What makes an efficient theme for a creativity session?

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FOR A CREATIVITY SESSION?

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ABSTRACT

Despite literature has widely investigated the logics of ideation, at early stages of innovation and product development processes (Bjork and Magnusson, 2009; Boeddrich, 2004; Girotra et al., 2010), very few contributions deal with the very starting point of the ideation process, i.e. the initial theme given to workshops participants. Nevertheless, scholars' works on the nature of stimuli and examples (Smith et al.,1993; Ward et al., 2004) underlined they could generate heterogeneous effects on the efficiency of the ideation stage. Moreover, whereas efficiency criteria for creativity sessions are well known (fluency, flexibility, originality, elaboration), creativity techniques focus on the improvement and monitoring of ideation management: the problem of designing the initial theme is seldom included in the design parameters of creativity sessions, as if it was not considered as an issue in research on creativity management. Yet, one consequence of the above mentioned literature results is that it should be a key efficiency factor: the formulation could play a key role in conditioning cognitive involvement of individuals and managerial goals achievement.

This paper focuses on this specific problem of formulating an efficient theme for a creativity session and its implications on cognitive involvement of facilitators and participants, and the achievement of managerial goals of the session.

Based on a single case study led through collaborative action research with the French postal service operator, our research analyses the impacts of the formulation in three innovative-oriented creativity workshops the authors have organized and steered from May to October 2013. The three workshops themes were built to experiment the impact of the theme formulation on: 1/ creativity techniques efficiency according traditional criteria and facilitators' cognitive involvement; and 2/ participants' satisfaction assessed through their ability to link the theme, thus the generated ideas, to the company's innovation strategy.

The exploratory study confirms that the formulation of the theme has important consequences, both cognitive and managerial. A first set of results suggests two main dimensions to describe the nature and structure of a theme naming: the accuracy level of the formulation and the degree of conceptual tension. A second set of results is about concrete reasoning when designing the theme and implementing in the formulation links to the firm's strategy. A third set of results is about consequences of theme formulation on the way the creativity session is designed and steered. Key dimensions include: 1/ The degree of cognitive implication of facilitators; 2/ The nature of stimuli and idea generation techniques used during the session (generic versus custom-made); 3/ The degree of commitment of the actors (designers of the theme, facilitators and participants) to the organization's strategy, i.e. to what gives value to the output of the creativity session.

INTRODUCTION

What impact can the formulation of the theme have on the efficiency of a creativity session? Though a number of drivers of creativity have been identified (Unsworth, 2001), the very formulation of the theme seems to be a blind spot in the literature devoted to creativity and to how to design efficient creativity sessions. A possible explanation to this lack is that the themes creativity sessions start with, generally do no more than designate the category of objects that the session targets. Announcing a session to be about "cars", "television" or "postal services" is just naming the existing categories of objects: these categories are known, there is no discussion about the formulation of their names and, consequently, there is no question about the effect of theme formulation on creativity. "The innovative car", "the innovative television" or "the postal services of the future" are hardly more precise formulations: at the most, they sound richer and they more explicitly suggest that breakthrough ideas are expected.

During creativity sessions, evolutions in the formulation of the theme generally come later: for instance, Gordon, in his book on synectics (1961), tells about a session on "roofs". This is the initial theme. Variations and enrichments come at a later stage, after the group has produced a first set of ideas. One of these ideas is "a roof that would change color". Analogies are then looked for, like comparing roofs to the skin of a plaice. Commenting this example, we first can say that "roofs" is a rather large initial theme and "a roof that could change color" probably too specific and too close to something to be developed, if it had to be the starting point. "A changing roof" could be a more relevant concept to start with, if we looked for a balanced formulation: neither too general, nor too narrow with respect to the innovation field under exploration. A second comment is about why a particular theme is chosen: Gordon does not say why being creative on roofs would generate value. Yet, a given theme – here, "roofs" - does not have the same value (qualitatively, not only quantitatively) depending on whether it is chosen to support an exercise within a creativity training program or whether the demand comes from known or potential stakeholders of roofs as a company specialized in roofs, a city willing to launch a "green" project or from a digital company looking for classical objects to be made "smarter". How the theme is aligned with some strategic intention and to what extent its very formulation can have an impact are key questions, with respect to what ideas and concepts will come out of the session.

Analyzing the impact of the formulation of the theme on the degree of cognitive involvement of facilitators and participants into the session is then possible: experts of roofs, of urban sustainable development or digital technologies will have qualitatively different cognitive involvements because their conceptual frameworks and knowledge backgrounds are different (Franco, Meadows, & Armstrong, 2013), but their involvement will also be different depending on whether that are asked to work on "roofs" or on "smart roofs": for instance, "smart roofs" could seem cognitively too far to a craftsman of the roof sector and he may not be able to really participate, because, at least at the beginning of the session, he would lack the conceptual variety and also some key pieces of the knowledge prerequisites required, i.e. what is related to the concept of "smart".

Hence, formulating an efficient theme for a creativity session can be analyzed threefold:

- What part of the efficiency of the session can be handled by the very formulation of the theme?
- What are the consequences of the type of theme on the cognitive involvement of facilitators and participants
- What are the consequences of the choice of the theme on the achievement of strategic and managerial goals of the session?

Though this is an exploratory research, we have designed the empirical part as an experiment based on testing three different themes. In the experiment, the three themes are designed so that their strategic pre-alignment is guaranteed: themes for the creativity sessions are intentionally designed to generate ideas in pre-determined directions, and the strategic value of these directions has been validated before the session starts, though the process remains largely open, like in the above mentioned example of "smart roofs".

After the literature review, we give more details on our methodology and empirical material, develop the case study and discuss the differences between the three groups with respect to the role of theme formulation on the efficiency of the session, the cognitive involvement of facilitators and participants and the achievement of managerial goals of the sessions.

LITERATURE REVIEW AND RESEARCH POSITIONING

Ideation at early stages of innovation and product development processes

Literature has widely investigated the logics of ideation, at early stages of innovation and product development processes (Björk & Magnusson, 2009; Boeddrich, 2004; Girotra, Terwiesch, & Ulrich, 2010). Beyond this literature, the nature of stimuli and their effects on the efficiency of the ideation stage, have received careful attention in creative cognition: S. M. Smith, Ward, and Schumacher (1993) analyzed the effect of examples, while Ward, Patterson, and Sifonis (2004) compared the effect of specificity *vs* abstraction in creative idea generation. Analyzing the nature of concepts from a linguistic standpoint, Fauconnier and Turner (1998) underlined conceptual blending between various stimuli for new concept creation[1]. Nevertheless, fixation effects due to stimuli have been identified and their overcoming are widely investigated (Jansson & Smith, 1991; Ohlsson, 1992; S. M. Smith, Linsey, & Kerne, 2011). Thus, working on ideation at early stages of innovation and product development processes, Gonçalves, Cardoso, and Badke-Schaub (2014) analyze what inspires designers at early stages and more specifically what they call inspirational stimuli, but they conclude on the need for further research on stimuli retrieval and transformation (2014: 46). Björk and Magnusson state that "*the degree to which the search of ideas should be directed is a non-trivial question, as the ideation processes can be facilitated by both freedom and limitations*" (2009: 385). They outline a paradox in ideation processes, about the search focus for ideas: "*with too much direction imposed, the search for new innovations inevitably becomes narrower and opportunities residing outside the firm maybe lost. However, no direction at all is most likely not the best way to facilitate the generation of useful ideas*" (2009: 394). The assertion is made by theses authors for a given organization taken as a whole but can be transposed within the narrower limits of a group involved

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[1] For instance, they show how the concept of "snow" and the concept of "tomato" can produce, in our minds, and more or less consciously, blended concepts like "powder tomato" or "red snow", depending on which properties of the objects are selected for blending.

in a creativity session.

Very few contributions deal with the very starting point of the ideation process, *i.e.* the initial theme given to workshops participants. Efficiency criteria for creativity sessions are well known: main techniques come from brainstorming (Osborn, 1957), synectics (Gordon, 1961), morphological analysis (Allen, 1962) or lateral thinking (de Bono, 1977), and focus on the improvement and monitoring of ideation management. Surprisingly, the problem of designing the initial theme is seldom included in the design parameters of creativity sessions, as if it was not considered as an issue in research on creativity management. Yet, one consequence of the above mentioned research results is that formulation should be a key efficiency factor: it could play a key role in conditioning cognitive involvement of individuals and managerial goals achievement.

Classical performance indicators for a creativity session

A creativity session is considered a success if numerous, original and varied enough ideas are generated. A large part of the literature on what makes an efficient creativity session thus keeps within the boundaries of the ideation process itself as it occurs during the session: performance indicators traditionally include fluency (the number of ideas generated), flexibility (the variety of responses), originality (the uniqueness of responses) and elaboration (the degree of detailed definition of ideas). Guilford's creativity factors have been discussed – and sometimes questioned (Horn, 1970) in a number of publications. A test run by (Bachelor & Michael, 1991) validated these criteria: ideational fluency, word fluency, sensitivity to problems are alternative expressions within a family of criteria devoted to evaluating the efficiency of ideation stages through the descriptive characteristics of the set of generated ideas, or with respect to the mental capabilities of the participants, as individuals and as a group (Runco, 2010).

As a consequence, creativity methods, when promoting their comparative impact, justify their efficiency with respect to these criteria: increasing the variety of responses, favoring their originality, encouraging a wider exploration of the conceptual space. Runco (2010: 417) mentions "flexibility of closure" (i.e. transformation and redefinition capacity) as an important additional dimension of efficiency. The "feasibility" of ideas is also a widely outlined criterion, but it is most of the time considered as a different type of indicator: a specific work on each idea has to be done, i.e. each idea has to be analyzed for itself and not only a contributing to originality of fluency, while classical criteria do not suppose such an evaluation.

