages.