Attitude vs involvement: a systematic literature review at the intersection between engagement and innovation

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Abstract

Purpose – In a world where innovation became a "buzzword" and everyone within companies is required to foster innovation, the engagement of people toward innovation is fundamental to prompt individual motivation and actions to make innovation happen. However, despite the relevance of the relationship between engagement and innovation, the literature on the topic appears still fragmented. The purpose of this study is to provide an overview of the topic through a systematic literature review.

Design/methodology/approach – A final sample of 108 papers has been selected and analyzed through co-citation and text mining analyses. The former enabled the analysis of the structure of the theoretical foundation of the filed, while the latter facilitated a systematic and unbiased content-driven review of the literature.

Findings – The results of the analysis indicated two main areas of interest describing the relationship between engagement and innovation. On the one hand, there is the focus on "engagement as an attitude," intended as the capacity of individuals to generate and realize innovation. On the other hand, there is a stream of literature focused on "engagement as involvement," which refers to co-innovation paradigms, involving both internal and external stakeholders.

Research limitations/implications – From an academic perspective, this paper highlights the relevance of the "human-side" of innovation, proposing avenues for future research that dig into the relationship between people's engagement and innovation dynamics. Moreover, it shows how the recent developments in the innovation management literature are coherent with this emerging relevance of the human perspective in innovation.

Practical implications – From a practitioner's perspective, this paper helps managers by highlighting the two different approaches that they can have in terms of engagement. The study aims to help them in identifying the kind of engagement they are looking for in their employees and other innovation stakeholder having the support to find relevant studies in that direction.

Originality/value – The study unveils how the evolution of both areas over the years is strictly related to the megatrends of innovation fields, which are the main areas of knowledge not covered yet. Therefore, a research agenda is proposed.

Keywords Innovation, Engagement, Systematic literature review, Employees, Involvement, Attitude, Text mining, Co-citation

Paper type Research paper

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Introduction

In a fast-changing world, overcrowded by ideas and opportunities, one of the biggest challenges for companies is not to generate ideas but to engage people toward innovation (Verganti, 2017). Organizations operate and compete in a complex and turbulent environment because of major forces such as digital transformations and cross-industry global trends like big data and social media (Matzler *et al.*, 2018; Lee *et al.*, 2012). All these factors provide an incredible amount of possibilities for innovation in terms of new products, the value chain and the business models (Smedley, 2017).

In understanding how to deal with this environment, a lot has been said about the process of innovation and the strategies to improve the quantity and the quality of innovation initiatives (Brenton and Levin, 2012). Innovation scholars focused mainly on the process to foster innovation, considered as a defined sequence of decision points (Cooper, 1990; Krishnan and Ulrich, 2001). Therefore, much attention has been put on how to execute such processes in a fast and iterative way to navigate the complexity of a highly dynamic market environment. However, these approaches define innovation development as a deliberate business process which involves scores of generic decisions (Krishnan and Ulrich, 2001) and metrics to assess performances (Slater *et al.*, 2014). They neglect entirely the role of people as members of a social system (Rogers, 1962), who can bring in the process not only their capabilities and skills (Shane and Ulrich, 2004) but also their ideas, values and perspectives (Brenton and Levin, 2012).

Nevertheless, innovation is not just generating ideas and pooling technical skills within a cross-functional team. It also requires moments of playfulness (Mainemelis and Ronson, 2006), time, immersion and reflection (Brenton and Levin, 2012). Simultaneously, innovation is also about volunteerism, energy and motivation (O'Connor and McDermott, 2004). Hence, in the current environment, a deeper understanding of how people engage, make sense and collaborate in innovation appears fundamental (e.g. Alblooshi *et al.*, 2020; Bellis and Verganti, 2020).

In particular, people's engagement appears as crucial to spur an individual's motivation and action in making innovation happen. In a way, engagement seems to reflect a positive psychological state of motivation with behavioral manifestation, both cognitive and emotional, resulting in the active involvement of a person (Shuck and Wollard, 2010). Still, what is the current state of research at the intersection between engagement and innovation? The present study aims to explore such a research question.

The interest in "engagement" as a research topic is dated back at the end of the last century (Kahn, 1990). Nevertheless, today as never before, the understanding of what moves an employee to provide their contribution to business processes has become relevant and it is even more appropriate for what concerns innovation. The purpose of the present study is to provide a systemic overview of what has been said in the field and provide a critical analysis that may help innovation scholars and innovation managers in highlighting relevant spots for future research. More precisely, the paper explores how the literature sheds light on the relationship between engagement and innovation through a systematic literature review. While in academic literature, the engagement–innovation relationship appears still fragmented and does not provide a single study comprehensively analyzing the topic (Janssen, 2003; Shuck and Wollard, 2010). Thus, the paper aims to understand how scholars conceptualized and studied engagement in innovation activities.

The study's results indicate how people's engagement may be different according to the specific objective of the innovation activities. Through this work, we identify two kinds of engagement: engagement as involvement and engagement as an attitude. The former identifies engagement as a form of active collaboration toward the innovation initiative. While the latter identifies engagement as a mindset that people need to adopt and develop in order to embrace innovation challenges.

Leveraging on these findings, the study aims to contribute to both theory and practice. Form a theoretical perspective, the study aims to clarify the engagement–innovation relationship, providing insights about how the two kinds of engagement differ and how they can support innovation activities. Besides, building on the findings proposed, the study presents a research agenda for further exploration in the field.

From a managerial perspective, the study supports managers by suggesting how people's engagement may differ according to the specific innovation purposes. More precisely, according to our findings, engagement might have different nuances: from only involving people to collaborate on the one side until nurturing their mindset and attitude toward making innovation happen.

Finally, the paper is structured as follows. First, an overview about engagement literature is provided, it is crucial to understand the topic's state of the art before to relate it to the one of innovation. Then, we introduce the methodology followed to perform the systematic literature review. Subsequently, the results are presented as well as both kinds of engagement (involvement and attitude) are introduced. Finally, a discussion of the main findings is provided before to conclude with a research agenda for further development in the field.

Theoretical background

The engagement concept dates back to the 1990s when it started to attract academic interest. During its development, the idea of engagement has been attached to several different definitions ranging from "personal engagement" to "job engagement" till "employee engagement" when it refers explicitly to organizational contexts (Kahn, 1990; Schaufeli and Bakker, 2004; Robinson, 2004; Alfes *et al.*, 2010).

The seminal definition is attributable to Kahn (1990), who defines the concept as "*people exhibit engagement when they become physically involved in tasks, whether alone or with others; they are cognitively vigilant focused, and attentive; they are emotionally connected to their work and others in the service of their work*." Referring to Welch's (2011) engagement review, the evolution of engagement can be contextualized into three different periods or "waves."

The first wave has been mainly characterized by Kahn mentioned above (1990). The third wave is defined by Welch (2011) that linked engagement with other disciplines' contributions coming from human resources, workplace behavior and psychology (Welch, 2011).

The first wave has been mainly characterized by Kahn (1990), imprinting with a shared focus on engagement as physical–vigor, emotional–dedication and cognitive–absorption (Schaufeli and Bakker, 2004). While "vigor" implies "high energy levels and mental resilience when working," "dedication" refers to "being strongly involved in one's work and experiencing a sense of significance, enthusiasm and challenge"; finally, "absorption" means "to be fully concentrated and engrossed in one's work" (Schaufeli and Bakker, 2004). This first wave represents the seminal work on engagement, highly oriented to the organizational context, and the relationship between people and their job.

The second wave is evident in the first half of the 2000s when another influential definition was coined from Schaufeli and Bakker (2004). They considered engagement in the organizational behavior context defining it as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption." Robinson (2004) also contributed to the second publication wave by defining the concept of engagement as "a positive employee attitude towards the organization and its values, involving awareness of business context, and work to improve job and organizational effectiveness." It is evident how, consistently with the first wave, this second group is characterized by the term "positive," which defined the turning point with respect to the focus from negative consequences of work attitudes popular in that time (i.e. job burnout). Such a switch triggered the advent of academic works on engagement starting from this period: one the most popular

is Saks (2006), who defined organizational support and job characteristics as job engagement antecedents. This second wave highlights the role of a positive dimension in the organization and, more broadly, the business context.

Welch (2011) initiated the third and last publication wave. It began with further scientific interest intensification near the end of the decade when the engagement concept started to be linked to other disciplines' contributions from human resources, workplace behavior and psychology (Welch, 2011). The primary engagement conceptualization production ends with this third wave, leaving the academia with a plethora of nonexhaustive definitions and a widely accepted taxonomy (Schaufeli *et al.*, 2002).

Multiple academic conceptualizations are underlining its multifaceted nature due to the presence of constructs intersecting social and psychological sciences (Robinson, 2004; Alfes *et al.*, 2010), highlighting this difficulty in finding a reliable and well-comprehensive definition and a subsequent valid measurement system. The concept of engagement is an integration of behavioral, emotional and cognitive components, encompassing ideas such as energy, rational and emotive attachment, deep connection, positive attitude and psychological presence (Rich *et al.*, 2010).

Recently, organizations began to adopt a more open approach to engagement by considering it as a substantial psychological adaptation and involvement from the part of employees to the organization (Schaufeli and Bakker, 2004). This shift can be attributed to how the engagement notion has quickly evolved within the practitioner community, hampering the understanding of work engagement for practical purposes (Anitha, 2014). The concept of engagement, given the advent of the Fourth Industrial Revolution (Klaus, 2016), has passed from the definition of mere physical exploitation of the employees to a desirable active espousal of the entire "person" to the work sphere in modern organizations.

Thus, nowadays, engagement can be considered an essential condition for employees and the organization they work for (Saks, 2006). Indeed, researchers interpret engagement as a property of organizations, that is, employees throughout the organization may share perceptions that members of the organization collectively invest their full selves into their work roles (Dvir *et al.*, 2002). For example, motivational states such as engagement are highly transferrable to other members of the organization (Karanika-Murray *et al.*, 2015). Given the fact that organizational engagement involves psychological processes occurring within individuals as they attribute meaning to the environment in which they work and transform it. At the same time, they disseminate it; for this paper, we consider engagement at the individual level (Seibert *et al.*, 2004).

Thus, employee engagement means that organizations are now endowing their efforts at mobilizing the motivation of their human capital, even creating a potential source of innovation to contribute and help drive the organization forward (Bessant, 2003). It has also been indeed defined as a positive capability to foster mind-openness and out-of-the-box thinking, making individuals more willing to achieve meaningful innovations, for themselves and ultimately for the whole organization (Eldor, 2017; Jena and Memon, 2018; Jung and Yoon, 2018).

The benefits of highly engaged and innovative employees are clear from numerous innovation management studies (Chughtai and Buckley, 2011; Janssen, 2000; Oldham and Cummings, 1996; Robinson and Schroeder, 2004; Teerikangas and Valikangas, 2013). It implies that academic interest has slightly started to concentrate not only on how to enable employees to be engaged in their work but also how to be too motivated in creating innovation (De Spiegelaere *et al.*, 2014; Verona and Prandelli, 2002; Füller, 2006).

Although the increasing current interest nested within the engagement–innovation relationship, academic literature evidence is still fragmented and does not provide a single study comprehensively analyzing the topic (Janssen, 2003; Shuck and Wollard, 2010). Thus, providing an exhaustive analysis of the relationship between engagement and innovation through a bibliometric systematic literature review is pivotal. In completing this research, our

literature review's main driver is to aspire to give an innovative framework to answer how the literature has contributed to shedding light on the relationship between engagement and innovation.

Research design

Systematic literature reviews are widely diffused in the innovation literature. They focus on both broad and specific topics using traditional (e.g. Lill *et al.*, 2020) and bibliometric approaches (e.g. Suominen *et al.*, 2019). This research also relies on both approaches using co-citation and text mining techniques, as explained later.

Sample selection

To reach the research aims, a structured approach to review the literature has been applied (Tranfield *et al.*, 2003). To reach the final sample of focal articles, this study adopted a systematic approach (e.g. Randhawa *et al.*, 2016; Magistretti *et al.*, 2020), summarized in Figure 1, with a final sample of 108 articles published in leading business journals (indexed in Scopus). The research phase was conducted during 2019; therefore, the literature search is updated to the end of 2018.

The review process was conducted by searching the SciVerse Scopus online database for scientific articles. This database was chosen for its completeness since being less selective than other potentially leads to a larger selection of international outlets, which in turn convinced the authors to select it as the preferred choice for its fit with such a cross-cutting topic as engagement in innovation (e.g. Ghezzi *et al.*, 2018).

