The Impact of Open Innovation on Employee Well-Being: A Preliminary Study

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Abstract

The aim of this study is to explore the impact of Open Innovation on employee well-being. While Open Innovation has been increasingly used by companies, small and large, engaging in this form of innovation requires changes in organisation and routines that may adversely affect the employees involved. In order to shed a light on this issue, we produce two theoretical frameworks, the first one enabling to categorise Open Innovation (in its broadest sense) activities, and the second one detailing the different factors (whether intrinsic or extrinsic) of employee well-being. We then conducted semi-directive interviews of employees involved in different types of Open Innovation activities. The results of this preliminary and explorative study are that, indeed, Open Innovation appears to affect, both positively and negatively, employee well-being, in particular in relation to key types of well-being factors.

Key words : Employee well-being, Open innovation, Employee driven innovation.

Résumé

L'objectif de cette étude est d'explorer l'impact de l'Open Innovation sur le bien-être des employés. Le paradigme de l'Open Innovation a été largement adopté par les entreprises, petites et grandes, cependant, s'engager dans ces formes d'innovation requièrent des changements organisationnels et routiniers qui peuvent affecter le bien-être des employés impliqués dans ces activités d'Open Innovation. Afin de répondre à cette problématique, dans un premier temps, nous avons produit deux cadres théoriques. Le premier catégorise ou propose une catégorisation des activités de l'Open Innovation (au sens large). Le second détaille les facteurs intrinsèques et extrinsèques du bien-être au travail. Dans un second temps, nous avons conduit des entretiens semi-structurés avec les employés impliqués dans les différents types d'activités de l'Open Innovation. Les premiers résultats de cette étude exploratoire et préliminaire montrent que l'Open Innovation affecte, positivement et négativement, le bien-être des employés, en particulier les facteurs principaux du bien-être au travail.

Mots-clefs : Bien-être au travail, Open innovation, Employee driven innovation.

INTRODUCTION

While Open Innovation, as a concept and a practice, was first popularised by the early work of Henry Chesbrough in the early 00s (Chesbrough, 2003), it could be easily argued that it has never been as popular as it is nowadays. Currently, rare are businesses—small or large—that do not speak about or seek to engage (if this is not already done) in Open Innovation. As a matter of fact, Open Innovation has been adopted in all industry sectors (Chesbrough & Brunswicker, 2013) and this adoption is particularly high for large companies, as a recent study (Chesbrough and Brunswicker, 2014) shows that 78% of such large firms engage in Open Innovation.

However, if adopting Open Innovation may seem rather straightforward in the case of start-ups and SMEs, as they tend to be both open and flexible (by nature or necessity), doing so in larger companies is likely to prove more challenging, as opening to other actors may require to redefine core activities and organisations within the firms and to disrupt long-established routines. Yet, engaging in Open Innovation is generally, in the case of large companies a top-down decision and while for top-management, the benefits of doing so may be clear and obvious, this may well not be the case for the employees involved who will have to change their routines, culture (in particular, get over the NIH—Not Invented Here—syndrome), work relationships and methodologies, as well as goals and objectives (Høyrup, 2010).

The constant pressure to innovate has not only led firms to search for external sources of innovation, but also internal sources. For large companies, in particular, it has become increasingly clear that along employees of other firms, their own employees—besides those traditionally involved in innovation (i.e. R&D) could become important assets in a company's innovation strategy. "Employee-Driven Innovation" can be considered as the 'internal' equivalent to 'external' Open Innovation (Amundsen, Aasen, Gressgård, and Hansen, 2014)(Amundsen, Aasen, Gressgård, & Hansen, 2014), as it aims to increase the innovation capabilities of the company by sourcing ideas—for instance through internal crowdsourcing, brainstorming, and challenges (Teglborg-Lefèvre, 2010)—but also by seeking help from employees in developing existing ideas— for instance by involving non-R&D employees in product development. Of course, just like 'external' Open Innovation, engaging in Employee-Driven Innovation (EDI) is a top-down decision (though it may correspond to some employees'

aspiration) that also require changes in routines, work organisation and practices, relationships and culture.

Yet, despite the growing popularity of both Open Innovation and Employee-Driven Innovation and the extensive changes they may entail in the everyday work-life of the employees involved, the issue of the impact of these new modes of innovation on the well-being of the employee has been so far left unaddressed. This is, precisely what this paper intends to investigate.

To do so, we have carried out an exploratory study based on semi-directed interviews of employees involved in Open Innovation (in its broadest sense, i.e. including EDI). Because Open Innovation (especially in its broadest sense) can take very diverse forms (from a simple patent licensing deal to creation of large-scale joint teams) we have produced a comprehensive (and literature-based) Open Innovation framework. Likewise, the interview guides were based on an employee well-being framework that aggregates Management and Psychology literature.

The paper is organised as follows. Section 1 review the literature on Open Innovation, EDI and employee well-being and introduces the two frameworks. The second section introduces the methodology. The third section provides an analysis of the interviews conducted and is followed by a section of discussion of the results obtained.

1. LITERATURE REVIEW AND THEORETICAL FRAMEWORKS

1.1. OPEN INNOVATION AND EMPLOYEE-DRIVEN INNOVATION

Open Innovation is defined as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. Open Innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology" (Chesbrough, 2003, p.1).

Traditionally, Open Innovation is seen as being based on two types of knowledge flows, either inflows of knowledge—in which case we speak of 'inbound' or 'outside-in' Open Innovation—or knowledge outflows—i.e. 'outbound' or 'inside-out' Open Innovation (Cassiman & Valentini, 2016). Inbound Open Innovation "refers to the practice of exploring and integrating external knowledge for technology development and technology exploitation" (Parida et al., 2012, p.288; Chesbrough and Crowther, 2006; Chesbrough et al., 2003), while outbound Open

Innovation relates to "the practice of exploiting technology capabilities by utilising not only internal but also external paths of commercialisation" (Parida et al., 2012, p.288; Chesbrough and Crowther, 2006; Chesbrough et al., 2003). However, these two types of flows are to always happening in isolation, but occur sometimes jointly. This type of Open Innovation is referee to as "coupled" Open Innovation, which is defined as the "coupling the outside-in and inside-out processes by working in alliances with complementary partners in which give and take is crucial for success" (Gassmann and Enkel, 2004, p.6).

While, as noted above, the early definition of Open Innovation given in Chesbrough (2003) considers both the "use external ideas as well as internal ideas", the literature at large devoted to Open Innovation has, since, almost exclusively focused on the Open Innovation processes taking place with external entities, whether other companies, startups, governmental bodies, universities, consumers or clients. Meanwhile, the concept of Employee Driven Innovation (EDI), defined by as " the generation and implementation of novel ideas, products and processes orignated by a single employee or by joint efforts of two or more employees" (P. M. S. Smith, Kesting, and Ulhøi, 2008, p.1). Just like Open Innovation, Employee-Driven Innovation enables companies to reduce innovation costs and to identify "new sources of value" (Teglborg-Lefèvre, 2010); Amundsen et al., 2014). In fact, just like the traditional Open Innovation argument assumes that any external partner can become a source of value for the firm, EDI theories are deeply rooted in the idea that all employees have capabilities to innovate (Kesting and Parm Ulhøi, 2010).

Teglborg-Lefèvre (2010) mention that EDI can take two forms, either "spontaneous"—in which case an employee spontaneously suggests improvements to existing products and services, or new products and services—or "requested", in which case the same happens, but at the initiative of the firm.[1] In either case, and just like Open Innovation, EDI can be seen as either 'inbound' or 'outbound'. In the 'inbound' case, employees outside of innovation business units are used of sources of ideas (e.g. the traditional 'suggestion box', or, more recently, internal incubators); in the 'outbound' case, the idea originates from the management team in particular business unit and 'non-R&D' employees are asked to develop the idea further. In this respect, it can be noted that usual EDI processes, such as brainstorming, crowdsourcing, contests, can be used in

[1] Similarly, in the case of Open Innovation, the process can be 'spontaneously' initiated by an external partner of a company or 'requested' by the company itself.

both directions (e.g. a crowdsourcing campaign can be both used to identify new ideas for innovation and to find ways to develop and implement innovations suggested by management).

Thus, as suggested in Chesbrough (2003) and discussed by other authors since (see Laviolette et al., 2016) Open Innovation and EDI are not separated phenomena, but instead one and the same, as they seek to achieve the same goal—increase a firm's innovation capabilities while reducing innovation costs—through identical means, i.e. the use of 'external sources of knowledge'. While in the case of (traditional) Open Innovation, these external sources of knowledge may, indeed, be located outside the company, in the case of EDI, these sources are located within the company, but outside of business units and departments dedicated to innovation. In any case, it is important to remember that one of the first goals of Chesbrough (2003) was to lead companies to open-up their R&D departments towards the outside. Whether this 'outside' is indeed outside the company ('traditional' Open Innovation), or simply outside the R&D departments, all is part of the same logic. Furthermore, over the years, companies have devopped increasingly evolved and complex Open Innovation processes (e.g. incubators, accelerators, spin-offs, joint ventures, living labs) that combine knowledge flows of different directions (inbound and outbound), as well as people located both within and outside the company.

Hence, overall, Open Innovation (in its broadest sense, i.e. including internal sources of knowledge and, therefore, Employee-Driven Innovation) can be seen as a continuum between internal and external flows of knowledge that are oriented inbound, outbound, or coupled. This enables us to build a framework of Open Innovation that is displayed in Figure 1. The two axes represent the type of knowledge flows (horizontal axis) and the overall direction of the flows (vertical axes). Both axes are continua, which means that an Open Innovation process can be mainly external (i.e. mainly involve knowledge flows with non-employees), but still involve knowledge flows from some employees within the firm. Likewise, an Open Innovation activity might still be mostly outbound, but still entail some inbound flows (e.g. usage-based improvement feedback from a technology that has been licenced out). Typically, within this framework, 'traditional' Open Innovation processes would be represented towards the extreme right (e.g., licensing-out agreement at the bottom-right, licensing-in at the top-right, and a cross-licensing agreement middle-right). Likewise, 'traditional' EDI initiatives would be at the far-left, with those seeking to source ideas from employees towards the top, and those aiming to lead employees to develop and implement ideas towards the bottom. In this framework, a

company incubator would sit at the top-right, if it is only open to the company's employees and at the top-middle, if open to external startups. Likewise a corporate accelerator that would aim to both accelerate 'spontaneous' ideas and projects fostered by the company management—thus, being a coupled Open Innovation process, would be at the centre, where both axes meet.

In regard to the question at hand—understanding the impact of Open Innovation on employee well-being—this framework plays a very important role. Indeed, while Open Innovation (furthermore once EDI is considered) can take many different forms. Yet, in regard to knowledge flows, many of such forms display similar features. In regard to employee well-being, one can reasonably expect the type of flow to play an important role (e.g "this is my idea" vs "I'm working on someone else's idea", "I have to work with new colleagues form another department that I see everyday at the canteen" vs "I have to work with youngster from a startup who eat pizza sited on the floor at midnight"). This framework was used to chose the interviewees to ensure a sufficient mix between forms of Open Innovation.

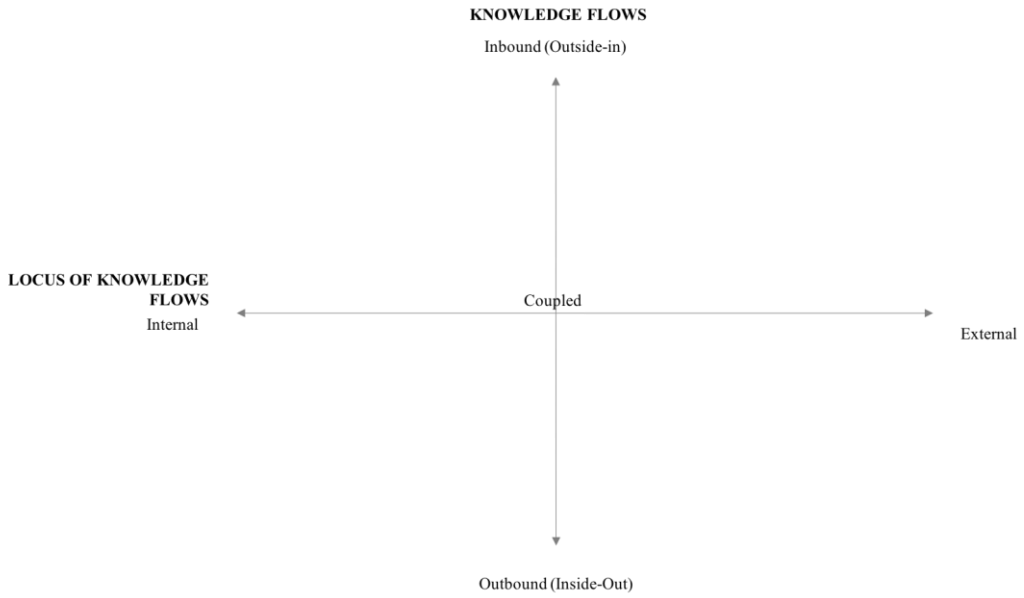

Figure 1 – Open Innovation framework

1.2.EMPLOYEE WELL-BEING

While this clearly has not been always the case, companies, especially those in industries where innovation is critical, have been increasingly concerned with the question of employee well-being. As a matter of fact, empirical studies, such as the one carried out by Wright et al. (2007), have demonstrated the existence of a positive and significant correlation between employee

well-being and individual job performance. Likewise, Wright et al. (2007) show a positive and significant correlation between employee well-being and organisational performance. In particular, greater well-being leads to a decrease in absenteeism (Trousselard et al., 2012), as well as a reduction of human and financial costs (Diener, Suh, Lucas, et Smith, 1999).

In the literature, several factors of employee well-being have been identified. Some of those factors are *intrinsic*—i.e. relate more to the employee's own personality and psychological traits—while others are *extrinsic*—i.e. related to the employee's environment:

- Intrinsic factors:
    - Autonomy (Ryff et Keyes, 1995; Dagenais-Desmarais & Savoie, 2012)
    - Work-life balance (Kalliath & Brough, 2008)
    - Self-esteem (Ryff & Keyes, 1995 ; Massé et al., 1998 ; Biétry & Creusier, 2013)
    - Intrinsic motivation (Ryan & Deci, 2000)
    - Work meaningfulness (McGregor and Little 1998)
    - Sense of belonging (Baumeister & Leary, 1995).
- Extrinsic factors:
    - Career prospects (Ryff and Keyes, 1995)
    - Working conditions (Smith et al., 1969; Dagenais-Desmarais & Savoie, 2012; Biétry & Creusier, 2013)
    - Hierarchy (Smith et al., 1969; Ryff & Keyes, 1995)
    - Recognition at work (Dagenais-Desmarais and Savoie, 2012; Biétry & Creusier, 2013)
    - Relationships at work (Smith et al., 1969; Ryff & Keyes, 1995; Dagenais-Desmarais & Savoie, 2012; Biétry & Creusier, 2013).

This framework of employee well-being was used to build the interview guide.

2. METHODOLOGY

Since the issue of the relation between Open Innovation and employee well-being has (to the best of our knowledge) not been addressed before, we decided to carry out an exploratory study based on semi-directed interviews. The interview methodology enables us to position ourselves in a logic of understanding a phenomenon and its related processes (Qu & Dumay, 2011). In order to co-construct dynamically between the researcher and the interviewee a common sense

of explored phenomenon (Kvale, 1996), we have constructed a questioning guided with themes to guide interviews . In addition, the exploratory approach used, enables us to maintain a greater flexibility in regard to the topics addressed, and to formulate or reframe some of the questions (Qu & Dumay, 2011). Overall, the advantages of this methodology are its comprehensive, inductive, recursive logic, as well as its flexibility (Qu & Dumay, 2011).

When choosing the interviewees, our objective was to find an environment that was rather homogenous, to reduce volatility and facilitates the inductive process. At the same time, we were aiming to keep some degree of variability, in particular in relation with the different dimensions of Open Innovation discussed in Section 1 and illustrated in Figure 1. Basically, we were aiming to find a large company, if possible in a not too-high tech sector (where Open Innovation might be a norm), that engaged in different forms of Open Innovation processes.

Considering this constraint, we decided to carry out our interviews at a large automotive manufacturer. The size of the company (over 150,000 employees), its innovative, yet not too high-tech, industry, as well as its high (and relatively recent) level of engagement in Open Innovation processes convinced us that this made a very adequate field for this exploratory study.

So far, 7 employees were interviewed (more interviews are presently being carried out). All are involved in various Open Innovation (including EDI) initiatives initiated by their company. To choose the interviewees, we used the Open Innovation framework introduced in Section 1 (and summarised in Figure 1), to ensure that a variety of types of Open Innovation processes were considered. Interviewees were also chosen accordingly to their job type and hierarchical position. Here as well, we ensured that a mix of positions was considered to explore what Open Innovation meant in terms of well-being at different levels. Amongst the respondents, one is a Project Manager (PM1), two are Project Leaders (PL1, PL2), two are Team Members (TM1, TM2) and two are Ideators (ID1, ID2).

Some of the interviewees work in the same team (PM1, TM1 and TM2) and are managing one-another. Others do not directly work together, but are engaged in the same Open Innovation process. This is the case of both Ideators (ID1, ID2), who are both engaged in developing one of their ideas of innovation at the companies' internal incubator. In regard to the Open Innovation framework, both are in the top-left quadrant (internal–inbound, since they 'give'

ideas to the company). In this particular company, Ideators work on developing their innovation on their own free time. They are offered coaching sessions and can use the facilities available in the incubator, and benefit from a dedicated coach but do not benefit from any financial support.

The two project leaders (PL1, PL2) interviews are also both involved in the same Open Innovation structure—the company's accelerator—but do not work together on the same project. Unlike the incubator, the accelerator is open to both employees and outside partners (typically startups). In comparison to the incubator, where early stage ideas are developed, the accelerator aims to take more mature ideas to a stage where they can become actual innovations. Innovation projects conducted at the accelerator (some of which originate from the incubator) benefit from the financial support of at least one business unit in the company. This means that the innovators are given a chance (unlike ideators at the incubator) to devote all or part of their work time to their project. In this respect, PL1 works part-time on her project, whereas PL2 works full time. PL1 develops her project jointly with an external entity: a startup, while PL2's innovation project only involves internal stakeholders. Thus, using the Open Innovation framework in Figure 1, PL1 is located up-middle, while PL2 is up-left.

Finally, PM1, TM1 and TM2 work on the same innovation project as a part of what is called in the company "corporate spinoff". In this Open Innovation structure, innovation projects can take different forms: a startup, a business unit, a joint venture. Employees in this structure can have different status: some continue to work for the company, some formally leave their job at the company to become employee of a startup or joint venture created to develop the commercial potential of an innovation, others are outsiders and may be employees of another company. The three people we interviewed work together on an innovation project initiated by top-management. PM1 is the project manager, while TM1 et TM2 are, respectively, the project business developer and the technical support member of the project. In this particular case, all have remained employees of the company, but work in a business incubator located outside of the company. They all work full-time on the project, which is open to external stakeholders (one startup and a large consulting firm). In regard to the Open Innovation framework in Figure 1, this case is located towards the bottom of the diagram (it is a case of coupled Open Innovation, where the original impulse is outbound) and towards the centre of the horizontal axes, since both internal and external sources of knowledge are used.

Table 2 provides information about the respondents and the type of Open Innovation structure they are involved in. We have so far focused on employees of the company only, so none of the interviewees are involved in a purely 'external' Open Innovation process.

Codes Names	Positions	Age	Gender	Other/previous positions	Time allocated[2]	Sources of knowledge flows	Directions of knowledge flows
PL1	Project leader	30-40 (31)	F	Ergonomist	Part-time	Internal	Inbound
ID1	Ideator	40-50 (42)	M	Engineer	None (own-time)	Internal	Inbound
PM1	Project manager	40-50 (49)	F		Full-time	Internal	Outbound
TM1	Team member	30-40 (38)	F	Business developer	Full-time	Internal	Outbound
PL2	Project leader	60-70 (60)	M	After-sale regional management	Full-time	Internal	Inbound
ID2	Ideator	40-50 (41)	M	Engineer	None (own-time)	Internal	Inbound
TM2	Team member	50-60 (57)	M	Technical support	Full-time	Internal	Outbound

Table 2 – Information about the interviewees

The interview guide was based on the employee well-being framework introduce in Section 1. After a set of generic questions to get to know them better, we asked respondents about their well-being at work. Then based on their response and on which of the well-being factors they

[2] Amount of time allocated to the employee to work on the project. In some cases, no time is allocated, which means that the employees work on the project outside work hours.

had mentioned, we asked them specifically about other factors, ensuring that all the factors listed in the framework were addressed. This meant that, of course, some interviewees may not have something to say about all the factors, but this way we were ensuring that we did not "leave a stone unturned". Specifically, interviewees were not asked about their well-being in relation to Open Innovation. In fact, Open Innovation was not mentioned in the interview. Instead, they were left free to speak about well-being at work in general. Our objective was then, through coding, to identify the aspects of their well-being that were specific to the Open Innovation processes they were engaging in.

Interviews lasted 30 minutes to one hour and were conducted face-to-face or remotely by telephone or video conference. Interviews were entirely recorded and then transcribed. Coding was carried out independently by the two researchers in the project and focused on identifying the elements of well-being associated with Open Innovation processes.

3. ANALYSIS

3.1.INTRINSIC FACTORS OF EMPLOYEE WELL-BEING

3.1.1. Instrinsic motivation

Interviews show that employees interviewed generally display strong intrinsic motivation. PL1, PL2 and ID2 seem to have invested a part of themselves in the project. For example, PL1 calls her project "our little baby", ID2 describes his position as "we are the creators of the idea" (ID2). We can observe a particular affective attachment to the project. Employees express their strong intrinsic motivation by project and idea context creation description (ID2), by the name given to their project (PL1) and by a strong attachment of the project issues than self-issues (PL2) or by a clear expression of their engagement (ID1).

Furthermore, ID2 stated "we put our own personality in [the project], so it's also really hard to handle. I'm having a lot of trouble because I am passionate about the whole thing and sometimes in some criticisms". ID2 describes some difficulties to adopt an attitude of detachment and a pragmatic objective posture, whereas the company representatives in the incubator assess them objectively and pragmatically. Sometimes, it seems that in the long run, strong intrinsic motivation and high affective investment in the project may have a negative effect on well-being at work. Indeed, at project development level, a too strong affective attachment may

prevent employees from adopting a critical perspective towards their project and listening advice and suggestions.

In contrast to the other interviewees, PM1, TM1 and TM2 made no mention of intrinsic factors of motivation and only mentioned in the interviews extrinsic factors of motivation. This is interesting because they, unlike the other interviewees who are in an 'inbound' Open Innovation process, are in an outbound process (i.e. they were asked to develop an innovation suggested by top-management).

Thus, it appears that in relation to intrinsic motivation, the type of Open Innovation process does matter, i.e. the direction of open innovation appears to affect employee well-being—though intrinsic motivation—differently. Whereas inbound processes do appear to be associated with a high level of intrinsic motivation, outbound processes do not.

3.1.2. Self-esteem

While all respondents were asked about self-esteem, only six of them chose to express themselves on the matter. Considering that this is a rather sensitive topic and that the interviews were conducted at their workplace, this outcome is not particularly surprising.

PL1 and ID1 spoke negatively about their self-esteem. PL1 mentioned having a low level of self-esteem and being very exigent with oneself. ID1 expressed doubts about himself and also mentioned having "high expectation" about himself.

TM1 was more positive While mentioned feeling no change in her self-esteem after integrating the Open Innovation structure, she expressed a positive perception of what this experience had brought to her: new competencies, opportunities to work with different stakeholders, ability to work on innovative projects. TM1 mentioned that this experience has enabled her to feel more confident about the future.

Interestingly, while ID2 did not express themselves about their self-esteem, they did mention they beloved that people who engage in Open Innovation have to have a high level of self-esteem and be confident in the project, in order to face the different challenging stages and people hostile to their project.

Basically, the interviewees that chose to express themselves on the issue of self-esteem where either in an 'inbound' type of process (ID1, ID2, PL1), or in an outbound one (TM1), but as a managee and not as a project lead. Interestingly, on the 'inbound' side, while ID2 thinks it is important to have a high-level of self-esteem to take part in this type of Open Innovation processes, the two others (ID1 and PL1) both reveal a rather low level of self-esteem, even when (in the case of PL1), their innovation project was deemed good enough for the company to devote financial resources to its development.

3.1.3. **Autonomy**

In the interviews, we observe generally a positive perception (PL1, ID1, TM1, ID2). For example, ID2 considers himself lucky because he benefits from a high level of autonomy in all his different missions. PL1 mentions being "100% autonomous" in his job and enjoys having the opportunity to propose innovative solutions. ID1 feels that his high autonomy-level is "a chance, compared to employees working for other large companies".
While others expressed themselves about their perception of autonomy in general,

Yet, interviews revealed that autonomy can also have a negative impact on employee well-being. PL2 and ID2 both mentioned that had perhaps a too high autonomy—"a complete autonomy, maybe too much" [PL2]—and feeling lonely as a result [ID2]: "at times, we are a bit alone". Likewise, ID1 mentioned that too much autonomy can make it difficult to keep being motivated, which means that autonomy can affect motivation.

Finally, TM1 and TM2 revealed top-management ambiguities in regard to autonomy. On the one hand, top-management provides employee taking part in Open Innovation processes with a large degree of freedom to develop their project, but, at the same time, employee still face regular scrutiny and control and have to submit regular reports to their hierarchy. This feeling is shared by their manager [PM1] who declared that while they did have a high level of autonomy, this was conditional to the good results they obtained and may not be something long-lasting: "today actually it is true [that we have a high degree of autonomy], we are lucky. But, it is also because we have results. As long as we have the results, [the company] will trust us and give us the latitude to find the means to get there."

Thus, overall, interviews revealed differences of perception of autonomy between employees engaging in inbound and outbound processes. Those engaged in inbound Open Innovation

processes (ID1, ID2, PL1, PL2) declare a high degree of autonomy, to the point that it makes some of them not at ease [PL2, ID2], or even demotivated [ID1]. In contrast, autonomy in outbound processes seems somewhat lower, as it is conditional to a high degree of control and scrutiny by upper management. It appears that outbound processes involve traditional agency problems. Since the innovation idea originates from upper-management, there are specific expectations as to how the project might develop, which reduces actual autonomy.

3.1.4. Work-life balance

In order to discuss work-life balance, it may be useful to consider the fact that some of the interviewees work full-time on an Open Innovation project (PL2, PM1, TM1, TM2), while another works part-time (PL1), and two have not been allocated any work time and work on the project on their own time (ID1, ID2).

In this respect, we were surprised that both ID1 and ID2 (who envelop their project on their own time), did not express any concerns or issues related to work-life balance. Instead both reported having achieved a good balance between work life and personal life. For instance, ID1 mentioned: "nowadays, I switch from [professional life] to [private life] [matters] every 15 minutes. There is no [separation]. Everything [I do] for my personal life serves my professional life and vice versa".

PM1, TM1, TM2 and PL2, work full-time on Open Innovation projects. They all expressed a positive perception of their work-life balance. For example, PM1 explains that is "super easy" to find the right balance between work and life, and both TM1 and TM2 said "no, it's not difficult [to achieve a good work-life balance]". PL2 mentioned specifically a significantly improved work-life balance since he began to work in an Open Innovation context. However, his previous position within the company was a sales manager position, which entailed a significant amount of time on the road.

Only PL1, who works only half-time on her Open Innovation project expressed negative feelings about work-life balance, mainly because of the high workload ("I have a high workload", "[I am tired] because of work overload") that combining two positions entails: "[I manage work-life balance] badly. Let's just say that my partner is not super happy with my work hours. […] when you finish calling people at 8.30pm or write emails evenings and weekends… I try to manage, but it's complicated."

TM2 specifically mentioned changes related to engaging in Open Innovation and the fact that working with outside partners leads to a different work schedule, with interactions late in the evening ("at 10pm [they call me] what do you think about it TM2?") or even in the night ("yes, we may work until 2am, it has happened"). However, TM2 appears to think that it leads rather to work imbalance: "yet, at 8am we are at work", but does not appear to mind, as TM2 did not express any negative feeling and seems even exited ("it's very enriching") by this new way of (work) life.

Overall, unlike for the previous factors, there does not appear to be a clear distinction between inbound and outbound Open Innovation processes. Interviewees seem overall fairly happy about their work-life balance, even though it appears that engaging in Open Innovation processes tends to tip the scale more towards work than personal life (whether because they give their own free time to the project, or have to take late calls). Yet, one respondents (PL1) mentioned difficulties maintaining a good work-life balance. Interestingly, she is the only one to see her work hours divided between two different missions—ID1 and ID2 also have 'two' missions, but one of them is voluntary. It is also interesting to note that TM2 reported significant change of working schedule and habits, as a result of working with external partners.

3.1.5. Work meaningfulness

While employees express different answers to justify their work meaningfulness, all employees express a positive work meaningfulness perception (ie. ID1, ID2, PL1, PL2, PM1, TM1, TM2). For example, TM1 is proud to contribute in such of change and to describe her contribution "to change things, to change society" (TM1) to her "grandchildren (TM1).

PL1, PM1 and TM2 explain that their work meaningfulness are driven by human values. For example, PL1 explain that "help users as much as possible and making their work as easy as possible […] make sense for" her. Human values reported by employees are expressed at different levels: users (ie. PL1 and PM1), employees (ie. PM1 and TM2). For example, PM1 is proud to participate in such of change at an user-level "We are taking part in a new way of consuming […] we really respond to needs and that's extraordinary" (PM1) and at an employee-level "It's great to participate in a change of life for everyone" (PM1).

ID1 and TM1's works are driven by preparation of the future. For example, TM1 explains to build the future, and to participate in "the evolution of society" (TM1). While, ID1 explains to be driven by willingness to have a greater impact on the construction of organization's future. Through the interviews, we observe three kinds of levels of answers in the preparation of the future: user-level (ie. PM1, PL2), company-level (ie. ID1, PM1) and society-level (ie. TM1, PM1).

Thus, ID2, PM1, ID1 and PL2 answer by what project brings at an individual-level. For ID2, to lead his own project permit to realize himself [ID2], to bring some challenges in his professional career as PM1. Furthermore, ID1 explains to adopt a "continue-learning-approach" (ID1) of his work. His project permits to him to adopt this approach to have diverse day-to-day tasks and to acquire new knowledge as ID2. Only PL2 speaks about his "passion" [PL2] of the product, marketed by company and to serve the final client. This project seems to nourish this passion and at the same time, this passion nourish the project.

Finally, through the interviews, we observe a common point : the importance for employees interviewed, to have an impact on their environment. This environment can be described at different levels: at society-level ("what can I bring at the society evolution?"), at company-level (what can I bring at the company? – What is my impact on the company?), at user-experience level (what can I bring at the user-level?) and at individual-level (what brings this experience at an individual-level?).

3.1.6. Sense of belonging

In Open Innovation processes, we can supposed that sense of belonging can be impacted negatively. Indeed, conduct an open innovation project (ie. work with other stakeholders, work outside of the firm) can decrease sense of belonging of employees. We were surprised by employee's answers, which express a positive sense of belonging [ie. ID1, PM1, PL2, ID2, TM2]. For example, PM1 answered positively "Absolutely" as PL2, who answered «Yes, yes a lot" as ID2, ID1 and TM2.

Some of employees justified their answers [ID2, ID1, PM1]. Through interviews, we have noted two types and two levels of justification. The first type of justification used by employees is time spend in company. For example, ID2 justified his positive answers by time he spend in the company as PM1 and added it would be difficult to "do not feel a part of company" [ID2].

Furthermore, ID1 hadn't a clearly separation between his professional-life and his personal-life. According to him, this non-dichotomy justified his positive sense of belonging.

Only, PL1 expressed a negative sense of belonging. PL1 justified her answer by a lack of a corporate culture [ie. PL1, PL2]. Even if PL2, expressed a positive perception of sense of belonging, PL2 approved it and expressed that "corporate culture is not enough developed [in the company]". Furthermore, PL1 justified lack of corporate culture by two arguments: employees are "not prouder to work in company" [ie. PL1] and a lack of teambuilding spirit [PL1].

However, we observe positive and negative sense of belonging perceptions, these answers are not specific to Open Innovation processes. Integrate an Open Innovation processes, seem to have no impact on sense of belonging.

3.2.EXTRINSIC FACTORS OF WELL-BEING AT WORK

3.2.1. Career prospects

In order to discuss career prospect, it may be useful to consider the fact that some of the interviewees have been recruited by top management to work on Open Innovation project [PM1, TM1, TM2], while another develops their own project idea [ID1, ID2, PL1, PL2].

PM1, TM1 and TM2 expressed their willingness to work on a mission they like. For example, TM2 explained "If I realize I don't enjoy my work, I will do something else". Only PM1 and TM2 expressed clearly their willingness to continue to work on their current missions but this decision depends of company [ie. PM1, TM2]. For example, PM1 expressed (as TM2) "if the choice is given" to her, she would like to "continue the adventure [continue to work on current Open Innovation project she works]".

PL1 expressed their willingness to "have a hybrid career" [PL1]: stay in the large company with an operational mission and at the same time "create my own startup" [PL1]. PL1 justifies her answer by her enjoyment to work with an innovative approach and to continue to learn. Furthermore, PL1 expressed the impacts of her experience in Open Innovation processes on her

daily-work. PL1 uses tools and methodologies used in Open Innovation processes[3] in her operational mission.

ID2 expressed his willingness to leave large companies to integrate a smaller firm as SME. ID2 justified her willingness by the possibility to "share experience" [ID2] and to have "agility", "get interesting things done, with firepower, with interesting prospects" [ID2]. Through ID2 and ID1 interviews, we analyse willingness to have a greater impact on their work-environment. For example, ID1 described his future in company "My future in company is to have an impact, a greater impact, on the future organization of company" [ID1]. As we observe, willingness to have a greater impact on work-environment is translated by leaving large firm to integrate a smaller firm as a SME [ie. ID2], or to adapt mission in the large company to have more impact on it [ie. ID1].

TM1 expressed that her experience in Open Innovation processes, permits to her to embrace future with optimism. Indeed, TM1 explained that to work on an Open Innovation project - work with different stakeholders and on innovative subjects - permit to "acquire new competencies" [TM1], to construct a solid and "interesting professional experience" [TM1] and "to promote easily this experience" [TM1]. For all these reasons, TM1 expressed a positive view on her future. Through TM1's interview, we can observe a positive and a direct impact of Open Innovation project experience on career prospects and self-competencies.

To conclude, we observe an impact of Open Innovation processes on career prospects. This impact takes different forms : continue to work on innovative project, have a greater impact on work-environment by leaving company to integrate a SME or to have a greater impact on company, adopt a double career – continue to work on large company and create a start-up at the same time-, use Open Innovation processes' tools, adopt a positive attitude about job-market.

3.2.2. Hierarchy

Through interviews, employees report different attitudes from hierarchy about their integration in Open Innovation processes. ID2 summarized hierarchy attitudes about his project as "mountain" [ID2]. Indeed, ID2 described different hierarchy attitudes through as "ignorance at

[3] All employees, who integrated Open Innovation structures, have been trained to startups tools as Business Model Canvas, Minimum Viable Product and pitch methodology.

the beginning, an enthusiasm halfway through the project, and an indifference at the end » [ID2].

PL1, PM1 and PL2 reported a supportive attitude from their hierarchy to integrate Open Innovation processes. For example, PL2 reported the chance that his manager "supports himself in the project" as PM1, whose manager push her to take the position. For PL2 it was a little bit different. Even if fight to get her new idea across at the beginning, PL2 has succeed to gain support of her hierarchy.

ID1, TM1, ID2 and TM2 expressed a non-supportive attitude from their hierarchy. For example, ID1 reported that company "have been created to avoid innovative behavior from their employees". TM1 and TM2 have been reported another kind of non-supportive attitudes from hierarchy: a lack of resources to develop the project correctly. For example, TM1 expressed her willingness to stop the project if hierarchy does not give resources.

To summarize, through interviews, we observe three different types of attitudes from hierarchy about Open Innovation projects: ignorant attitude [ie. ID2], support attitude [ie. PL1, PM1, PL2], non-supportive attitude [ie. ID1, TM1, ID2, TM2, PL1].

Some of employees gave their own justification to explain non-supportive attitudes from hierarchy. For example, TM2 explained that top management did not understand temporality of the project – "When you launch it? [From top management] We are not ready. Ok, but when you launch it ?". While TM2 reported a misunderstanding of exploratory time from hierarchy, ID2 and PL2 reported a misunderstanding from their hierarchy [ID2] and organisation [PL2] about Open Innovation issues. For example, ID2 reported, "From my point of view, I haven't same goal for [Name of Corporate Incubator] than my hierarchy". [ID2], and PL2 reported that "tomorrow, [Name of Corporate Accelerator] will acquire another stature, another notoriety", with this legitimacy, "the work of Corporate Accelerator could be easier" [PL2]. Through interviews, misunderstanding, described, takes shape in a misunderstanding of exploratory time inherent of Open Innovation projects [ie. TM2], a misunderstanding of Open Innovation processes issues [ie. PL2, ID2], a misunderstanding of Open Innovation processes needs [ie. TM1].

Even if, employees express some misunderstanding from operational management and a non-supportive attitude, they express a positive support from Open Innovation processes management to develop their Open Innovation project [ie. TM1, PL1]. For example, TM1 explains a more important support from Open Innovation processes: “I feel more supportive of our project and I find that they [Open Innovation processes management] bring us the breath of fresh air we need to fuel, in terms of creativity, business, and support” [TM1].

However, some employees reported a negative perception of Open Innovation processes management in their project development [ie. ID2, PL2]. For example, PL2 and ID2 questioned Open Innovation processes legitimacy’s perception in internal organizational-level. Open Innovation processes have some difficulties to be recognized by all employees of organization [ie. PL2]. For example, PL2 reported necessity for Open Innovation processes to be recognized by all employees of organization. Illegitimacy of Open Innovation processes through organization seems to have some consequences on project management (ie. Low decision-making power) and employee well-being [ID2]. For example, ID2 reported that low decision-making power of Open Innovation processes caused his project loss. Indeed, his project is lost between two types of Open Innovation processes: Corporate Incubator and Corporate Accelerator. In fact, company has identified his project as strategic but nothing move in terms of project management and development. ID2 reported to be affect by this situation “Don’t think too much about it [onomatopoeia] otherwise it could be difficult” [ID2].

Furthermore, TM1 reported a “form of hypocrisy” between works requested (ie. Reporting, procedures, numbers of presentation) and resources allocated (ie. Time, human resources). Finally, TM1 expressed an unbalance between Open Innovation processes [ie. TM1] and, control and reporting procedures [ie. TM1].

In Open Innovation processes, we can be supposed that hierarchy encourages employees to express themselves to propose new innovative ideas or project to increment product, services and processes of large firms. To our surprise, hierarchy seems to adopt a refractory attitude about Open Innovation processes.

3.2.3. Recognition

Through interviews, employees have expressed themselves about recognition at two-levels: recognition from organization and recognition from managers. In the first part, we will analyse employees' answers about organization, and in a second part, we will analyze employees' answers about managers.

PL1 expresses two painful experiences about appropriation of the ideas and projects by organization without a sign of recognition of ownership of the idea. The first painful experience was to sign a paper, which specifies PL1 defeated all rights of their idea to the organization. The second painful experience for PL1 was, when a Corporate Director explains to journalists the project: "I attended my own press conference where the boss of (sponsor's direction) took the subject; it was great and painful at the same time." (PL1).

We analyse these experiences as a lack of recognition because organization recognizes idea or project as be positive for firm, which can earn money with this project implementation. And at the same time, employee, who brings this idea, is not individual named by organization as the idea author and project developer. Employee have not been recognized individually by organization. Furthermore, in the second case, dissymmetry between idea recognition and individual recognition is more important than the first case because the idea or project are recognized outside of firms, by external people, without mentioned idea author name.

