ORGANIZATIONAL KNOWLEDGE WHEN NEEDED: BETWEEN THRESHOLD AND INERTIA, THE PERSISTENCE & RENEWAL CHALLENGE

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Abstract

This paper suggests to revisit the concept of organizational slack and its relation to performance. Three case studies are first presented, each dealing with a specific situation regarding the availability of organizational knowledge. Based on the case studies, the paper then introduces a map of organizational knowledge, discussing how firms can surf in between two polar extremes, namely lack and slack, i.e. beyond threshold (not enough adequate knowledge) and below inertia (too much inadequate knowledge), to maintain a persistent knowledge base while renewing it in part to keep it fit to evolving needs.

Finally the paper discusses whether and to what extent specific aggregates of organizational knowledge (management processes or routines, structure, strategic vision and culture) may contribute to organizational lack or slack and in turn to persistence or inertia.

Keywords: Knowledge, Competence, Strategy, Organizational Slack, Nature of Knowledge, Strategic fit, Inertia, Persistence, Renewal.

Organizational Knowledge when Needed:
Between Threshold and Inertia, the Persistence & Renewal Challenge

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Introduction

The literature on organizational slack tends to indicate that firms with some form of slack would be more successful than firms with no slack (Bourgeois, 1981; Singh, 1986). Organizational slack would operate both as a buffer to help cope with change and a potential from which innovation is nurtured (Cheng and Kesner, 1997; Nohria and Gulati, 1996; Geiger and Cashen, 2002). These results have been criticized for the risk of tautology (high performing companies over the years tend to generate slack: in other words, slack is associated to performance which precisely generated it). But this is not our point, here. Instead, we are going to question the core argument of a positive relationship between organizational slack and performance. More specifically our proposition is that excess organizational knowledge may sometimes be as bad for the performance of a firm as lack of knowledge.

Indeed, other authors show that excessive entrenched learning may lead to core rigidities (Leonard Barton, 1992). Not all knowledge may be relevant in any environment. Not only would some knowledge be useless slack, but in addition it may prevent the firms from developing more adequate knowledge, thus finding it difficult to adapt properly to changes in the environment. This would thus lead to question the positive relation between organizational slack and performance, arguing that there might be negative organizational knowledge and, in turn, negative organizational slack leading to some form of inertia and rigidities.

This paper addresses this issue and suggests to consider the nature of organizational knowledge which, when in excess, contributes to organizational slack. In turn this may lead to improved performance in some cases or core rigidities in other cases. The paper aims at clarifying when and why this may be so, thus revisiting the argument of the literature on organizational slack.

We first present three case studies, each dealing with a specific situation regarding the availability of organizational knowledge. The second part of the paper then draws from the case studies to introduce a map of organizational knowledge discussing how firms can surf in

between two polar extremes namely lack and slack, i.e. beyond threshold (not enough adequate knowledge) and below inertia (too much inadequate knowledge), to keep a persistent knowledge base while renewing it in part to keep it fit to future needs. The third and final part of the paper then calls upon a model of organizational knowledge (Durand, 1997 and 2000) to further discuss the characteristics of lack / inertia / persistence and renewal according to elements of organizational knowledge.

1-Three case studies
The first case deals with an inter-firm project team in charge of building a business plan for a potential new venture, e-business based, involving world players from the Chemical Industry. It shows the existence of an organizational knowledge threshold. The second case deals with the ideological blindness of some of the leading companies in the bottled spring water business. It shows how too much (inadequate) knowledge may be severely counterproductive. The third case presents the continued capacity of Salomon, the sport equipment manufacturer, to innovate and put new products to the market. This is thus a case of continued adaptation and persistence of a core competence over four decades.

1-a-The EHS NewCo case study
The author studied an inter-firm project team in charge of building a business plan for a potential new venture, e-business based, involving world players from the Chemical Industry. The team comprised 20 participants representing 8 different firms. The team met about 12 times for 2-3 day sessions in the US and Europe, over a 12 month period, while working on a virtual mode in between meetings. The case study made it possible to observe the group build into a team through a sequence of learning stages. This case thus deals with the emergence of organizational knowledge.

The context of EHS in the chemical industry
World Chemical companies are struggling with the issue of protecting consumers and the environment from chemical hazards, ensuring that their products are properly handled, utilized and transformed, avoiding any misuse which could cause health, safety or environmental damage. Many laws and regulations have been passed in most countries on this matter which is now known as EHS (Environment, Health and Safety).
The pressure from governments, citizens and the media is steadily increasing. Industrial customers live under the same pressure and pass it on to their suppliers of basic chemical substances, upstream in the value chain. Any incident could seriously damage the reputation of the supplying company. EHS matters may thus be seen critical.

While these EHS concerns are quite legitimate, they turn out to be nightmares for managers in charge of EHS in large chemical companies. Concretely, these managers have to continuously follow the evolution of the regulations in more than 130 countries where they ship their products. They have to produce (write, edit and print) "safety data sheets" and labels describing the products, their toxicity and characteristics, and the recommendations to properly transport and handle the products. The labels must conform to the regulatory specifications of each of the countries where the products travel. Thus, among other requirements, the product documentation have to be edited in more than 30 different languages.
In other words, complying with the law in each country where the products are shipped is a difficult and extremely costly task.

In this context, the EHS manager of a large French based chemical manufacturer decides to approach other players in the industry plus software service companies and a law firm specialized in following EHS regulations throughout the world. He offers to jointly develop an internet-based solution to deal with EHS matters. He envisions a system which will store and retrieve on demand the relevant pieces of information regarding the products (overall formula, toxicity, recommendations for transportation and utilization, etc.). Data bases for product and substance characteristics as well as legal phrases to be used in certain countries are to be created and updated, together with a system to automatically edit and print safety data sheets, labels and transportation documents where needed, in real time. The main idea for such a system is threefold. First, the system will help share the burden of keeping track of the constraints and regulations worldwide, country by country, while sharing the cost of updating the data bases. Second, services from the system may be offered and sold to other chemical companies as well as customers down the value chain (transformers, e.g. paint producers, as well as industrial users, e.g. car manufacturers or pharmaceuticals). The system may thus become a "one stop shopping" for users downstream in the value chain. Third, this platform may in fact be incorporated into a profit center for which a business model should be designed, with a business plan to evaluate the financial attractiveness of a venture.

The building of an inter-firm group

All in all, eight different companies participated to the project: four large chemical companies (two European and two American), one large European ERP-software company, and three small players, an American legal company, a German software implementer and a French internet start-up. An interesting cultural melting pot.

The first discussion took place in June 2000. In October 2000, 5 first participants had met twice. In December 2000, the two American companies had agreed to be part of the project and two telephone conferences had taken place. The group then decided to meet physically every 2 weeks, at first for 3 months, starting mid-January 2001. This was then extended to 3 more months until July 2001. The objective of the team was to build a business plan to be submitted to their respective management for approval. The project was named EHS NewCo, a new company for EHS services in the chemical industry and beyond.

From September 2000 onwards, the author was invited to participate to the project as a third party in charge of animating the work process. This meant that the researcher contributed to the project on a mode close to "action-research", with an ethnology flavor.

While some of the representatives of the participating companies were EHS managers, other participants happened to work for the e-business Venture Capital unit, at corporate level. This was the main cause of a difference in perspective. The former viewed EHS as a cost issue for their company thriving to comply to existing regulations, thus contributing to address societal concerns ("We've got to share the burden and we have to improve the image of our industry which is wrongly seen as a source of pollution"). The latter viewed EHS as a mere source of revenues, a business opportunity, in turn paying much less attention to the image of the Industry and its reputation. ("How much should we invest, for what return ?").
This created an ideological conflict which prevailed during all the interactions. Making money, growing a new business thanks to environmental concerns (!), or promoting

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sustainable development for the whole chemical sector while decreasing the cost of complying to regulations for its own company, the debate at times turned bitter.

Four stages of a learning process
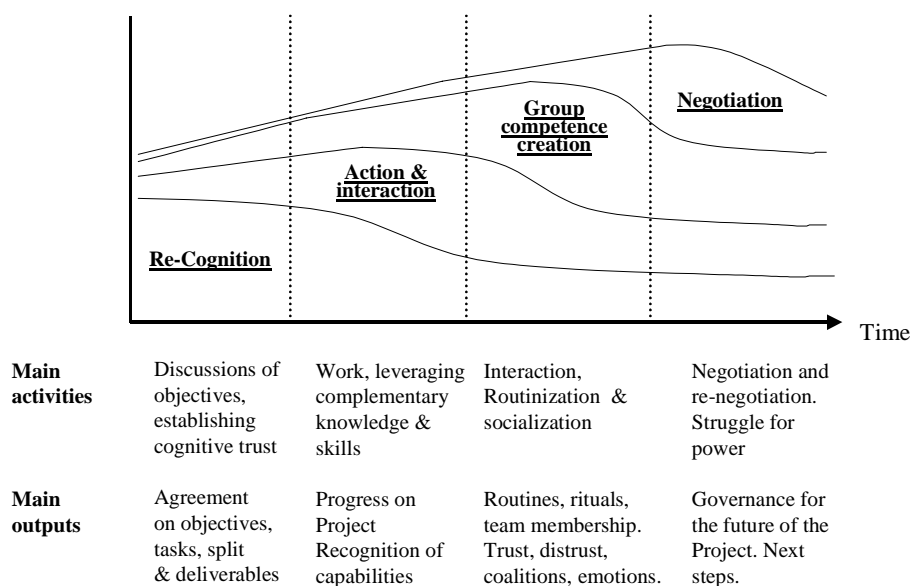In observing the EHS NewCo group work, four stages of a learning process emerged:
i) First, participants shared objectives, leading to a cognitive agreement to cooperate;
ii) then each team member contributed its competence, bringing in complementarities;
iii) subsequently, as the work unfolded, routines, shared vocabulary and concepts, interpersonal links and emotions emerged, helping save time and facilitating efficient work and the production of deliverables;
iv) finally, negotiation for the venture's future governance, i.e. struggle for power, could start based on the intimate cognitive, behavioral and social knowledge which emerged within the team, thus re-shaping the team itself.
All in all, the group learnt how to best operate, given the knowledge and skills available, given the personalities involved. Each group member became part of a complex set of cognitive and interpersonal work linkages with other participants.

For a detailed discussion of the EHS NewCo case, see Durand (2004) where the following representation of the model is presented in details and discussed. See figure 1.

Figure 1
A Four stage Model of group learning

	Discussions of objectives, establishing cognitive trust	Work, leveraging complementary knowledge & skills	Interaction, Routinization & socialization	Negotiation and re-negotiation. Struggle for power
Main activities	Discussions of objectives, establishing cognitive trust	Work, leveraging complementary knowledge & skills	Interaction, Routinization & socialization	Negotiation and re-negotiation. Struggle for power
Main outputs	Agreement on objectives, tasks, split & deliverables	Progress on Project Recognition of capabilities	Routines, rituals, team membership. Trust, distrust, coalitions, emotions.	Governance for the future of the Project. Next steps.

It is worth paying specific attention to the fourth stage which dealt with the negotiation.
All attempts made earlier to start negotiate about governance issues had failed. Participants did not wish to discuss critical issues such as future power and control of the venture before having taken the time to learn about other participants. After several unsuccessful attempts, discussions could finally start when everyone felt about ready for it. Although there was no clear signal for it, it happened. The discussion took place around concrete scenarii which were constructed and presented by participants. To start the process, two rather obvious scenarii were put on the table by the author operating as a facilitator. The others then followed. Each

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scenario was sketched and illustrated using a set of variables and criteria which emerged along the way.

Some participants advocated for the large chemical companies taking the leadership, while others would suggest that smaller service organizations would be better fit to deliver quality service offerings.

Some of the coalitions which had tacitly appeared through the previous stages became more visible. At the same time, suspicion and distrust could also be felt throughout the discussions. The point is not that these were good or bad. The point is that both affect-based trust and distrust as well as coalitions which were built before, i.e. during stages 1-3, played a major role in the negotiation process. In addition, this emotional basis was clearly needed to conduct the discussion about governance and power as none of that could start beforehand.

Our interpretation of the case is as follows: stage 4 required stage 1-3 to have taken place.

As a result of stages 1 to 3, the collection of individuals has become a team. The group has converged around the same objectives, leveraged complementary knowledge and skills, built shared concepts and vocabulary, adopted common routines, rituals and attitudes. The group has developed some competence of its own. In so doing, the group is more than the sum of individuals, it has evolved into a team.

At this point, real negotiation can take place. At stage 1 and 2, a preliminary negotiation about objectives, priorities, deliverables, work tasks and split among partners has taken place. But at that time participants did not know enough of the other group members. This is no longer the case. Now it is possible to discuss sensitive topics, based on the intimate knowledge that participants have of other members, plus the ability to work and interact in efficient ways. In addition, a cold and formal agreement on objectives has been complemented by some form of affect-based trust (and obviously some distrust as well) during phase 2 and 3.

Among the sensitive topics, the issue of power for the next steps of the project is essential. Discussions about governance can really start, based on the emerging collective competence of the team. We offer to call this: "competence for governance".

We interpret this as a <u>threshold</u>. Before "enough" organizational knowledge was built, the inter-firm team was not able to achieve one of its main objectives, namely negotiating the governance of EHS NewCo.

1-b-The Bottled Mineral water Case

The second case deals with the ideological blindness of some of the leading companies in the mineral bottled water business. In 2004, Coca Cola enters the French market of bottled water. France, a country of wine, is the leading country for premium mineral water. Yet, 4 years earlier, in 2000, Cristaline, a newcomer in the business of bottled water had become number one in volume produced, ahead of Evian of Danone or Vittel of Nestlé. These two events are the most dramatic consequences of a revolution which originated a few years before. That revolution had been neglected or even ignored by major brand-names in the bottled water business.

This is a case where too much ideological "knowledge" became a source of cognitive inertia.

The marketing creativity of a few European companies, particularly in France, was able to build worldwide brand-names over three decades in the business of mineral bottled water

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(Evian, Perrier, Vittel, Volvic,…). The quality of both the products and the brands helped them position the offering at high prices, generating high returns, thus permitting continuous investments in plant capacity, the supply chains, advertising to establish brand recognition further while at the same time funding remarkable growth on markets overseas (North America and Asia primarily). Natural water from French mountains (covered with snow or not: the Alps, Vosges or Massif Central) was no longer a commodity (H_2O) and became a premium. This even became a business school case to illustrate a successive attempt in "de-commoditization".

Yet, a small French manufacturer, the Papillaud group, was able to build a new business model for bottled water, badly damaging the established, highly profitable market of large worldwide brand-names. Papillaud realized how much water is a low value – high weight good which was shipped worldwide from one single spring. He imagined to limit transportation, filling the water bottles close to where populations live and drink. Instead of calling upon a single spring, a miraculous gift of mother Nature, he decided to offer a different deal to consumers: water from a plain source, not even from a natural spring, safely bottled, but at one third of the price of the premium offer. So long with the scientifically proven benefits on health of well known mineral water from the mountains, no matter what the doctors and clinical studies showed, here was a cheap bottled water.

Nevertheless, he felt that branding was essential and decided to use the name of one of his local springs, Cristalline, dropping one "l" to create Cristaline as an umbrella brand name for all his bottled waters. (Forced to comply to the law, he further added the exact name of the origin of each bottle on the bottle sticker, but in much smaller font).

Customers massively opted for this new offer. Success on the market was impressive. Obviously, consumers preferred a cheaper water, at 0,17 € for 1,5L bottles than a fancy, healthy water with a recognized brand name for 0,5 € or more. Cristaline even started TV commercials and invested into the US market.

The Cristaline attack took a few years before it turned out so visible. What was the reaction of the large brand-names during all these years ?
We had the opportunity to follow the industry over the years, as this story unfolded. Based on our longitudinal investigation of the industry, we argue that the extraordinary knowledge built over the years by the major brands became counterproductive. This resulted in some form of blindness. The managers in the leading firms were candidly, honestly and deeply convinced by the representations and discourses which they had built for themselves: their product was unique, non imitable, a "gift of God". Their spring water was naturally filtered during years by the mountains. Only a very small minority of consumers would be lured away by a cheap water incapable to bring the same healthy benefits nor the 'real' quality of truly mineral waters. Unfortunately for the leading premium brands, many consumers saw it differently.

At first, these managers at large established brands purely ignored the threat, refusing to discuss it as this was still marginal. They did not want to be bothered by small signals. When the threat became more visible, they denied the risk, minimizing the potential effects. They claimed that this attack would not resist the power and resources of the brand-names. They thus invested even more in commercials to tell consumers about the immense quality of their natural water. Ideology had built into cognitive blindness. Ideology operated as a bias, filtering and buffering objective facts, external market data. During all that period, the price

umbrella remained unchanged and Cristaline took advantage of the market space left wide open. Since then, as market data could no longer be ignored or rejected, the discourse at large brands had to adapt and the prevailing ideology evolved. A variety of strategic responses emerged (offering a range of waters instead of focusing exclusively on the high end, supporting branding by distributors, etc). But the damage was done and the market shares were lost. And then the soda companies got interest in this bottled water business. As a result, Coca Cola decided to take advantage of the breach, progressively launching water businesses in various countries, including in France in 2004.

We see here the case of a faulty cognitive blindness where self-generated internal ideology destroyed the ability of the organizations of the dominant players to respond to change coming from a competitor. Subjective representations, beliefs which founded the ideology led to the accident, when colliding with objectives external market data. That piece of ideology exploded and was replaced by another piece. The new ideology had to give meaning to the new context while justifying the past strategy and action (or lack of action). In order to survive, the organization needs to both adapt and justify for past mistakes (e.g., "former managers were incapable", or "Consumer demand evolved"). This is nothing but a re-newed ideology.

Thus the inertia attached to "too much inadequate Knowledge".

<u>1-c-40 years of Innovation at Salomon</u>
The third case presents the amazing continued capacity of Salomon, the sport equipment manufacturer, to innovate and put new products to the market. Over 40 years, Salomon brought significant innovations to the market, expanding its activities and creating value for the stakeholders. Our analysis of the case of Salomon suggests that one key ingredient of the history of continued innovation at Salomon has to do with the guiding philosophy of the founder. This philosophy was then conveyed by the two subsequent Chairmen.
We view this as an example of a company capable of both adapting and renewing its competence base, yielding a persistent ability to innovate over the decades.

In February 96, Jean-François Gautier at that time Chairman of Salomon (now of Addidas-Salomon), joins a team of product developers in a ski resort for the day. They are to test a range of prototypes (skis, binders, boots). At the end of a tiring morning session, the group is ready for a lunch break. Yet, one of the group members, a developer, mentions a prototype for a new concept which he developed on his own, "just for fun". But he immediately adds that this is just a gadget, insisting that "there is no market for this invention". On top, everyone being exhausted by the morning tests, he suggests to go for lunch. He obviously generated interest among the group. The others are curious to see what this is about, ready to postpone the lunch break. The members of the group, including the Chairman, press the developer to show his invention. He finally goes to the van and comes back with a set of strange half-skis (in between a skate and a ski) with a spatula at both ends. J.F. Gautier tells us that each member of the group then puts on a pair of these strange half-skis. Despite the energy left on the slopes earlier that morning, testing a range of prototypes according to the plan prepared, the following half-hour is pure fun. Everyone, including the Chairman, jumps, circles around, plays tricks, etc. These strange new skis are obviously fun. "We were as wild as a bunch of kids" says J.F. Gautier.

After lunch, in a back room of the restaurant in the ski resort, the group meets to review the tests of the morning. They are there to decide what to do next on each item. At the end of the review, as it is already getting dark outside, no one mentions the half-skis. J.F. Gautier asks "did we not forget something ?". No answer. He then expresses his surprise "How could we do nothing about Bertrand's prototype ?". Bertrand jumps in with the same song. "This was just a gadget, there is no market for such a strange idea, it was just for fun. No money should be spent for crazy ideas like that". The other group members do not react, thus pushing the Chairman to insist. "Look, we had fun like kids with this. Don't tell me there would be no market for a product like this one". He keeps insisting and a decision is made to create a formal project team to investigate the potential of this invention. Naturally, on the side Bertrand remains silent but is delighted.

The following year, the product is marketed under the name 'Snow Blades'. Salomon will sell over 110 000 pairs the very first year.

Key behavioral aspects appear in the attitudes of this unusual Chairman. He created a culture of trust and respect for new ideas. He listens. He is curious about inventions wherever they come from. He is interested in new projects. He simply proves the point by spending the time. Here, he accompanies a team of developers to test new products. How come ? This is just the way he manages. He does not need fancy speeches about innovation. His behaviors conveys the message much more accurately. He intuitively feels that a firm is a place where individuals and teams can deploy their creativity, thus better serving the clients, the growth of the firm and the satisfaction of the staff through professional achievement. His pro-innovation ideology is embedded in the way he acts. This can also be felt when he talks about his hope about an innovative new product, a golf ball which Salomon-Taylor Made is about to launch. His commitment to innovation lies in his intuitions and his emotions. And it shows.

One additional aspect is worth noting. When analyzing the "Snow Blade" opportunity, the Chairman accepted to revisit its strategy and considered this new idea even though it did not fit a key strategic principle of the company : Salomon indeed had an explicit strategy of launching new products only in case of improved performance against the best existing products, worldwide. In addition Salomon chose to systematically enter the market through world champions and professional racers or players. In the case of the Snow Blade, this was impossible. "How could we have found any form of existing racing team for a product which did not exist before ?!" [Snow Blades are some sort of half skis, wide, with spatula at both ends]). Nevertheless, the "Snow Blade" product was launched in 1997 despite the absence of ski racing in that category.

Hence not only was there continuity in the attitudes favoring innovation; there was also readiness to consider adaptation to renew the strategy.

This Chairman is ready to listen to a new idea even if he is caught by surprise. This is an emotional and behavioral stance which is a priori positive. Not just trying to be nice and positive, but he means it, deeply. Because he is like that. He accepts that a collaborator do skunk-work, using resources with no formal budget to explore an idea without telling anyone. This behavior of openness was obviously integrated by the other members of the Salomon organization: Bertrand had no fear to do skunk-work. He even showed the preliminary result of his attempts in front of the Chairman of the whole organization (actually knowing that he would probably find support). This is a context where the attitudes of the Chairman value

intrapreneurship. It should be stressed that this behavior was inherited from the founder of Salomon, Georges Salomon, who chose and trained his successor accordingly.

Our interpretation of the case suggests that it is this enabling culture of curiosity, interest in novelty and openness of the Chairmen which contributed to maintain an innovative spirit at Salomon over the years. Yet, at the same time, Salomon evolved, opening up new business fronts and modifying both its strategy and its knowledge base when needed.

This case illustrates the challenge of persistence / renewal of organizational knowledge. Persistence in innovating capabilities, renewal in the way of adapting the strategy.

2- Persistence between threshold and inertia: a map of organizational knowledge

Based on the case studies and a review of the literature, we now introduce a map of organizational knowledge discussing how firms can surf in between two polar extremes namely lack and slack, i.e. beyond threshold (not enough adequate knowledge) and below inertia (too much inadequate knowledge), to maintain a persistent knowledge base while renewing it in part to keep it fit to evolving needs.

Organizational knowledge, both enabling and disenabling
Firms may not be able to achieve some of their strategic objectives. In a Porterian view of competitive strategy, this may result from a wrong positioning on the market place or in the value chain, moves from competitors or more generally changes in the environment. The resource based perspective and the organizational knowledge literature suggest another possible explanation, namely the lack of adequate assets, resources and organizational knowledge within or around the firm. (We will focus here on organizational knowledge, considering that assets and resources are tradable and can thus be acquired on the market). In other words, the lack of organizational knowledge may hurt the deployment and success of a strategy or may limit the strategy process itself.
This is the classical situation of bottlenecks constraining the strategic projects of firms. The lack of resources and, specifically here, the lack of organizational knowledge can operate as a constraint. From this perspective, organizational knowledge is an enabler. This was the case of EHS NewCo where no real negotiation about governance of the future business could take place until sufficient organizational knowledge was built in the inter-firm team.

This lead to the idea of a threshold: below the threshold, the lack of organizational knowledge prevents the firm from achieving its strategic objectives. Beyond the threshold, the firm may play its strategic game.

Yet, some authors have also indicated that "too much" inadequate knowledge may be counterproductive. Leonard Barton (1992) introduced the idea of core rigidities to contrast with the concept of core capabilities (or core competence, Prahalad and Hamel, 1990). Several authors [e.g., Hedberg (1981), Nystrom et Starbuck (1984), Durand (1992), McGill et Slocum (1993), Rumelt (1995), Montgomery (1995), Bettis et Prahalad (1995)] insisted on the issue of unlearning as a necessary step of the learning process in organizations. Henderson and Clark (1990) illustrated such a situation. This thus tends to suggest that existing Organizational Knowledge, when unfit to current and future needs, may also hurt the deployment and success of a strategy.

The availability of irrelevant organizational knowledge not only would not secure success but in addition would possibly impede the successful redeployment of the firm. In other words, from that perspective organizational knowledge may be a disenabler. This was the case of bottled mineral water where too much belief in past recipes (a strong brand around a unique spring water, bottled on the spot and shipped all over the world as a premium product) led major incumbents to cognitive blindness and inability to adapt to attack such as Cristaline's.

This leads to the idea of risks of <u>inertia</u> attached to inadequate knowledge entrenched in the organization.

<u>Continued Performance and Organizational Knowledge</u>
The management literature aims at better understanding how companies may reach higher performance. One of the interesting challenges is to understand how some companies achieve continuous high level performance over long periods of time.
In line with the competence theory of the firm, one may argue that one of the fundamental pillars of continued performance in successful companies has to do with some form of continued adaptation and renewal of the competence base of the organization. In this sense, firms both need to maintain and reinforce their knowledge base, while constantly adapting it to the requirements of their strategy. (Conversely, the strategy is obviously built according to the potential of the competence base of the organization). Some form of continuity and permanence is essential to build and strengthen organizational knowledge through continuous learning, while some adaptation and transformation is needed as well to cope with change.

There is thus a need for both persistence and renewal.
This is the case of Salomon, a company which proved to be capable of maintaining a core competence (a continued ability to innovate) in the long run, while adapting its strategy along the way and thus transforming its competence base.

In line with the previous discussion regarding both threshold and inertia, and drawing from the two other case studies discussed in the first part of this paper, one may rephrase this need for continuity and adaptation:
There is a need for both persistence (while not reaching inertia) and renewal (to go beyond thresholds when new knowledge is needed).

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In other words, there is an issue of <u>threshold</u>, when not enough adequate organizational knowledge prevents the firm from reaching its strategic objectives (not enough adequate Organizational Knowledge). But there is also an issue of too much knowledge, which may have been relevant for the previous strategy in the environment of yesterday while it may have become unfit to new requirements (too much unfit organizational knowledge). This is when organizational knowledge implies <u>inertia</u>.
In between these polar extremes, firms need to cope with both continuity and change by maintaining and adapting their organizational knowledge base. (Enough adequate organizational knowledge, when needed). This is what we call the "<u>persistence and renewal</u>" challenge of Organizational Knowledge, i.e. relevant organizational knowledge when needed.

This leads to a map of organizational knowledge which combines two components: the availability of organizational knowledge and the fit between the knowledge base and the strategic needs. The map shows how firms can surf in between the two polar extremes, beyond the threshold of not enough adequate knowledge and below the inertia of too much

inadequate knowledge, to keep a persistent knowledge base while renewing it in part to keep it fit to evolving needs. See figure 2.

The map shows situations of slack when available knowledge is in search of relevant strategies to make use of this dormant potential. This may be called positive or useful slack. This sort of slack may be logically correlated to positive performance. But there are also situations of slack where the available knowledge is unfit to current strategies and needs, possibly preventing the firm from adapting to the new challenges. This corresponds to situations with risks of inertia. This may be called negative or counterproductive slack.

There are in between situations where the knowledge base is only partially fit to the strategic needs and thus where the slack may be partly a source of inertia, partly a source of further development and performance.

Figure 2

Availability of Organizational Knowledge

	Not Enough	Enough	Too much
Fit	lack	Persistence	slack
Partly Fit	lack	Persistence & Renewal	Slack & Risks of Inertia
Unfit	irrelevant	irrelevant / slack / risk of inertia	Risks of Inertia

Fit between Knowledge base and Strategic Needs (vertical axis label)

Threshold (vertical dashed line between Not Enough and Enough)

The three cases presented in the first part of the paper can be shown on the map. See Figure 3. The emergence of organizational knowledge for the EHS NewCo team illustrates the situation of lack of competence until a threshold was reached which made negotiation possible.

The cognitive blindness of major premium brand companies of the bottled water business illustrates the situation of inertia attached to too much knowledge unfit to respond to a new competitive challenge.