The first step aimed to identify relevant concepts to the area of investigation (definition of the keywords for the literature search). As previously mentioned, our research aims to focus

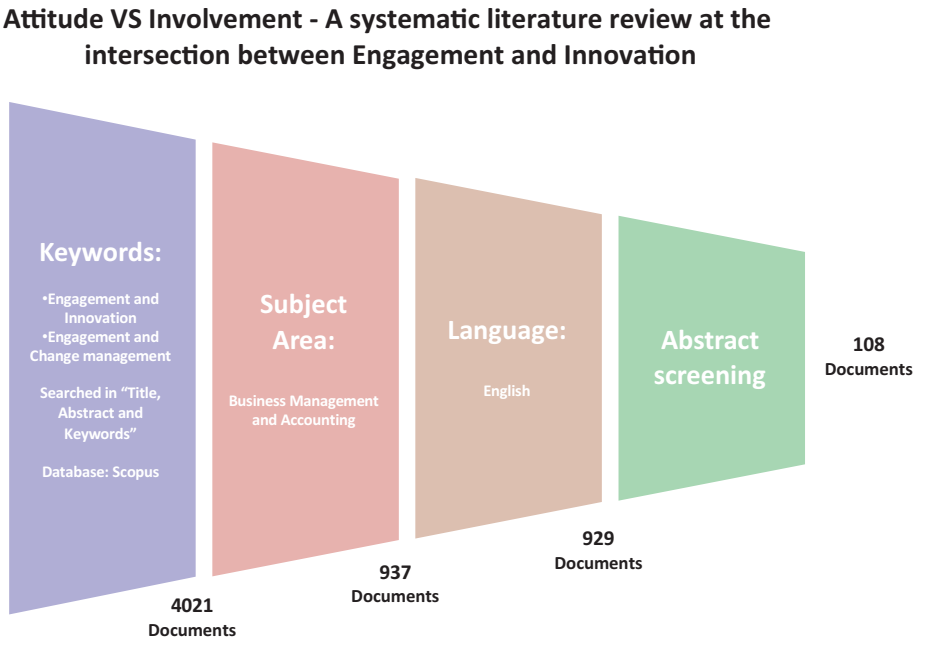

Figure 1.
The filtering process and definition of the final database

on the intersection between the concepts of "innovation" and "engagement," which are the first two keywords used for the search. When the object of the innovation process is the people, their behaviors and how they act within an organization, the literature often refers to the term "change management" rather than "innovation." Therefore, to have a broader view of the topic, we also included the keywords "change management" and "engagement" as queries. The search of the two sets of keywords in the field of "Abstract, Title and Keywords" brought to 4,021 initial results. The following steps limited the results to the area ("Business, Management, and Accounting") and the language (English), bringing to 929 documents. A specific further filter for the time frame was included (1990–2018), considering the available papers published in succession to the seminal paper introducing the concept of engagement (Kahn, 1990). For the final step of the screening process, the authors have independently reviewed all the abstracts to identify the definitive sample.

Among the abstracts reviewed by the whole pool of authors, only 108 papers have been considered potentially aligned with the research objective of this study. Most important, as exclusion criteria, the authors considered that other papers used the word "engagement" with different meanings, such as a synonymous for commitment in an investment (Nemet, 2009) or not related to innovation activities (e.g. Van Looy *et al.*, 2004). The papers resulting in the final sample have been read and analyzed qualitatively and through quantitative tools: the co-citation analysis and text mining.

The co-citation analysis

References in a paper may show silent relationships (Gmür, 2003; Small, 1973). Co-citation is a technique that measures the frequency with which two items (articles, authors, sources, etc.) are cited together. It is becoming more and more popular in the management field, e.g. in innovation (e.g. Randhawa *et al.*, 2016) or business ethics (e.g. Calabretta *et al.*, 2011). The final goal is to provide an indicator of the affinity and proximity between the two items (White and Griffin, 1981).

Therefore, co-citation was used to analyze the structure of the theoretical foundation of the filed. It was used at the paper level, explaining at the same time multiple contributions by a single author. At first, a network is drawn showing the links between the most co-cited papers. In order to increase the network readability of the selected sample of 108 papers, articles with less than six citations were excluded (e.g. Randhawa *et al.*, 2016).

A smart local moving algorithm is then used to analyze the network (Waltman and van Eck, 2013) and to provide a cluster analysis of related publications (Waltman *et al.*, 2010).

Software sets the number of clusters based on the resolution parameter. The parameter was added to avoid the failure of identifying small groups (Fortunato and Barthélemy, 2007). Indeed, the algorithm is based on the modularity function, which is famous among network scientists (see Fortunato, 2010). Nevertheless, it is affected by the resolution limit problem, which is here limited by the resolution parameter.

The text mining analysis

Text mining aims to find detailed conceptual insights through an unstructured ontological discovery using the words as the unit of analysis. It shows a systematic and unbiased content-driven review of the literature (e.g. Biesenthal and Wilden, 2014; Randhawa *et al.*, 2016). It is becoming more and more diffused in innovation research (Antons *et al.*, 2020).

To accomplish the result of this last quantitative analysis, textual data mining software Leximacer 4.0 was used (e.g. Randhawa *et al.*, 2016).

Previous research showed that these tools present a close agreement with expert judgment (Campbell *et al.*, 2011; Rooney, 2005). The analyses performed by software aim to

highlight the most frequently used concepts in a text and to define the relationships between them.

Software has been used to systematically reveal critical concepts in the field through the identification of seed words (thematic analysis of the documents) that have been linked through the frequency and the co-occurrence within their contexts (semantic analysis) (Mathies and Burford, 2011).

Results

Descriptive results

Even if early investigation at the intersection between engagement and innovation occurred in the 1990s (e.g. Khan, 1990; Smith, 1994), only in the early 2000s, the growth rate of studies about engagement in innovation increases significantly (Figure 2). In particular, Alfes *et al.* (2010) were the first researchers to investigate engagement within the field of innovation; their study seems to be the trigger of knowledge at the intersection of the two major domains.

There is a wide variety of journals that in the timespan abovementioned published studies around the fields of engagement and innovation. As represented in Figure 2, there are journals from various fields of knowledge such as psychology (*European Journal of Work and Organizational Psychology*), innovation management (*Creativity and Innovation Management*, *Journal of Product Innovation Management* and *International Journal of Innovation Management*) or HR management (*Human Resource Management International Digest* and *International Journal of Human Resource Management*) to others more specific context such as health care (*Journal of Health, Organization and Management* and *Journal of Healthcare Management*) and tourism (*Tourism Management*).

The field seems quite sparse: overall, 19 journals are present in the database and the most popular in the area has only four papers. Something similar emerges from the analysis of the ten most cited articles in the sample (Table 1): they have been published across nine different journals, from very different fields such as marketing (*Journal of Interactive Marketing*), strategy and management (*Strategy and Leadership* and *California Management Review*) and human resources (*International Journal of Human Resource Management*).

Going more into detail on the descriptive analysis of the document's sample, further considerations can be made about the methodology adopted and the subject of the engagement in the research study.

As reported in Figure 2, the studies have been classified as quantitative (studies based on survey and statistical inferences), qualitative (studies based on methodologies such as case study or ethnographic research) and conceptual. From the descriptive analysis emerges how the distribution of the three categories is quite homogeneous, although quantitative studies are more numerous. One last analysis focuses on the "subjects" of the engagement. In particular, the studies focus on two main categories: internals or externals to the organization. On the one side, the internal ones are employees or managers and the focus is on innovation within their organization. On the other side, there are external players, such as customers or stakeholders, that the company aims to engage in the innovation process. Figure 2 shows the distribution of the two categories across the overall sample and let emerge how most of the studies are focused on internals to the organization.

Co-citation

In the co-citation analysis (Figure 3), besides representing the original papers that have contributed to the literature of the engagement–innovation relationship, four clusters emerge showing different academic streams that represent the roots of the research study on commitment in innovation.

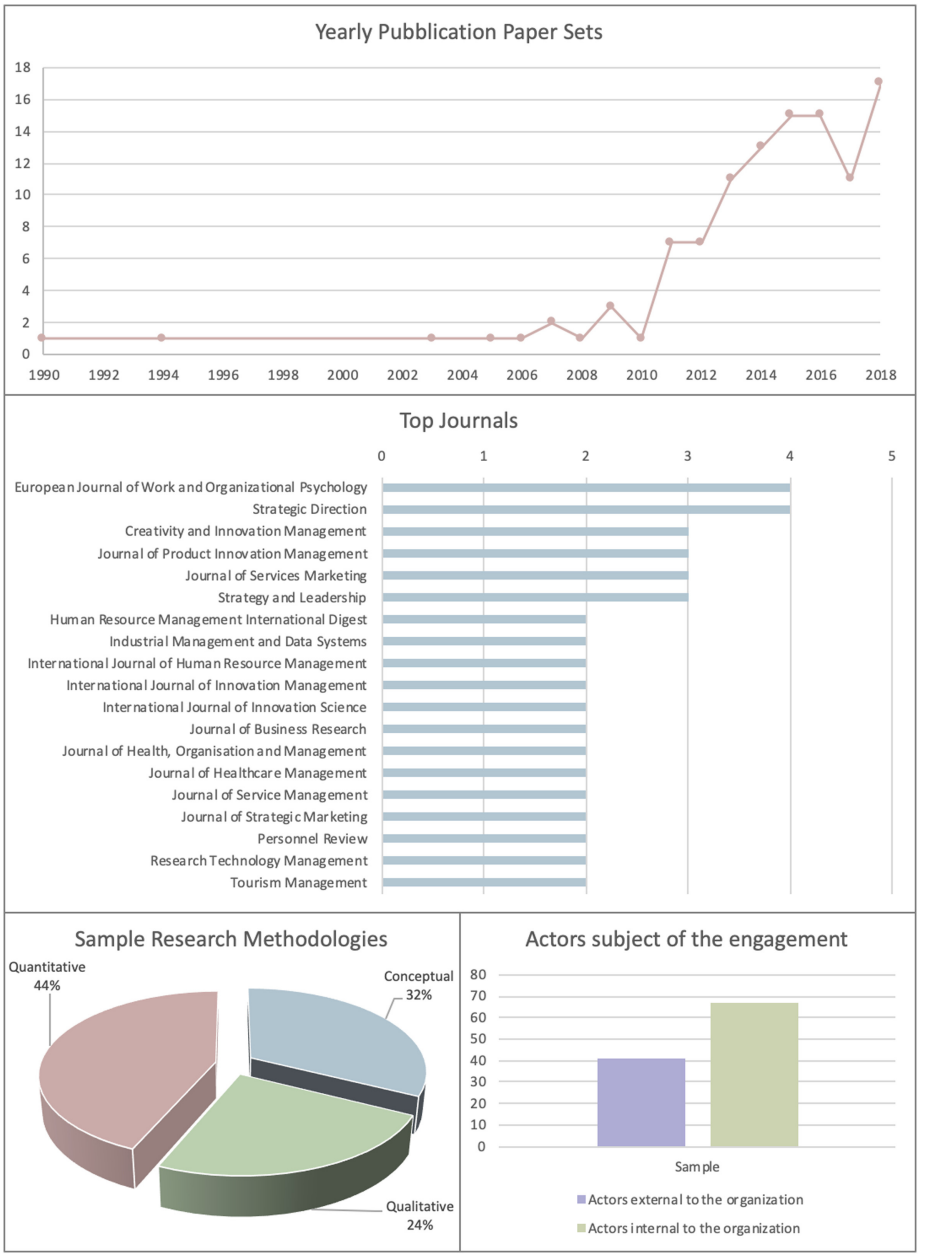

Figure 2.
Descriptive results of the sample

Table 2 briefly summarizes and presents the paper of each cluster.

It is essential to note the very high distance of the fourth cluster to the others, indicating the high gap recognized by the algorithm between the first three clusters (dealing with something internal to companies) and this last one (Van Eck and Waltman, 2014). It seems

Authors	Title	Year	Journal	Cited by
Sawhney M., Verona G., Prandelli E	Collaborating to create: the Internet Platform for customer engagement in product innovation	2005	*Journal of interactive Marketing*	571
Lee S.M., Olson D.L., Trimi S.	Co-innovation: Convergenomics, collaboration, and co-creation for organizational values	2012	*Management Decision*	203
Agarwal R., Selen W.	Dynamic capability building in service value networks for achieving service innovation	2009	*Decision Sciences*	148
Füller J.	Why consumers engage in virtual product development initiated by producers	2006	*Advances in Consumer Research*	108
Ramaswamy V.	Leading the transformation to co-creation of value	2009	*Strategy and Leadership*	97
Ramaswamy V.	Co-creating value through customers' experiences: The Nike Case	2008	*Strategy and Leadership*	89
Slåtten T., Mehmetoglu M.	Antecedents and effects of engaged frontline employess: a study from the hospitality industry	2011	*Managing Service Quality*	88
Hartley J., Sørensen E., Torfing J	Commaborative Innovation: a viable alternative to market competition and organizational entrepreneurship	2013	*Public Administration Review*	77
Salter A., Criscuolo P., Ter Wal A.L.J.	Coping with open innovation: Responding to the challenges of external engagement in R&D	2014	*California Management Review*	48
Bhatnagar J.	Management of innovation: role of Psychological empowerment, work engagement and turnover intention in the Indian context	2012	*International Journal of Human Resource Management*	47

Table 1.
Most cited papers in the sample

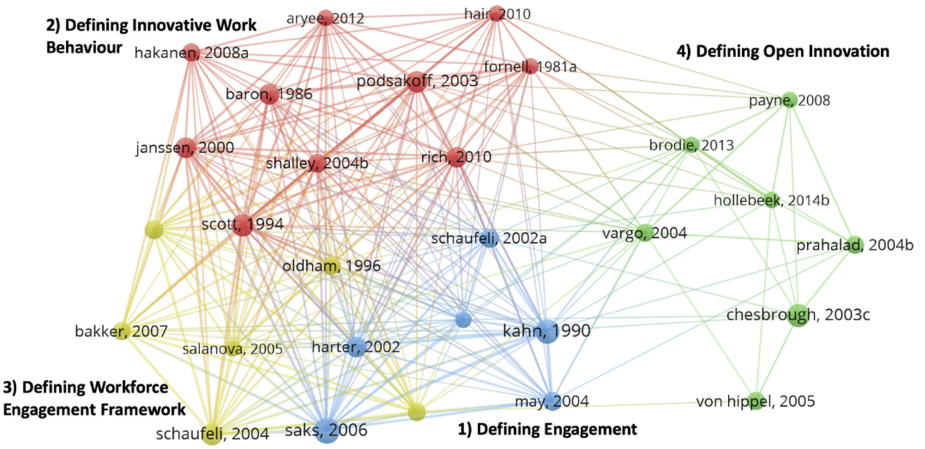

Figure 3.
The output of the co-citation analysis on the whole sample of 105 papers with minimum citations count equal to 6

Defining engagement	Workforce engagement framework
The *blue cluster* defines engagement as the harnessing of organizational members' selves to their work roles, through their physical, cognitive and emotional expression during their performances. It contains five papers dealing with the original conceptualizations of engagement (Kahn, 1990; Schaufeli *et al.*, 2002), its antecedents and outcomes (Harter *et al.*, 2002, May *et al.*, 2004, Saks, 2006).	The *yellow cluster* indicates the employees' willingness and ability to invest their effort in the success of the organization. It contains two papers aiming at verifying the correlation between high levels of employee engagement and enhanced performances with the mediation of organizational learning environment (Salanova *et al.*, 2005) or creativity (Oldham and Cummings, 1996). Furthermore, the cluster contains another paper verifying the negative correlation between engagement and burnout (Schaufeli and Bakker, 2004) and one dealing with a human resource model to foster employee engagement (Bakker and Demerouti, 2007)
Innovative work behavior The *red cluster* includes engagement as an intentional behavior of an individual to introduce and apply new ideas, products and processes to his/her work , unit or organization. This cluster includes innovative work behavior antecedents both under an organizational perspective (Janssen, 2000; Aryee *et al.*, 2012), then under an individual viewpoint (Scott and Bruce, 1994; Shalley *et al.*, 2004; Rich *et al.*, 2010). The cluster also contains a paper dealing with the conception of the process through which high engagement levels bring to innovative work behaviors (Hakanen *et al.*, 2008); finally, there are four papers which focus on measurement, using both engagement and innovative work behaviors (Fornell and Larcker, 1981; Baron and Kenny, 1986; Podsakoff *et al.*, 2003; Hair *et al.*, 2010)	Open innovation The *green cluster* broadens the concept of engagement in an opposite way to the rest of the network, addressing issues outside the company. For open innovation, it is intended the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of change, respectively (Chesbrough, 2003). This cluster includes the seminal paper introducing the concept of open innovation (Chesbrough, 2003), alongside articles dealing more specifically with the importance of engaging customers, consumers or users in innovation processes (Vargo and Lusch, 2014; Von Hippel, 2005; Payne *et al.*, 2008; Prahalad and Ramaswamy, 2004; Brodie *et al.*, 2013; Hollebeek *et al.*, 2014).

Table 2.
Description of the four clusters

that two main areas exist among the roots of engagement in innovation. On the one hand, papers are building on engagement's subjective view, leveraging the original definitions of engagement mentioned at the beginning, taking a work behavior perspective and dealing mainly with the employees. On the other hand, research on engagement in innovation deals with open innovation, moving the attention outside the company's borders.

Therefore, we used the emergence of these two views on the topic to divide our sample into two subsamples. Still, these two clusters deal – generally – with different kinds of players, but, on top of that, they have significant differences in how they consider the concept of engagement.

The first is related to the study of people and organizational behavior toward engagement. Therefore, it has been labeled as "*Engagement as an attitude*" and includes clusters blue, red and yellow. The subsample involves all those studies that explore, from the people's perspective, how engagement is directly related to individuals' mindset and provide insights to harm or enhance such a behavioral phenomenon. According to this, within this cluster, it is possible to distinguish two main kinds of studies: those more focused on people's dynamics as a human being ("Human Perspective") and those more focused on organizational dynamics ("Organization Perspective").

The second includes those studies focused on engagement as a collaboration with other players, which could be even external to the company and regards only the green cluster. This cluster has been labeled as "*Engagement as involvement*," given that it deals with concepts of

co-innovation as the result of collaborative efforts between either employees or agents external to the company. Here, engagement is meant as "involvement" of stakeholders more than "engagement" as originally intended in this study; moreover, innovation does not generate through the engagement as a specific state of mind but instead through the collaboration of different actors that allows the integration of competencies, knowledge and perspectives.

Therefore, we clustered the papers in the sample according to these labels, having 35 papers regarding the first one and 73 regarding the second one. On them, we re-run the co-citation analysis.

The co-citation network resulting from the "Engagement as an Attitude" category shown in Figure 4 immediately highlights the absence of the last cluster, previously defined dealing with an extension of the engagement concept externally the company boundaries.

(1) The blue cluster ("Defining Engagement") complements the insight drafted for the first analysis, adding another paper dealing with engagement, its antecedents and outcomes conceptualization (Christian, 2011). It also contains two papers dealing with slightly different concepts: the former (Kahn, 1992) conceptualizing psychological presence at work and the latter (Hackman and Oldham, 1976) dealing with a similar but narrower conceptualization to the academic introduction.

(2) The red cluster ("Defining Innovative Work Behavior") follows the previously defined logic, including this time two papers dealing with the definition of innovative work behavior as a consequence of engagement (Janssen, 2003) and mathematical rules to validate models (Sobel, 1982).

(3) Finally, the yellow cluster ("Defining Workforce Engagement Framework") is added with two papers (Mauno *et al.*, 2007; Bakker *et al.*, 2008) dealing with the relationship between engagement, job demand and job resources and three (West and Farr, 1990; Axtell *et al.*, 2000; Hammond *et al.*, 2011) dealing with predictors and antecedents to innovative work behavior.

Regarding the green cluster, the analysis performed only using "Engagement as Involvement shown in Figure 4, shows two different clusters that contain the same nodes encompassed by the green cluster labeled "Defining Open Innovation."

(1) Chesbrough's (2003) seminal work on the open innovation paradigm is by far the most representative work within the network, indicating open innovation as the main academic foundation of the "Engagement as Involvement" subsample of papers. It appears in the same cluster named "Defining (User) Open Innovation" together with two papers dealing with the importance of engaging users in open innovation processes (Franke and Shah, 2003; Von Hippel, 2005).

(2) The other cluster instead ("Defining Customer Co-Creation") deals with four papers defining the value and the proper management of co-creation processes with customers (Vargo and Lusch, 2014; Payne *et al.*, 2008; Prahalad and Ramaswamy, 2004; Hollebeek *et al.*, 2014).

The analysis also confirms that the reference literature related to the "Engagement as Involvement" papers' field is much less concentrated than reference literature related to the "Engagement as an Attitude" papers' field, being its network much weaker.

The analyses reveal that the theoretical basis of the research study on the relationship between engagement and innovation remains within the research field itself when considering both categories of papers. Nonetheless, references remain proxies for concepts'

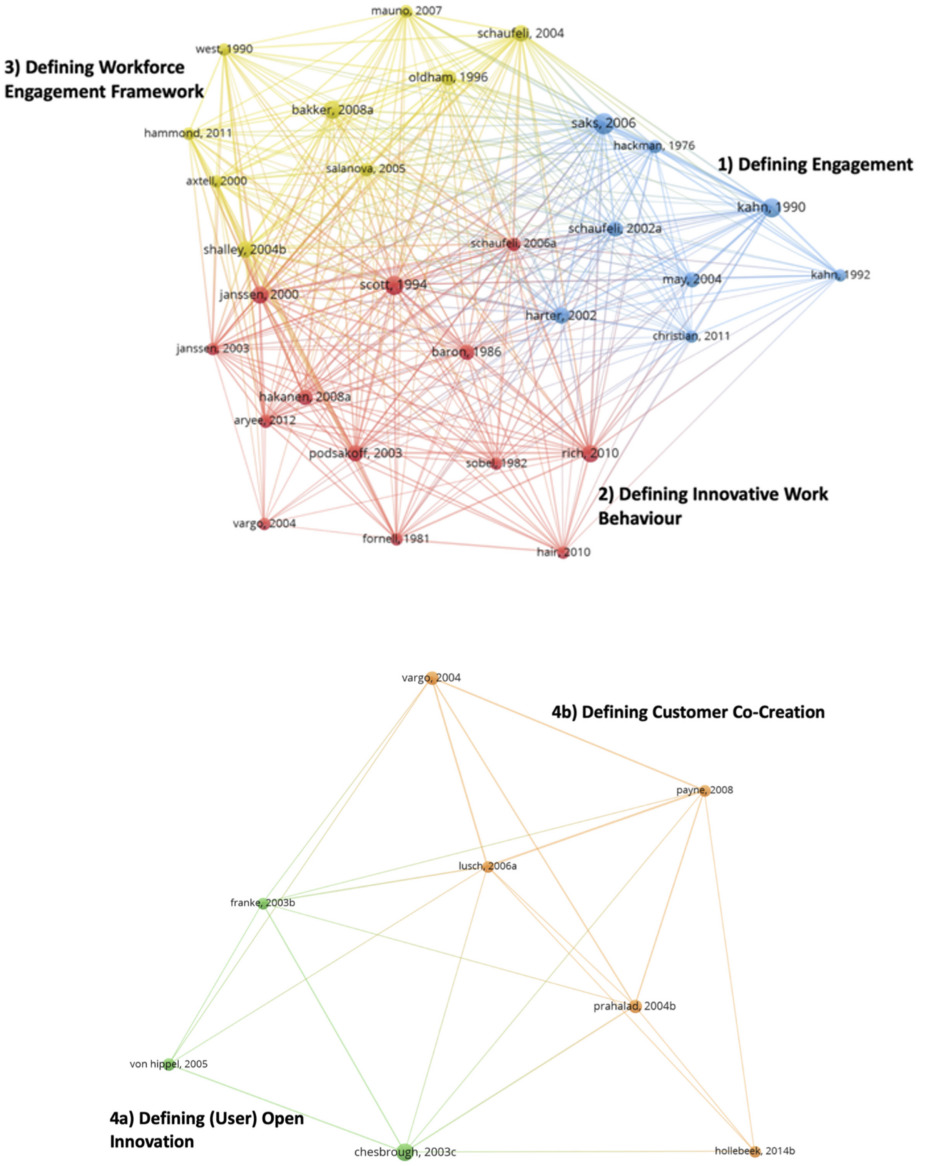

Figure 4.
The output of the co-citation analysis on the whole subsample of 35 "Attitude"-labeled papers with minimum citations count equal to 5 and the output of the co-citation analysis on the whole subsample of 73 "Involvement"-labeled papers with minimum citations count equal to 5

analysis, so that the text mining analysis has been performed to provide also a detailed analysis of the concept underlying in the set of papers chosen.

Text mining

This methodology has been used to approach a deeper level of analysis by decoding topics on which the literature has been focused. The output of the analysis consists of overlapping

bubbles representing different themes encompassing concepts sharing a related meaning; the circle size indicates how many concepts have been clustered together to form a given theme. The text mining analysis has been performed on the two subsamples above, respectively, the "Engagement as an Attitude" and the "Engagement as Involvement" sets of papers.

Engagement as involvement. The analysis of the 73 papers through the text mining algorithm (Figure 5) immediately lets to identify the "co-Innovation" concept, defined as a paradigm "*where internal, external, collaborative, co-creative ideas can converge to create shared organizational value*" (Lee *et al.*, 2012), as the dominant topic which can indeed be studied taking an (1) external or (2) internal perspective to the company.

The first macrocluster of papers ("*External Co-Innovation Perspective*") represents the different companies' external factors enabling a co-innovation paradigm along with the definition of the process design (Table 3).

A total of three microthemes emerge from the representation, including each one or more bubbles, such as engagement, stakeholders (community and company and value) and innovation (innovation and process and product and project).

The second macrocluster, named "*Internal Co-Innovation Perspective*" is differentiated from the first one as co-innovation is now intended to occur within the boundaries of companies (Table 4).

This second cluster lets emerge three microthemes within the representation, including each one or more bubbles, such as engagement, innovation management (study and management and project) and employee (work and change).

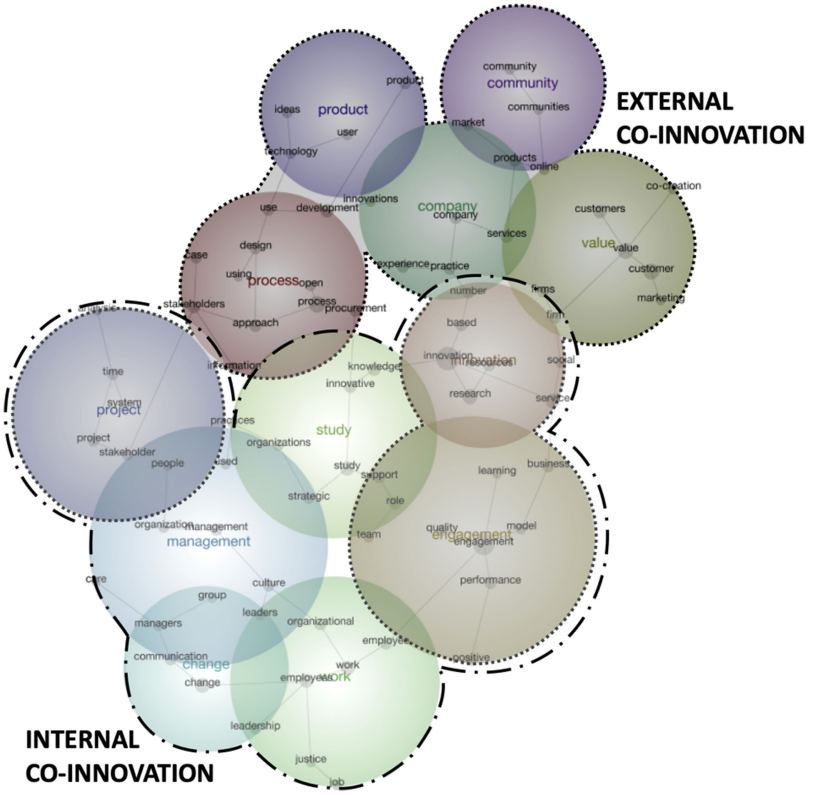

Figure 5.
The output of the text mining analysis on the whole subsample of "Involvement-" clustered papers. Topics of co-innovation emerge clearly, both toward the organization (internal co-innovation) and the external world (external co-innovation)