Some employees express a lack of recognition from managers [ie. PL1, ID2]. For example, ID2 explains it by management behavior: "So not too many of my bosses, it was a bit like a mountain like that it was rather ignorance at first, an enthusiasm rather in the middle and then an indifference, rather towards the end. After that depends on people, here and hierarchical " [ID2]. ID2 explained recognition of implication of employees in Open Innovation project depend to individual characteristics of managers. PL1 regrets to have no more sign of recognition from organization "Yes, I do not know if it's financial, I think it's more recognition, even verbal, we're proud it's lambdas employees who created this thing."[PL1]. PL2 explained that organization needed to pay a particular attention to employees who support and conduct an Open Innovation project because organization can lose these proactive employees.

Certain employees justified an existence of a recognition from management with different arguments. Indeed, ID1 explained to find a positive recognition from hierarchy because his hierarchy "allows doing what I want to do" [ID1], TM1 and PM1 spoke about "trust". For

example, PM1 “thanks to [her] manager for trust, which gives to [her]”. However, certain employees reported an existence of recognition from hierarchy, recognition seems to be tarnished by misunderstanding of Open Innovation processes by management as we see before in “Hierarchy” section. For example, ID1 answered positively to recognition at work question but this positive perception is tarnished by misunderstanding from hierarchy « Concerning recognition, recognition exists, because they let me do all I want, but I face to misunderstanding » [ID1].

3.2.4. Extrinsic motivation

PL1 explains that the fact to have a legal status, which is recognized at “human resources-level”, at “organizational-level” to dedicate time to work on owner project and “to be hierarchically detached”, was positive in terms of “legitimacy of the project” [PL1] close to organization and management. PL1 explained the acquisition of legitimacy of the project thanks to a “structural framework” [PL1] and the fact that her project is “followed by top management” [PL1].

As we see before in “Hierarchy” and “Recognition at work”, a lack of recognition [ie. PL1 and ID2] and a misunderstanding [ie. ID1] of Open Innovation project and Open Innovation processes [ie. ID1, ID2, TM1, TM2] from hierarchy have a negative impact on extrinsic motivation and consequently on well-being at work. For example, PL1 regrets to have no more recognition from hierarchy and organization in general: “Yes, I do not know if it's financial, I think it’s more recognition, even verbal, we're proud it's lambdas employees who created this thing” [PL1].

Furthermore, PL1 expresses that her extrinsic motivation is tarnished by extrinsic factors as work overload, which impacts her physical health “sometimes, this motivation is tainted by tiredness” [PL1].

ID2 expressed his owner project’s status has not be clearly defined (ie. Continue the project or not) "the fact that I still have this project that was so close to my heart and still has not come to fruition. […]It's really hard to mourn something that does not work, do you have to mourn completely or reactivate the machine, etc. I always have a backdrop that undermines me." [ID2]. We can observe that lack of a clearly project status can become a factor of demotivation at work and can impact negatively well-being at work, especially when project is emotionally invested.

In general, a less authority or a less legitimization of Open Innovation processes affects negatively extrinsic motivation.

TM1 and TM2 expressed that their motivation has been tarnishing by a lack of resources. For example, TM1 expresses “At a certain time, I want to tell them, stop the project, if you do not put the resources, I'm a little extreme in my position but if they do not want to put the resources, must to stop everything” [TM1].

Through interviews, we observe that different factors affect differently extrinsic motivation employees, who have integrated Open Innovation processes. Indeed, we observe different lack of resources, which impact negatively extrinsic motivation: lack of hierarchy support and recognition, lack of financial resources, lack of human resources.
Furthermore, a lack of resources can send a paradoxical message to project team: willingness to develop an ambitious project on soaking in the creative environment and at the same time suffer of lack of resources.

3.2.5. Work relationships

Through interviews, we notified different types of answers about work relationships.
PL1, ID1, PM1, ID2 and TM2 explained to maintain good relationships with their colleagues in general. For example, PL1 reported to have “no problem” with her colleagues as ID1, ID2, PM1, TM2.

After their positive answers, ID1 and TM2 described some factors, specific to Open Innovation processes, which could tarnish their positive relationships. For example, ID1 reported a misunderstanding from his colleagues about his mission. TM2 described a scene where he needed to justify to his colleagues, his position in the company and his mission and to explain how Open Innovation modes work. In this case, project seems to create suspicious climate and could be creating a strangeness feeling – to feel a foreigner from organization [TM2].
PM1 summarized the type of relationship, which maintain with their colleagues, with these words “there are some zone of friction” [PM1] and explained that by “difference of temporality with the rest of company”, “difference of tools” used and “a difference of mindset”. While ID1, TM2 and PM1 reported some misunderstandings and differences from their colleagues, PL1 and ID2 denounced some “jealousy” behaviour from their colleagues.

In general, interviewees reported to maintain good relationships with their colleagues, but these relationships could be tarnished by by a misunderstanding of Open Innovation' employees' mission and Open Innovation processes [ie. ID1and TM2], by jealousy [ie. PL1 and ID2], by a difference of mindset, procedures, tools, timing-work with the rest of large firm' employees [PM1].

PL2 reported another kind of refractory behavior. Indeed, PL2's idea has been validating by top management as strategic for company. That is the reason why, PL2 have one year to experiment his own project. PL2 reported that even if top management and selection committee take decision to conduct and develop the own project, PL2 reported that there are refractory behaviours in company. Paradoxically, PL2 explained that competitor actors of company have launched the same kind of project and have succeed. From this moment, PL2 explained that his project has been highlighting and everybody have been convinced for the necessity to launch this project rapidly on the market.

We analyse this situation by necessity for company to have some proofs to launch a project and firm takes some devices as corporate innovation cells in place, but at the same time, firm seems to adopt a cautious approach of its own innovative projects. At an individual-level, employee can suffer of this situation and can meet some refractory behaviours.
Concerning ID2's Open Innovation project, ID2 explains all different types of colleagues' behaviors: "there are different degrees" [ID2]. The first kind of behaviour is a "super enthusiastic"[ID2] behaviour. This behaviour can be "scary" [ID2]. ID2 reported that some of his colleagues "try to steal or to appropriate idea" [ID2]. The third behaviour from ID2's colleague is described as positive behaviours and encourage him to continue to develop his idea.

Furthermore, TM2 described new types of relationships: external relationships with stakeholders. TM2 described these types of relationships as"challenging" [TM2] and bring a new interesting approach of project. Furthermore, TM2 explained to have two kinds of work-relationships: internal relationships - "to share freely" [TM2] - and external relationships -"to challenge project" [TM2]- and explained that is an "advantage". However, in accordance with TM2, TM1 reported the importance to be supporting by an internal network to share freely [ie. TM1 and TM2] to have a privileged access to information and to internal competencies [ie. TM1]., TM1 and TM2 expressed that to be physically outside of company create a distance

with their colleagues “to be here alone, I see that we are losing links with inside of the firm, that is normal, I don’t criticize, but all things we succeed to obtain, because we know this people, and to get along with him, we couldn’t have it anymore.” [TM1].

To conclude, we can observe different types of colleague’s behaviours: supportive relationships and non-supportive relationships. Non-supportive relationships could be analysed as Not-Invented Here syndrome approach (Chesbrough & others, 2003). Indeed, through interviews, we were surprising by some refractory behaviours from colleagues as TM2 described. Finally, outside or inside seems to depend on point of view or analysis-level. An employee, who develops his own project, can be considered by his colleague as external and his project a threat source, however they both work with the same approach. Furthermore, internal network can be precious to succeed in the project management and external relationships can be a source of new knowledge and challenge.

3.2.6. Work conditions

Through interviews, we observe two kinds of answers. Some employees spoke about work conditions in general and certain employees spoke about their work conditions applied in the Open Innovation processes contexts.

PL1, ID1, PM1, PL2 and ID2 spoke about work conditions in general. PL1 and PL2 express a positive perception of their work conditions. For example, PL2 describes his enjoyment about his workplace “We have nothing to say, on the contrary it's perfect. It should be difficult to say something.” [PL2] and PM1 described positively new way of working as “teleworking” [PM1].

ID1 and ID2 expressed a more negative perception of their physical work conditions. For example, ID1 regretted to “have no more screen to his office” [ID1] and ID2 denounced some bad physical conditions as “work with 36 degrees without air conditioning” [ID2].