Two blind spots: value and robustness of ideas

The classical view of what makes an efficient creativity session implicitly postulates a kind of separation between the ideation stage and the filtration stage. In that view, the classical, internal criteria (fluency, flexibility, originality, elaboration) are logically relevant in order to establish efficiency. In other words, these criteria are considered as relevant proxys of the real key variables: beyond the variety and originality of the generated ideas, the real point is to know what their innovative potential is, and what their contribution to future innovative projects could be?

Due to focalization on these generic indicators of performance, literature on the efficiency of creativity sessions seems not to consider the question of the value of

generated ideas nor their robustness[2]. "Value" can be defined as the innovative potential of an idea at a given moment of the innovation process (Gillier, Hooge, & Piat, 2013; Hooge & Hatchuel, 2008). Robustness in design was defined by Hatchuel, Le Masson, Reich, and Weil (2011) as *the ability to produce designs that resist variations of context*", that means in creativity and ideation the ability to overcome barriers between the first formulation and the later transformation into a project. Hence, an efficient creativity session is one that generates ideas with the maximum value and the maximum robustness to be transformed into projects (Agogué, Hooge, Arnoux, & Brown, 2014; Le Masson, Weil, & Hatchuel, 2010).

The value of the generated ideas can be managed at different stages of the process: the selected innovation field, i.e. the conceptual space within which creative thinking will take place ("there is some value in being creative on "roofs", because it is a sector within which few innovations have been made in the recent years"); the theme of the creativity session, if formulated differently from the innovation field ("*smart roofs*", not just *"roofs"*); the ideas themselves, as far as their innovative potential can be detected from their immediate, "as is" expression by participants (what is the value of "*a roof than can change color*" ?).

Cognitive involvement of facilitators and participants and strategic alignment with managerial goals

Talking about involvement, literature on creativity outlines the existence of cognitive *vs* emotional involvement styles. Research also exists on how to obtain a greater cognitive involvement when creativity is at stake. But no analysis is made of the links that could exist between the formulation of the theme and the type and degree of cognitive involvement of an individual or a group.

Inspiration for the present research could be found within the literature on strategy and scenario planning: Franco, et al. (2013) explore individual differences in scenario planning workshops but their conclusion is mainly about the positive impact of the cognitive diversity of participants. (Bootz, 2010) proposes a literature survey on the strong links that seem to exist between strategic foresight and learning (individual and organizational). If we suppose a relation between creativity and learning, the question of linking strategy to innovation could be better formulated thanks to Bootz standpoint. (El Kerdini & Hooge, 2013) do not directly discuss how a theme could be explicitly designed so that the strategic dimension would be included, but their positive conclusion on the relevance of combining creativity tools and strategic foresight gives value to our research question.

Consequently, the cognitive involvement of participants and facilitators and the strategic alignment of the output of the session with managerial goals are linked:
-   If working on the value of the generated ideas is managed only at a later stage, as Osborne recommends if the session is organized as a brainstorming session, then the facilitators only have to take care about a sufficient fluency, flexibility, originality and elaboration of ideas. Their involvement in the content of ideas is not compulsory. This could appear as a paradox, but it is the logical consequence of the principle of separation between ideation and filtration. About the participants: again, if the value is managed later, all they have to do is generate as many ideas as they can, no need to wonder about the

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[2] For instance, the index of the Cambridge Handbook of Creativity does not include entries related to "value" or "robustness". No relevant literature is extracted from Business Source Elite nor from Psychology and behavioral Science collection databases with "Creativity" in the title and "value" or "robustness" in all text.

value of their ideas. In that case, the strategic alignment to managerial goals is managed apart, because of the separation between ideation and the moment when the value of ideas are discussed.

- If, on the contrary, some value is included in the theme under the form of a direction for thinking (i.e. "changing roof" or "smart roofs"), then, for the facilitators, a deeper cognitive involvement is required: not only do they have to manage the four traditional criteria, but also to keep the session within the direction suggested by the theme. This is not an obvious challenge: when exploring new paths and unknown knowledge spaces, who can tell for sure if an idea is within or outside the scope? Idem for participants: to what extent will they, by themselves, control the relevance of their ideas with respect to the theme? In that case, what we call "scope" also includes the limits of the innovation field and the relevance of ideas with respect to the strategic value of the ideas.

Because the creativity session aims at producing innovative, disruptive ideas, strategic alignment is not an easy thing to steer: part of the future competencies and knowledge are to be identified and explore as the process goes on. The facilitators are then responsible for guiding the discussions so to try and maximize the co-design of ideas and strategies. In brief, a creativity session is efficient if it really leads to the exploration of innovation fields with a strategic value. With respect to our question about themes in creativity sessions: how to formulate the theme so that the strategic goal – exploring innovation fields with a strategic value – is met?

METHODOLOGY AND EMPIRICAL MATERIAL

To explore these issues with creativity practitioners, the research was conducted through a collaborative research methodology (Shani & Coghlan, 2008) with La Poste, the French Postal services operator, from May to October 2013. The partnership gathered researchers with two collaborators of the department of Innovation and Numerical Services of the firm. The first one was the manager of an innovative services portfolio: she was in charge to identify, structure and develop projects in the innovative field of proximity services; the second one was a corporate facilitator of creativity sessions: she used to initiate and facilitate creativity sessions for various departments of La Poste. They used to work together to manage creativity workshops during the process of innovative fields explorations. Nevertheless, theirs operational goals were different: the first one looked for quick and concrete innovative solutions while the other tried to spur creativity methods among employees and to support disruptive explorations of strategic innovative fields. From their former practices, they were convinced that creativity sessions could gather efficiently the two goals but were unsatisfied by traditional creativity methods that appeared insufficiently focused to reconcile disruptive level of creativity and strategic goals achievement.

The portfolio manager initiated the collaborative research, as she knew that both academics and practitioners were interested in increasing the knowledge on creativity sessions devoted to early explorations in innovation processes, which aims at regenerating firm's innovation capabilities on a given market (for instance, generating new innovation paths for services in virtual/physical mail delivery). As the formulation of the theme quickly appeared as a key managerial issue for practitioners and scholars, the partners decided to test the impact of specific formulations on a

unique group of La Poste employees during a consecutive set of creativity sessions. From the making of the themes to the debriefing of the sessions, practitioners were both involved in theory-building process with researchers (Eisenhardt & Graebner, 2007). This methodology of research is well acknowledged to support the production of actionable knowledge for practitioners and to create new scientific models (Argyris, 1993; David & Hatchuel, 2007).

Thus, this research is a qualitative analysis of a single case study (Eisenhardt, 1989; Yin, 2009). Empirical material was collected through a set of three creativity workshops, which the authors have organized and steered at La Poste with theirs partners in October 2013. The three workshops had been conducted through action research methodology (Coughlan & Coghlan, 2002). The group involved in the workshops was composed of around twenty experts and managers from La Poste, who had been identified by the industrials as internal R&D stakeholders (Elias, Cavana, & Jackson, 2002; Mitchell, Agle, & Wood, 1997) of the innovative field of proximity services.

The deep implication of the authors in the empirical field — as active members in the making of the creative workshops, and their facilitation — permitted to collect rich materials about how the theme has been built and what the formulation aimed for. Moreover, we were able to track the impacts of theme formulation on the generation of ideas, the group dynamics on knowledge management issues (learning, sharing between participants, identification of missing knowledge…) and the coordination mechanisms between participants to discuss the alignment of ideas with the firm's strategy.

In the building of the three themes, researchers and practitioners looked for contrasting formulations on the two dimensions of individuals' cognitive involvement and innovation strategy readability. Consequently, we first selected three distinctive objects that could drive potential strategic innovations for the firm:
- a traditional good of La Poste, the postbox;
- an object that the firm owned but with under-investigated commercial applications, the numeric databases;
- a corporate value linked to public service, the trust (regarding to respectful services for customers or customers' information uses).

Secondly, a challenging attribute had been associated to each strategic object in order to support creativity and innovation proposals:
- a contemporary trend was associated to the postbox and the final formulation of theme 1 was *"a smart postbox"*;
- a niche of potential customers was associated to the numeric database and the theme 2 was *"the databases for Hipsters"*;
- a technical evolution of La Poste services, the digitalization, was associated to the concept of trust and the theme 3 was *" the digital trust by La Poste"*.

CASE STUDY ANALYSIS OF INNOVATION-ORIENTED CREATIVITY SESSIONS AT LA POSTE

The themes were built to experiment the impact of the formulation on: 1/ creativity techniques efficiency according to traditional criteria and individuals' cognitive involvement; and 2/ participants' satisfaction assessed through their ability to link the theme, thus the generated ideas, to the company's innovation strategy.

Impacts of the themes formulation on individuals' cognitive involvement

From a cognitive point of view, the three themes — smart postbox, databases for Hipsters and digital trust by La Poste — referred to very different knowledge and skills that participants could improve or need to acquire to achieve the exploration of the respective innovation fields.

Theme 1: a Smart Postbox

The postbox is one of the oldest artifacts the firm relies on to manage locally the individual customer relationship. All participants shared a common definition of the identity of the object (Agogué, et al., 2014): they were very informed on the characteristics that makes the technical definition of the object (closed box with standardized dimensions and postal firm's colors); its functions (temporary stock outgoing letters and small packages, allow the access only to the factor and the individual, facilitate deposit and collection, indicate next time of collection, protect the content to weather conditions and vandalism); the customer values (regularity of the times of collection, proximity of the box and security of the content) and the associated business model (the postal firm own the postbox, all letters need to be franked by the expeditor before deposit, postmen are hired by La Poste to collect and dispatch them).

This shared knowledge between participants existed as the postbox relies on a strong and stable dominant design (Abernathy & Utterback, 1978), especially in France where public postboxes have existed since the middle of the seventeenth century. Despite its roots in the daily lives of French people, the number of postboxes is nowadays rapidly declining as flow of letters drastically reduced for the last decade, progressively substituted by email for both private correspondence and business-to-customer relationships (advertising, invoices, etc.). Consequently, in this session, an important cognitive effort was needed for two reasons: in one hand, the stability of the postbox over the centuries induced strong fixation effects on participants they had to overcome, and, on the other hand, an important creative effort was required to design a new object identity that could induce new value paths to this object.

The attribute of *smartness* supported individuals' cognitive involvement in further directions of exploration: *technically smart* with NTIC implementation, *functionally smart* with innovative services, *smart businesses* for new commercial actors. Participants have largely mixed these multiple design paths. They proposed various ideas, looking for renewing the value of physical postboxes, giving it new functions (geolocation of goods, shared deposit locker, neighborhood concierge services, etc.) supported by the implementation of NTIC in the postbox, from the simplest (QR codes, RFID chip, automatic franking) to the most complex (data mining, real time analysis of the content). Originality was also attained du to the attribute: for example, at a moment, a participant identified the fact that the postboxes use to be inert objects whereas smartness used to be a skill of the living; and claimed inertia was a fixation from the historical design path they could overcome with new forms of 'living' postboxes. In reaction, few proposals emerged subsequently of biological or chemical concepts of postbox that gathered living or moving forms: they generated an abundant sharing between participants on potential value for the firm of these concepts (for example, postboxes could become temporarily invisible or energetically autonomous). Finally, new business models were also investigated, which used the postbox as community tool for private or commercial services. This last path was self-assessed by participants as the most promising because it supported new partners around the

postbox, reduced to its essential propriety: a secure box at the interface between privacy and outside. We could also assume that this side of the innovative field was massively explored because participants were aware that postboxes used to be removed for economic reasons, as flow of letters became insufficient to assure their profitability. Consequently, generate new values for new stakeholders seemed for all a starting point to regenerate the object that could, after, improve its properties by embedding the previous ideas.

The amount of ideas generated during the session underlined the efficiency of the attribute to stimulate the participants' creativity on postbox innovative field and the diversity of ideas resulting from the exploration of the different meanings of smartness resulted in a significant variety.

Theme 2: The Databases for Hipsters

Exactly opposite to the first theme from a cognitive point of view, the theme 2 put participants in a "double unknown" cognitive situation (Kokshagina, Le Masson, Weil, & Cogez, 2012): neither the technological developments of digital databases, nor the market of the Hipsters' subculture were common knowledge for the participants. To investigate this innovative field, they needed that the experts of the group on database and contemporary subcultures bring them actionable inputs for collective creativity.

Indeed, the numeric databases owned by La Poste was mostly an unknown object for the participants. Despite they all knew that La Poste had important databases on its customers, most of them did not know how technically a database was made, completed, enriched or actionable. The functions filled by the databases currently owned by La Poste remained unclear for most participants and what could be the databases impacts on postal services in the future were very fuzzy for most of them. To initiate a competitive commercial offer relying on database, the cognitive effort is thus abundant as the object provided a lot of ambiguity, uncertainties and unknown for both participants and facilitators of creative sessions. Moreover, the subculture of Hipsters was mostly a discovery for the participants, who never heard about these new clusters of urban bohemians, who used to live in gentrifying neighborhood and have specific consumption habits as eat organic or artisanal foods and like alternative lifestyles (for a description of contemporary Hipster subculture, see *e.g.* Greif, Ross, and Tortorici (2010)).

Received by participants as a crazy concept with no hope of feasibility (Le Masson, Cogez, Felk, & Weil, 2012), the association of databases with a very specified cluster of potential customers appeared as an efficient way to involve participants in a focused exploration of potential value for databases they could investigate together. Thus, thanks to the detour by a disruptive attribute, the individual's cognitive involvement became easier on what was initially an under-investigated resource of the firm: the commercial uses of databases. Indeed, the 'absurdity' of the attribute increased the creative exploration of databases uses as a collective game, unlocking participants' hesitations regardless theirs weak knowledge on the object and liberating their cognitive involvement, which made emerged various and original design paths for potential innovations.

Theme 3: Digital Trust by La Poste

This formulation appeared the most difficult for individuals' cognitive involvement, as creative propositions were uneasy to initiate. Some participants claimed that were surprised by the theme that they did not consider "*to be a theme for a creative*

workshop but more a managerial motto". They insisted that the investigation of an innovative field required a more focused input. At the opposite, some other participants remind that "digital trust" could be a commercial object in itself, regarding all the societal critics on private life attacks on the web. Thus, a rich debate quickly initiated between participants on the meaning of 'digital trust' among the firm's entities and the condition required for developing the concept as a competitive argument for the firm.

Even if the start of this creative workshop was the most turbulent, the workshop resulted in an in-depth exploration of three different design paths: "*the trust in the content*" that was seen as the traditional one regarding the mail operator history, "*the trust in the stakeholders*" that was considered by participants as the main weakness of today digital services, and "*the trust in the technical and juridical systems*" where La Poste could develop labels to guarantee the quality, the reliability and the transparency of web services, regardless they were developed by the firm or by third players.

These explorations led participants to gather an important amount of knowledge on both the meaning of "the trust by La Poste" and "the digital trust", and on the potential synergies between the two concepts. Even if cognitive involvement had been hard to implement in the session, resulting ideas were efficient from classical metrics (fluency, flexibility, originality, elaboration) and various potential value paths had been identified. Nevertheless, reaching robustness would need much more investigations, especially as most of ideas were very conceptual.

Ability of participants to link the theme with the company's innovation strategy

Voluntarily, the three themes appeared as a progressive increase in strategic issues for the firm. Indeed, innovative field explorations aimed at reaching several strategic goals that each theme addressed:

- the creative session on "a smart postbox" aimed at renewing the identity — technologies, functions, values and business model — of a traditional good owned by the firm to maintain a competitive profitability;
- the workshop on "the databases for Hipsters" supported the initiation of new paths of value through disruptive innovations focused on a niche market;
- the workshop on "digital trust by La Poste" targeted to strengthen and develop competitive services based on the corporate values of the firm.

Traditionally, these goals are uneasy to discriminate in creativity sessions as strategic goals use to be mixed by participants during coordination mechanisms (knowledge sharing on strategic expectation, comparison to current products' performance, negotiation between participants on ideation orientation, etc.) to support an idea or at the opposite to reject one. Indeed, links to the firm's strategy used to be elicited by participants, in the same time as core competencies references ("we are good to do that", "the firm's history is based on this know-how", etc.) then as core rigidities ("we will never succeed to do that because we don't have the skills", "this path is incompatible with public utility", etc.).

Renewing the identity of traditional goods

The session on the smart postbox aimed to involved participants in a creative effort to support a new competitive life for proximity postboxes. Even if postbox was a classical good of the firm, the object was no more consider by participants as a strategic one as they mostly perceived its decline as normal and irreversible.

Nevertheless, the formulation of the theme that included the attribute 'smart' involved them in a broader innovation field, based on NTIC technologies and uses, that helped them to connect the creativity session with the firm's strategy on proximity services. Easily, they collectively generated ideas where the postbox became local platforms for new value-added services. Moreover, participants associated smartness to virtual solutions and they all linked the theme to this other driver of the firm's strategy: the commercial offer on virtual postal service.

Consequently, the formulation of the theme enabled the participants to investigate the synergies between a twofold path of innovation: the endangered physical postboxes and virtual postboxes. Thus, this workshop was a time to define and elicit the values and specificities of physical postbox versus those of virtual mailbox. Participants needed this first step to be collectively aware that, even if the firm's strategy deserved divergent goals on virtual markets of mails compared to the commercial offer on proximity services, each goal could be improved by the other. Indeed, the formulation of the theme, focusing on smartness, immediately led participants to investigate NTIC solutions that are common technologies for both innovative field: this similarity strongly helped them distinguish the value drivers behind the two paths of innovation and potential synergies that could benefit from the co-existence of the two objects. In return, the knowledge on virtual services opened new potential values for original uses of physical postboxes. Consequently, it appeared that participants' ability to link the theme with different dimensions of the firm's strategy was not only natural, but was an important lever to actively feed the ideation.

Initiating the exploration of unusual technologies for market creation
"Database for Hipsters" was a voluntarily crazy formulation that aimed to support the building of a starting point on the potential value of a technological product that the firm owned, but whose potential commercial uses were under-investigated.

Even so, the object was not a 'new' object as the firm built numeric databases for a long time: they used to structure the information on customers to improve the quality and internal performance of the postal services. For example, for each individual, they know the domestic localization, from where all the letters received had been sent, the frequency, what commercial firms are in linked with the individual (advertising, invoices, but also the purchase frequency of the individual in case of package delivery, etc.). This information, aggregated at the scale of a neighborhood or a town, allow the firm to size and plan efficiently the factors' rounds and package delivery systems. What was 'new' for La Poste was to decide to develop commercial applications for theses databases, according to limits of uses induced by private life respect.

Discovering the theme formulation, participants were very uncomfortable with the fact to consider only a subgroup of the population: for all, it appeared contradictory to public service mission of the firm. This shared feeling was reinforced by the fact they mostly never heard about Hipsters and consequently, they imagined that this population was a very small group of potential customers.
Paradoxically, this particular point supported the ability of individuals to recognize database as a strategic product for the firm: the formulation of the theme led them to identify the product as an effective tool to learn about market selection criteria

Consequently, coordination mechanisms (knowledge sharing on strategic expectation, comparison to current products' performance, negotiation between participants on ideation orientation, etc.) focused on ideation for market creation,

instead of being afraid by the lack of knowledge on database. Thus, the formulation theme had a significant impact on the ability of individuals to involve themselves in the exploration of a front-end strategic issue.

Investing corporate values as competitive advantages

The third theme, "digital trust by La Poste", diverged from the other strategic objects, as it was not a product but a corporate value seen as core-competency of the firm (Leonard‑Barton, 1992).

The value of trust has been built across the history of La Poste since the eighteenth century. Historically, the initial form of the firm was a Royal messengers office created by the king Louis XI in 1477 to transport royal messages: the messengers swear the oath to respect and protect the confidentiality of the messages they carried. After they had been allowed to carry the mail for private citizens in 1576, messengers maintained this habit to oath on the protection of mail content, and nowadays postmen still make the oath when La Poste hires them.