Table 3.
The summary of the external co-innovation cluster

Macrocluster	Microthemes	Brief description
External co-innovation perspective	Engagement	This theme deals with the definition of critical concepts of external stakeholders' involvement in co-innovation projects. More specifically, with the definition of different external actors' engagement levels: the very first level is to make the external actor get the right mindset to build a partnership with the company in charge of the co-innovation project; at that point, the third level is approached when the conversation between the actor and the company starts, after which the co-innovation effort begins to create advantages to the company (Salter *et al.*, 2014). Companies are expected to learn from these co-innovation activities engaging external stakeholders (Ramaswamy, 2008, 2009, 2010; Agarwal and Selen, 2009; Nicolajsen and Scupola, 2011; Rossi, 2011) which would subsequently allow enhancing corporate innovation performances (Agarwal and Selen, 2009; Randall *et al.*, 2013; Lee and Trimi, 2018; Chen *et al.*, 2016).
	Stakeholders (community and company and value)	The second theme deals with the definition of the sources of value of an external co-innovation project: they can be customers, users, stakeholders, online communities or other companies, all contributing to create value within co-innovation efforts (Sawhney *et al.*, 2005; Ramaswamy, 2008; Ramaswamy, 2009; Ramaswamy, 2010; Nicolajsen *et al.*, 2011; Rossi, 2011; Randall *et al.*, 2013; Lee *et al.*, 2014; Roberts *et al.*, 2014; Wid.n *et al.*, 2014; Zhang *et al.*, 2015; Kavaliova *et al.*, 2016; Oyner and Korelina, 2016; Fernandes and Remelhe, 2016; Hollebeek and Andreassen, 2018). Some authors also investigated why these stakeholders engage in co-innovation projects (Roberts *et al.*, 2014; Zhang *et al.*, 2015; Fernandes and Remelhe, 2016).
	Innovation (innovation and process and product and project)	The third topic deals with the definition of different innovation contexts considered and underlying processes involved as well as with the management of external stakeholders. More specifically, engaging external stakeholders enhances performances of service innovation (Agarwal and Selen, 2009; Chen *et al.*, 2016; Heiskanen and Matschoss, 2016; Oyner and Korelina, 2016), product and technology innovation (Sawhney *et al.*, 2005; Füller, 2006; Ramaswamy, 2008; Ramaswamy, 2009; Rossi, 2011; te Kulve and Rip, 2011; Gr.nroos and Helle, 2012; Bogers and Horst, 2014; Chen *et al.*, 2016; Fernandes and Remelhe, 2016; Heiskanen and Matschoss, 2016; Kavaliova *et al.*, 2016) and impacting social innovations (Lee *et al.*, 2012; Herrera, 2015, 2016; Torvinen and Ulkuniemi, 2016; Watson *et al.*, 2018). Finally, it deals with the management of an external co-innovation effort, remarking how "without organizational capabilities that align outside-in customer-to-employee experience with inside-out employee-to customer experience, co-creation of value with clients would be difficult to achieve" (Ramaswamy, 2009); companies should indeed foster also internal actors' involvement in order to support the process of external knowledge interiorization (Nowak, 2019; Tirabeni and Soderquist, 2019).

Table 4.
The summary of the internal co-innovation cluster

Macrocluster	Microthemes	Brief description
Internal co-innovation perspective	Engagement	This cluster is shared between the two theme clusters and it deals with the definition of different frameworks to engage internal actors in co-innovation projects (Tirabeni and Soderquist, 2019).
	Innovation management (study and management and project)	It defines how internal co-innovation should be managed at the organizational level: a pre-condition to be successful is that the entire workforce comprehending both employees and leaders is aligned (Ramaswamy, 2009); leaders can achieve this workforce alignment (Smith, 1994; Hill *et al.*, 2014; dle Zulueta, 2015; Li *et al.*, 2018; Petrou *et al.*, 2018) setting up the right organizational culture (Smith, 1994; Michaelides, 2011; Petrou *et al.*, 2018; Snyder *et al.*, 2018) through the creation of a sense of purpose, values and rules of engagement within the organization (Hill *et al.*, 2014) along with the application of a compassionate leadership style (dle Zulueta, 2015). The culture resulting from this effort has been found to make internal co-innovation projects successful (De Weerd-Nederhof *et al.*, 2007; Kash *et al.*, 2014; Totterdill and Exton, 2014; Nowak, 2019).
	Employee (work and change)	It deals with the organizational management of internal co-innovation but approaches a deeper level of detail, emphasizing only the figure of the employee. More specifically, the effectiveness of communication between employees and management (Rumbles and Rees,2013; Kash *et al.*, 2014; Butt *et al.*, 2016; Ruck *et al.*, 2017; Stachová *et al.*, 2017; Petrou *et al.*, 2018) and the perceptions of justice on the job place (Fuchs and Edwards, 2012) highly influence the workforce willingness to be engaged into co-innovation processes.