Furthermore, PL1 and ID2 expressed an important work overload. For example, PL1 expressed her tiredness and she explained it by “The work overload” [PL1], ID2 expressed difficulties he had to find free time slots in his work-planning and to always have impression to switch on different subjects, but important work overload perceptions seems to be not specific to Open Innovation processes.

ID2 reported that work overload did not permit to employees to explore and to innovate in Open Innovation processes. ID2 expressed that organization “confiscates it, really, we do not have that time to look at what we do. I'm sure there are lots of good ideas” [ID2]. We observe a gap between actions of organization: establish Open Innovation processes and work overload, which seems to confiscate time for exploration.

TM1 mentioned that at the beginning her team had no dedicated office space to work. With the help of the managers of the Corporate Innovation unit, the team found offices in a business incubator located outside the firm [ie.TM1, TM2]. These new offices enabled the team to engage in Open Innovation within a creative workplace [ie. TM1, TM2] and meet other startups [ie. TM1]). However, while TM1 found many advantages in being located in an external business incubator, she expressed regrets to be far away from the rest of the company as this did not enable her to benefit as much from the company as her team would if located internally [TM1], and found her team had lost to some extent its ability to bear on the direction of the project.

To conclude, this establishment seems to benefit of an exploratory, creative, organic approach of the project. Although business incubator seems to be a creative context to develop and implement the project, to be outside of the company seems to be a loss of knowledge, experiences, which cannot profit to the project. Furthermore, TM1 and TM2 expressed a lack of resources: human resources [ie. TM1], financial resources [ie. TM1 and TM2]). TM1 expressed her deception to have no more resources to deploy the project and expressed a “form of hypocrisy” from organization [TM1].

4. DISCUSSION

In this study, employees, who were interviewed, have integrated three different Open Innovation processes: Corporate Incubator, Corporate Accelerator and Corporate Spin-off. In Figure 2 (cf. Placement of Open Innovation processes in research framework), we place Open Innovation processes, we studied in this study, in research framework.

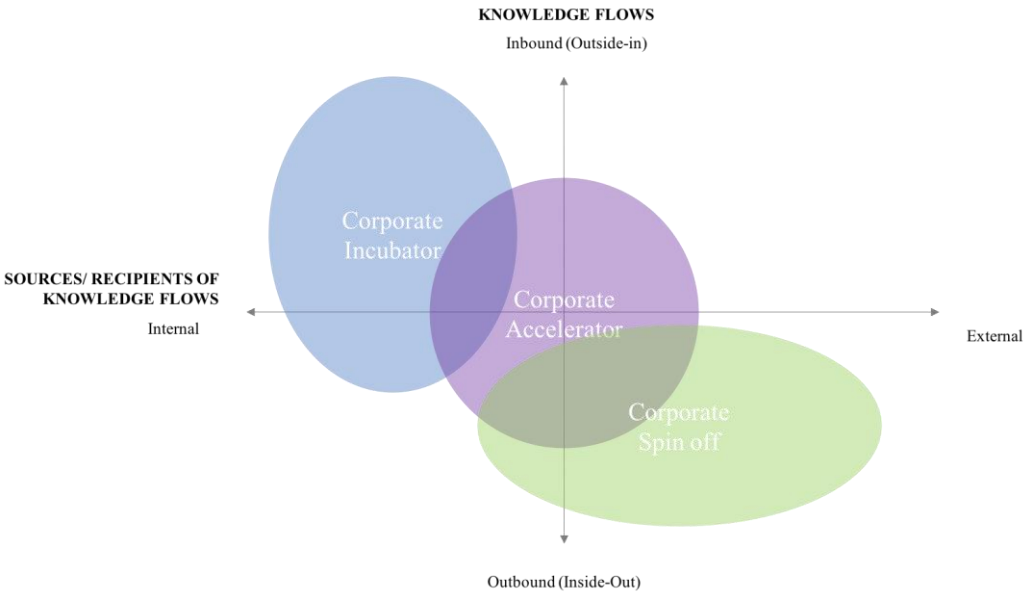

Figure 2 – Placement of Open Innovation processes in research framework

Through these different interviews, we observe some specificities attached to the different Open Innovation processes and some common features between these different Open Innovation processes. Well-being factors have not same resonance and evocation in the different Open Innovation processes. We found some differences between intrinsic factors and extrinsic factors of well-being at work in the different Open Innovation processes.

About intrinsic factors of employee's well-being, in Corporate Incubator and Corporate Accelerator, we observe a strong intrinsic motivation from employees. Employees express their intrinsic motivation by a strong emotional attachment to their projects. We observe that intrinsic motivation can be positive for well-being at work when project is doing well (ie. The project is accepted or recognized by hierarchy, community, colleagues). However, when the project is doing bad (ie. The project is stopped by Corporate Incubator manager or when the project meets some difficulties or critiscms), intrinsic motivation become negative for employees well-being. For example, some employees, whom their project stopped, want to leave large company to work in smaller companies or be demotivated in their work. We explain these behaviours by a lack of objectivity from employees. Indeed, a strong affective attachment of their projects can be tarnish their objectivity, while decision-makers judge these kinds of project with a pragmatic objectivity. This gap can create an ill-being at work.

Furthermore, we can observe that employees, who have integrated Corporate Incubator and Corporate Accelerator, give close answers about work meaningfulness. Indeed, work meaningfulness, which were given to the project by employees, seems to extend beyond a work meaningfulness and seem to register in a global life approach (i.e. construct the future, help people). These answers show that project goes beyond the strict professional environment and is involved in a personal approach. As we see, before, work meaningfulness highlights strong affective attachment from employees to their projects. Furthermore, work meaningfulness explains blurred limits between professional life and personal life that employees express.

About autonomy factor, we observe two autonomy perceptions: some employees have a positive autonomy perception and some employees have a negative autonomy perception. We explain this observation by two typologies of profiles: some employees succeed to deal with a great degree of autonomy and some employees wait for external inputs (ie. Knowledge, methodology, discussions). We explain that by profile differences.
We find these differences of profiles in analysis of career prospects. Indeed, we assume that the adoption of two opposite direction can attract different profiles; with an outbound Open Innovation direction, we assume that organization attracts risk-tolerant, proactive profiles, while and with an inbound Open Innovation, we assume that organization attracts risk-aversion and passive profiles.

In our study, hierarchy seems to have some difficulties to manage an organic project, and to manage these different temporalities and phases: exploration and exploitation. In Open Innovation processes, specifically in Corporate Spin-off, we observe a difficulty to manage organisational ambidexterity. In our study, we observe an impact of organisational ambidexterity difficulties at an individual-level; to become an individual ambidexterity: autonomy to explore and to adopt an organic approach and long-term vision; and at the same time, to answer at heavy procedures by reporting with short deadlines. This paradoxical situation can impact negatively extrinsic motivation and consequently employee's well-being. Furthermore, hierarchy behaviour can be analysed as an understanding of the project and issues of this project methodology.

Furthermore, Corporate Spin-off employees spoke more about extrinsic factors of well-being than intrinsic factors. Corporate Incubator employees spoke more about intrinsic factors of well-being at work than extrinsic factors, and Corporate Accelerator employees spoke about

both. We explain that by project formalisation level. Indeed, in the Corporate Incubator, employees, who interviewed, come spontaneously to settle an idea; it is an individual approach or bottom-up approach. In the Corporate Accelerator, employees who support project have to be approving by company. The individual approach become a hybrid approach: individual and organizational approach. For Corporate Spin-off, in this specific case, it is an organizational approach and a top-down approach. As we see in the figure 3 (cf. Formalisation degree of Open Innovation projects according to research framework), according to formalization degree of the Open Innovation project, we pass from an individual approach to an organisational approach. Thus, we pass from a low degree of Open Innovation project fomalisation to a strong degree of formalisation.