Even if this value is in the DNA of the firm for a very long time, it contemporary meaning for firm's collaborators, especially associated to the attribute 'digital', is questionable due to recent transformations of the firm. Firstly, since the opening of mail market at European level in 1991, the firm is not anymore the only commercial player for mail delivery and the market became quickly highly competitive. Performance criteria on this market are on delivery costs, delays and physical content protection: they do not value confidentiality as a competitive service. Secondly, the switch to numeric mail speed up on private and business markets during the same period that led the firm to operate numerous mergers and acquisitions with IT and web firms. Regardless divergent points of view on the notion itself, all those firms have not set up customer trust in confidentiality at the level of a corporate value.

In this context, is trust 'by La Poste' still a shared corporate value according the growing number of new employees around the world? Especially when most of these new comers come from web services contexts were confidentiality of customers data is not always operated in the strict way the firms? Nevertheless, top managers had elicited the concept as on official strategic axis of the firm across a department label and innovative projects' name.

At the scale of the creativity workshop, the ability of participants to link the theme with the firm's strategy was immediate. Nevertheless, the associated innovation strategy remained to design. The participants all shared the feeling of urgency to open creative paths on this specific corporate value, to regenerate the concept as a meaningful common purpose for collaborators, and to build these paths as competitive advantage for the firm on web services market.

FINDINGS AND MANAGERIAL IMPLICATIONS

This exploratory study confirms that the formulation of the theme has important consequences, both cognitive and managerial. We develop here three main findings: 1/ the nature and structure of the theme naming can be described according to the accuracy level of the formulation and the degree of conceptual tension it includes; 2/ the design of the theme impacts the ability of individuals to contribute to the firm's innovation strategy; 3/ the theme formulation interplays with creativity sessions management and individuals' ability to involve themselves efficiently.

Nature and structure of theme formulation

First of all, our study confirms strong impact of the stimuli that could be either 'fixing' or 'unfixing' for individuals involved in a creativity sessions as it was formerly described by scholars (Agogué, et al., 2013; S. M. Smith, Ward, & Finke, 1995; Ward, et al., 2004). Fixation appears when the stimuli spontaneously activate large parts of the knowledge shared by the individuals. In this particular case, participants are 'fixed' by this knowledge and they hardly succeed in formulating ideas outside this scope, even if they have a good cognitive involvement.

Our research underlines that fixation/un-fixation goals could be managed through the individual's cognitive involvement into the nature and structure of the initial formulation of a creativity theme. We propose two main levers to describe the nature and structure of an initial formulation:

- the accuracy level of the formulation, measured by the number of properties added to the noun of the object;
- the degree of conceptual tension, evaluated by the expansive power of the concept as formulated.

In our experiment, all themes had been formulated in order to generate "guided expansions" (Hooge, Agogué, & Gillier, 2012; Le Masson, Hatchuel, & Weil, 2011) in a given innovation field. The differences are about the type of objects they represent, the disruption of associated attributes and the degree of breakthrough themes explicitly carry with respect to the traditional products and services proposed by the company. Table 1 presents the nature and structure of the three formulations studied within the collaborative research with La Poste.

Table 1: Nature and structure of the case-study theme formulations

Theme formulations	**Accuracy level of the formulation** (Number of properties added to the noun of the object)	**Degree of conceptual tension** (Expansive power of the concept as formulated)
A smart postbox	**Weak** Properties of smartness are undefined	**Weak** Current postboxes could be defined as smart
The databases for Hipsters	**Intermediate** Properties of Hipsters' subculture are delimited	**Strong** Formulation drives tension on all database's identity dimensions (functional description, customers value, technologies and business models)
The digital trust by La Poste	**Strong** Properties of digitalization are circumscribed by firm's skills and 'by La Poste' refer to corporate properties of know-how	**Intermediate** Formulation drives tension on technologies and business model

On the one hand, the accuracy level of a theme supports specific paths for the exploration, carried by the properties that individual easily associated to the attributes. In our case, the accuracy had been different and increased through the three themes according to the specification of the disruptive attribute associated to each objects, from the fuzziest concept of 'smart postbox' where 'smartness' is not particularly specified to the most accurate concept of 'digital trust by La Poste' where the object 'trust' had been associated with two much more specified attributes 'digital' and 'by La Poste'. The accuracy level of a theme formulation determines the freedom degree

given to the participants of a creativity session: the more accurate the naming, the more focused the exploration.

On the other hand, we propose to characterize a theme by its conceptual tension, i.e. its ability to support the opening of numerous and original design paths to improve or renew the identity of the object. The expansive power of a formulation could thus be described as the level of unknown the participants are exposed when facing the association of the noun of the object with disruptive attributes. For instance, in the case of the databases for Hipsters, the expansive power of the theme formulation is high because both the database object and the attribute 'for Hipsters' are mostly unknown for participants. Thus, what could be the *databases for Hipsters* is largely unknown for individuals: they have to collectively design all the required dimensions to imagine, describe and propose an idea, which would be an original proposition within this innovative field. The dimensions to design used to be the elements that allow the fully state the identity of an innovative object (Agogué, et al., 2014; Le Masson, et al., 2010): technologies, functional description, customers' value and the organization of the stakeholders who create and sell the object (business model, industrial and institutional ecosystems). These dimensions are cumulative: it allows a systematic assessment of the expansive power of a theme formulation.