Finally, the case of Salomon illustrates the persistence and renewal dynamic positioning, which made it possible for the company to keep innovating continuously and successfully while adapting when needed.
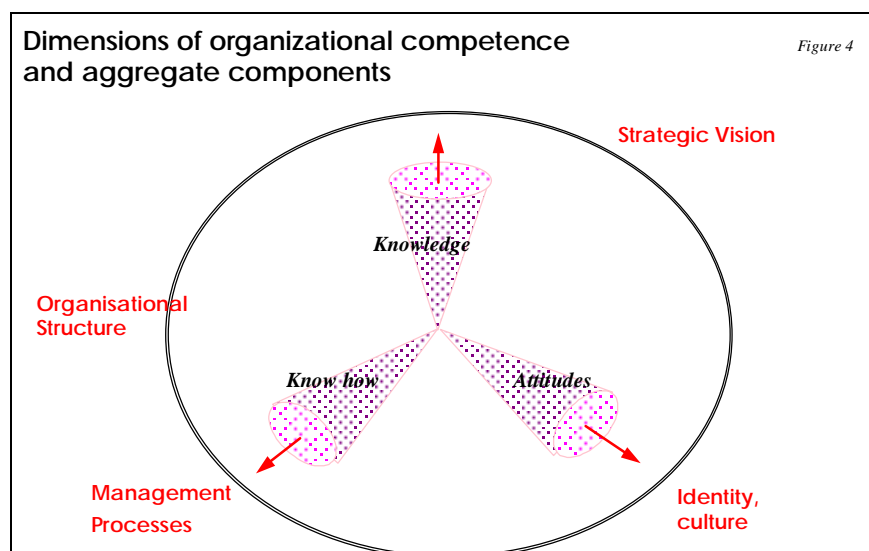
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Figure 3

Availability of Organizational Knowledge

	Not Enough	Enough	Too much
Fit	lack	Persistence	slack
Partly Fit	lack	Persistence & Renewal	Slack & Risks of Inertia
Unfit	irrelevant	irrelevant / slack / risk of inertia	Risks of Inertia

(Left axis label: Fit between Knowledge base and Strategic Needs)
(Dashed vertical line labeled: Threshold)
(Ovals: EHS NewCo, Salomon, Premium Bottled Water)

All in all this analysis suggests that the concept of slack needs to be segmented. We further argue however that the segmentation also needs to take into account the nature of organizational knowledge. This is discussed in the next section.

3-Sources of Persistence and Inertia

We suggest to call upon our model of organizational knowledge (Durand, 1997 and 2000) to discuss the characteristics of slack. More specifically, according to the map introduced above we suggest to discuss lack, inertia, persistence and renewal according to components of organizational knowledge.

In our model, we use the word competence instead of organizational knowledge. We identify three analytical dimensions, namely knowledge, know how and attitudes, as the basis for a referential of organizational competence. We further recognize organizational competence as coordinated deployment of assets and resources, thus distinguishing organizational competence from the resources and assets.

Dimensions of organizational competence and aggregate components *Figure 4*

- Strategic Vision
- Organisational Structure
- Knowledge
- Know how
- Attitudes
- Management Processes
- Identity, culture

Organizational Knowledge when Needed: Between Threshold and Inertia, the Persistence & Renewal Challenge

Along this line, our model identifies four elements or aggregates of organizational competence: management processes (often appropriated in organizations as routines), the organizational structure, a strategic vision, as well as the culture or identity.

More specifically, we suggest that some of these 4 elements may be more likely to lead to persistence or inertia in case of slack while other elements may be more crucial in case of lack. This is shown on table 1.

Culture is often described in the literature as difficult for managers to transform and even influence intentionally in a certain direction. It seems that there is no real lever for management to shape or re-shape the culture of an organization. Yet, at the same time, it is clear that attitudes from top managers may have a strong impact on the set of values and beliefs prevailing in an organization. This is illustrated by the Salomon case.

The EHS NewCo case hints that when shared strategic vision and a common culture is not yet established, then the organization may have difficulties to achieve its objectives. It is our interpretation that the lack of vision and identity prevented the team from reaching its goals. Yet, the case of bottled water suggests that too strong a strategic vision may be misleading and long lasting, thus becoming a source of inertia.

Finally, the literature on routines tends to indicate that firms may be falling into traps, repeating the same responses over and over, regardless of changes in the environment. When old recipes are blindly applied to new problems, this may also lead to some form of inertia.

Table 1: Sources of Inertia or Persistence

	Lack	**Inertia / persistence**
Organizational processes / routines		significant
Structure		
Strategic Vision	significant	significant
Culture / identity	significant	Very significant

All in all, our proposition is to revisit the concept of slack from two perspectives. Firstly, all slack may not have a positive influence on firm performance. Some slack, fit to the strategic needs, may prove useful while some other slack may end up being counter-productive. This is shown on the map of organizational knowledge.

Secondly, some aggregates of organizational knowledge (especially the culture as well as the strategic vision) may prove to be more stable in time and thus characterized by persistence or inertia, while being crucially needed when lacking.

We thus advocate for more work on organizational knowledge as a way to clarify the relations between lack, slack and performance, thus bringing some light on the persistence and renewal challenge.

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