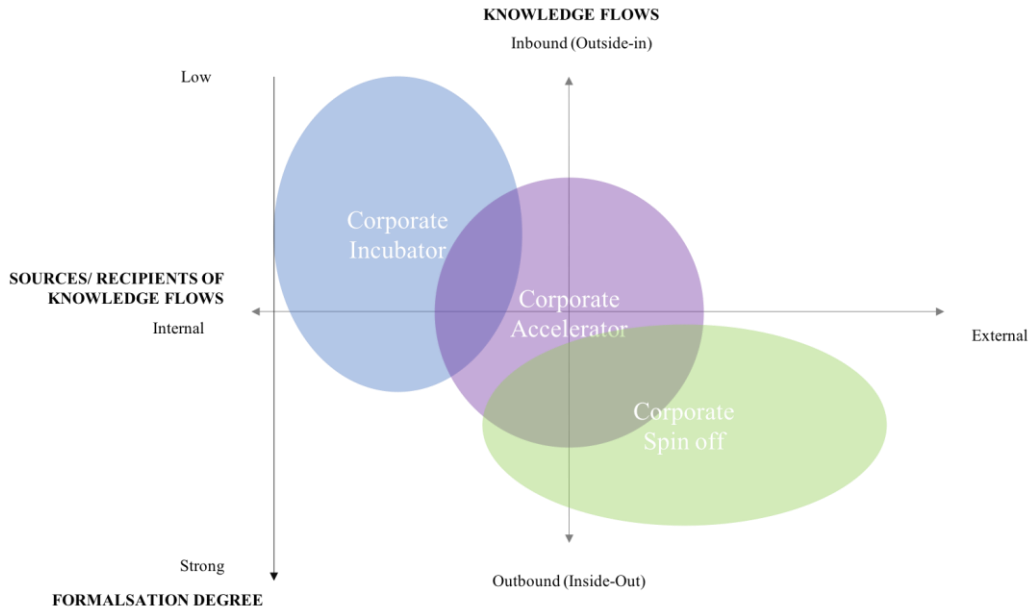

Figure 3 – Formalisation degree of Open Innovation projects according to research framework

In regard to extrinsic factors of well-being at work, we observe a misunderstanding and a lack of recognition from management about Open Innovation processes. Most of employees reported that their managers did not really understand issues of Open Innovation processes. This misunderstanding of Open Innovation processes affects negatively work recognition and consequently and employees' well-being. While Amundsen et al. (2014) assume the importance of managers' roles in the implementation of Employee Driven Innovation policy. Managers have to become "coach" or "discussion partners" (Amundsen et al., 2014, p.31). Specifically in Corporate Incubator, non-recognition from organisation seems to increase by non-hierarchically and non-legally legitimately recognition. Furthermore, maybe we can analyse non-recognition or non-incentive form hierarchy, by the potential loss of human resources and

time, however management needs to have all their members of team to fulfil their objectives. To push their employees to innovate, it is a risk to lose one of their employees and to lose a resource. Maybe, it will be interesting to think about incentives for hierarchy to push employees to integrate Open Innovation processes management.

In Corporate Accelerator, there is another kind of recognition problem. In Corporate Accelerator, unlike Corporate Incubator, company recognizes employees as manager of Open Innovation project. This specific status permit to employee to enjoy resources allocated to the project to have a legitimacy to support the project and to legitimize the project. The particular status of project is recognized but company takes ownership this project: the project become the project of company. Some employees live this situation as an unfair. More than financial recognition, employees seem to want a recognition of idea or project's paternity or maternity from the organisation.

To conclude, through this study and these first trends, we propose Figure 4 - Model of "Impact of Open Innovation on well-being at work" – shows the impact of Open Innovation processes on well-being at work (intrinsic and extrinsic factors), with moderator variables: organization and profiles characteristics.

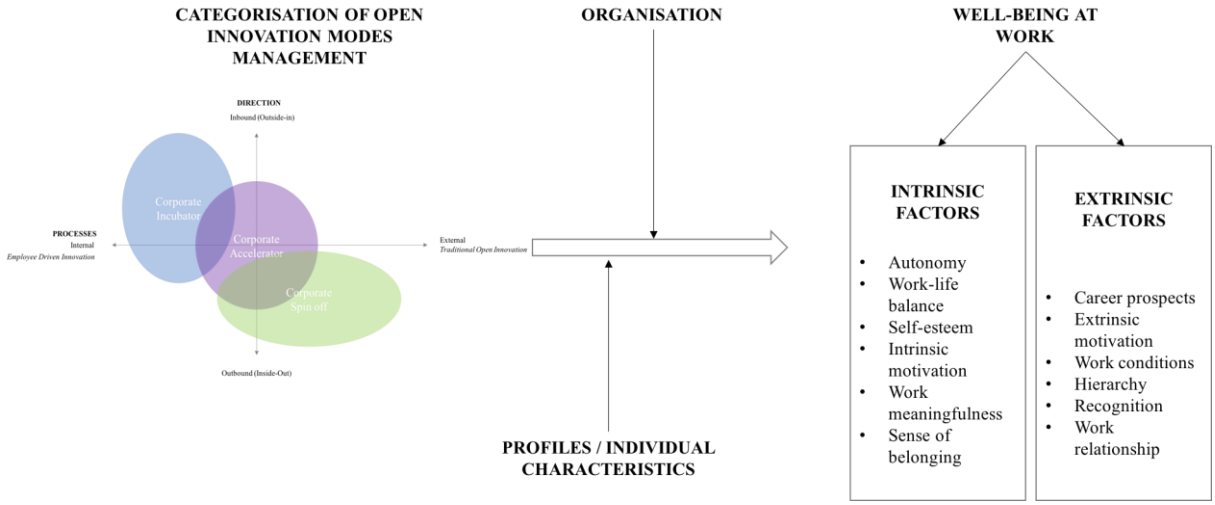

Figure 4 – Model of "Impact of Open Innovation on well-being at work"

5. MANAGERIAL IMPLICATIONS

The psychosocial approach of Open Innovation management allows us to understand the psychological and human barriers of Open Innovation processes. Following understanding of these psychological barriers, we will be able to propose organizational and managerial

improvements of these Open Innovation devices by adapting them to the human ones, in order to make them as efficient as possible.

In addition, Employee Driven Innovation's strategies can be "disseminators of the culture of innovation beyond the internal and external boundaries of the organization" (Soderquist, Tirabeni, & Pisano, 2016). Thus, understanding the strategies of Employee Driven Innovation through a psychosocial approach will enable us to take full advantage of these mechanisms in a perspective of cultural transformation initiated by large companies.

6. CONCLUSION

The aim of this study was to explore the impact of Open Innovation on employee well-being. To shed a light on this issue, we introduce two theoretical frameworks enabling to categorise Open Innovation processes and identify the different factors of employee well-being.
The results of this preliminary and explorative study are that, indeed, Open Innovation appears to affect, both positively and negatively, employee well-being. More interestingly, the manner in which Open Innovation affects employee well-being appears to depend on the direction of the knowledge flows (inbound, outbound, coupled) and on the locus of the flows (whether internal to the company or with external entities). For instance, intrinsic factors, such as motivation, appear to be particularly critical in the case of inbound processes, but much less so in the case of outbound processes.

Another preliminary result is that, besides the type of Open Innovation process, the way these processes are managed plays a very important role: for instance, when discussing autonomy—an intrinsic factor of well-being—though all interviewees mentioned this factor as a positive one, employees in inbound processes often mentioned having too much autonomy, which they saw as a lack of support from upper-management, while employees in outbound processes stated that while they benefited from a large autonomy, this was conditioned to success in their mission and that a large amount of monitoring was in place, hereby revealing agency problems in this type of processes.

To our knowledge, this is the first study that addresses the issue of the effect of Open Innovation on employee well-being. Early results tend to show that there is indeed an effect and that this effect depends on the type of Open Innovation process. Furthermore, the way Open Innovation

processes are designed and managed appears to play a great role as well. We think this is a valuable contribution to Open Innovation research, as it enables to understand better some important phenomena that had not been previously addressed in the literature.

This research enables to understand better issues that might arise when companies are implementing Open Innovation strategies. In particular, these preliminary results enable to identify three aspects worthy of consideration by managers. The first one is that it is important to identify clearly the type of Open Innovation process, in order to design an adequate governance structure. The second is that beyond the effect of the type of knowledge flows involved, management of the processes greatly affects well-being (and, thus, performance). Finally, these early results enable to envisage that different profiles of employees are better fit for different types of Open Innovation processes.

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