From a managerial point of view, the two dimensions allow to determine if the initial formulation of the creativity theme will help participants to overcome collective fixation effects or not. Indeed, the initial formulation could increase fixations if the properties given by the attribute are already in the set of properties of the current object (Agogué, et al., 2013). Thus, attributes need to be chosen carefully to manage an efficient trade-off between indications on attainable exploration paths and disruptive properties that could induce potential breakthroughs in the dominant design of the firm.

Designing a theme for innovation capability improvement

A second set of results is about concrete reasoning when designing the theme. Correlations with the first set of results are obvious for managers involved in workshop preparation: if the theme formulation is limited to traditional object category, no additional work is needed to link the theme to firm's innovation strategy, as working on these categories is yet in the strategic plan. Conversely, the higher the degree of required conceptual tension, the harder the task to build an efficient theme for firm's innovation capability improvement. Indeed, the formulation of a creativity theme becomes a strategic activity: making a session with a theme that include a high conceptual degree is a concrete signal addressed to individuals that will be involved in the workgroup that the firm is looking for renewal in this specific area. The formulation of theme names this action, makes it real and concrete: it gives *de facto* a strategic mandate to participants to involve themselves in the proposal of new paths, different from the traditional design path of the firm.

Consequently, the design of themes, considered as a set, contributes to elicit to collaborators rich indications of the area where managers look for an innovation effort: the set highlights the area where a innovation capability improvement is expected. Thus, managers who design the formulation need to be clear about the cognitive resources that participants are expected to activate and how the theme formulation conditions the perimeter of ideation potential. To be efficient, the design of theme must induce managerial care on:

- the availability of enough initial knowledge on the nature of the objects on which the creative activity is to be organized in order to activate an exploration ;
- the core competencies the firms may involved in the exploration, or could decide to develop;
- the ability of the firm to support the strategic possible trajectories for the company.

Impacts of theme formulation on creativity sessions steering

A third set of results is about consequences of theme formulation on the way the creativity session is designed and steered.

First of all, the theme formulation has impact on the degree of cognitive implications of the facilitators. As the very formulation of the theme is made through conceptual blending (Fauconnier & Turner, 1998) and designed to generate guided conceptual expansions (Le Masson, et al., 2011) a consequence is that facilitators and participants are much more deeply involved into the session: participants do not just generate ideas that would be only later filtered, they also discuss the value potential for the firm and the robustness of their ideas during the creative session. To support this collective reasoning, facilitators are not just organizing the discussion in the neutral way recommended in classical psychology: they have to "dive into the theme" and be able to intervene much closer to the reality of the subject, taking an active part of the exploration. Consequently, it appears that facilitators' cognitive involvement increase with the distance the theme formulation embedded to classical activities of the firm: if the properties added to the object are far away from the traditional properties the firm used to managed and/or if the conceptual tension bears by the theme is high, the facilitators would commit themselves in an active and guided steering of the creative session. From a managerial point of view, it underlines that facilitators must have skills beyond creativity techniques: they are in charge to support an active innovative design process, which required skills in innovative design reasoning and in the management of organizational capabilities for innovation (Hatchuel, Le Masson, & Weil, 2002).

Secondly, this particular cognitive involvement of facilitators to support the elicitation of value potential and robustness of ideas could be supported by specific kind of stimuli and idea generation techniques used during the session. These tools are also dependent of the theme formulation. Unless guiding principles would be the classical efficiency indicators (fluency, flexibility, originality, elaboration), more sophisticated formulations of themes can hardly be justified if no proof is given of the relevance of thus pre-defined directions for conceptual expansion. Beyond the generic tools to steer the efficiency of the creative session, custom-made tools become relevant and have to be mobilized to achieved the elicitation of the additional criteria of value potential and robustness to get transformed into a project, in the specific context of the firm and its expectation for innovation. In the context of our case study, we used with success tools from C-K theory of innovative design reasoning (Hatchuel, et al., 2002; Hatchuel & Weil, 2009) adapted to managerial goals of innovation and new product development (Hooge, et al., 2012), but it is a specific type of tool and a lot of custom-made tools could be applied to support the collective exploration of the value potential and robustness of ideas during the ideation (for instance, effective tools could be designed from marketing background on customer value creation (Möller, 2006; J. B. Smith & Colgate, 2007), from knowledge management on expertize location and elicitation (Nonaka & Takeuchi, 1995), or

from R&D stakeholders theory on the identification of potential salient or critical partners (Elias, et al., 2002; Mitchell, et al., 1997)).

Finally, the theme formulation also impacts the degree of commitment of the actors (designers of the theme, facilitators and participants) to the organization's strategy, *i.e.* to what gives value to the output of the creativity session. The theme itself becomes part of the efficiency of the process, instead of remaining a blind spot of creativity theories and techniques. Since themes get conceptual thickness, conceiving them becomes part of the key decisions to be made, hence a research space opens for experimentation.

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