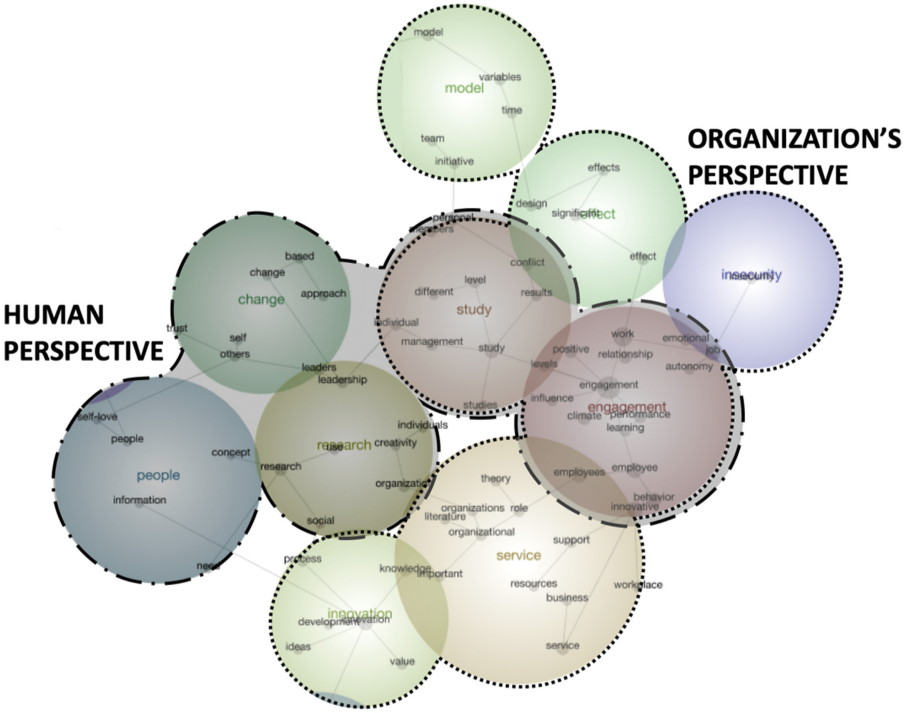

Figure 6.
The output of the text mining analysis on the subsample of "Attitude-" clustered papers. Topics related both to the organizational and human level emerge as relevant to nurture engagement as an attitude

Engagement as an attitude. The two outputs performed on "Engagement as an Attitude" papers shown in Figure 6 profoundly differ from the parallel result for "Engagement as Involvement" papers. The word "Innovation" takes for this category ("Attitude") a more individualistic meaning, intending the capacity to generate, promote and realize ideas, namely, innovative work behavior (Chughtai and Buckely, 2011; Bhatnagar, 2012; Maria Stock *et al.*, 2017; Jena and Memon, 2018; Jung and Yoon, 2018; Pham-Tai *et al.*, 2018) as well as the capacity to recognize and to solve inefficiencies through the introduction of new solutions (De Spiegeleare *et al.*, 2015; Garg and Dhar, 2017).

Engagement covers a fundamental role representing an attitude whose manifestation is making people capable of "thinking out-of-the-box and becoming open-minded," generating innovative solutions (Eldor, 2017). Due to the individualistic nature of the type of innovation studied and to the focus mainly within the company boundaries, the output displays much more interconnected network with respect to the previous one. Specifically, the analysis pointed out two different clusters associated with a "Human perspective" and an "Organization perspective."

The first cluster, representing the "*Organization Perspective*," deepens specifically the influence that the organization could have on employee engagement dynamics and therefore on employees' innovativeness.

The second cluster, on the "*Human Perspective*," frames the concept of innovation, identifying the common processes that are influenced from high engagement levels, named, idea creation, promotion and implementation.

Discussion

Engagement and innovation: a relationship evolving over time

The two outputs performed on "Engagement as an Attitude" papers shown in Figure 6 profoundly differ from the parallel result for "Engagement as Involvement" papers. The word "Innovation" takes for this category ("Attitude") a more individualistic meaning, intending the capacity to generate, promote and realize ideas, namely, innovative work behavior (Chughtai and Buckely, 2011; Bhatnagar, 2012; Maria Stock *et al.*, 2017; Jena and Memon, 2018; Jung and Yoon, 2018; Pham-Tai *et al.*, 2018) as well as the capacity to recognize and to solve inefficiencies through the introduction of new solutions (De Spiegeleare *et al.*, 2015; Garg and Dhar, 2017).

This paper aims to understand how the literature sheds light on the relationship between engagement and innovation. We approached this goal with a systematic literature review, aiming to understand how scholars conceptualized and studied engagement in innovation activities (see Tables 5 and 6).

This analysis let emerge a strong time dependency, showing how – in the last 30 years – the role and the meaning of engagement changed significantly.

We need to go back at the beginning of the 1990s to have one of the most accepted definitions of engagement (Kahn, 1990), showing the various nuances of this concept. As anticipated in the second section of the paper, the roots of this concept come from the psychological world, defining the pure meaning of engagement.

Still, if we move on in the years, we will have the chance to see two parallel evolution lines: innovation management changes and the perception of engagement by innovation scholars that changes accordingly.

The last century's end has been characterized by two main streams of research in the innovation literature. On the one hand, scholars focused mainly on technological dynamics (e.g. Anderson and Tushman, 1990; Bower and Christensen, 1995), showing the main innovation trigger considered back in the days: technologies that enable new products, services and processes.

On the other hand, innovation scholars were mainly interested in insights from the market, studying customers' needs (e.g. Von Hippel, 1986).

The technical roots of innovation management studies may be behind the lack of studies dealing with engagement back in the days if not with some initial studies related – for example – to the alignment with the employees (Smith, 1994). Innovation was related to a specific job position, being in the R&D or the marketing function.

The new century saw the rise of what is still considered the leading paradigm for innovation studies: open innovation (OI). Chesbrough (2003) proposed a different view to see innovation activities. Innovation should not be confined to a specific function and even more: it should not be confined within the organization boundaries. After some years – the time to let OI become the leading paradigm (e.g. Chesbrough *et al.*, 2020) – innovation scholars start paying attention to how to "engage" people in the innovation process, privileging the "involvement" nature of engagement. As previously mentioned, this concerns both people within the firm (e.g. De Weerd-Nederhof *et al.*, 2007; Ramaswamy, 2009; Michaelides, 2011) and people outside the firm, other stakeholders (e.g. Sawhney *et al.*, 2005; Ramaswamy, 2008).

Therefore, we may suggest a strong parallelism between the rise of the OI paradigm and the focus on the rise of the "Engagement as Involvement" stream. This is highly coherent even with the two subclusters emerging from our results ("External Co-Innovation Perspective" and "Internal Co-Innovation Perspective"). The literature at the intersection between engagement and innovation seems to embrace the main OI message focusing on the involvement of any players that may benefit to the innovation process, both within and outside the firm's boundaries.

Table 5.
The summary of the organization perspective cluster

Macrocluster	Microthemes	Brief description
Organization perspective	Engagement (engagement and study)	This cluster explains the antecedents and outcomes of the concept of engagement: all the papers analyzed rely on one or more of the popular definitions previously introduced as Kahn (1990) or Schaufeli and Bakker (2004). Coming to the concept's antecedents within the relationship, they range from individual to managerial aspects (Schraub *et al.*, 2014; Jung and Yoon, 2018, Tuzovic *et al.*, 2018),specifically for the latter work climate and job autonomy are encompassed as major variables individuated by authors (Chugthai and Buckely, 2011; Slatten and Mehmetoglu, 2011; De Spiegelaere *et al.*, 2014; De Spiegelaere *et al.*, 2015; Kumar and Raghavendran, 2015; Orth and Volmer, 2017; Garg and Dhar, 2017; Eldor, 2017; Jung and Yoon, 2018; Pham-Thai *et al.*, 2018; Tuzovic *et al.*, 2018). Finally, the different outcomes of engagement are highlighted: the likely outcomes are employees' innovative work behaviors along with an enhancement of employees' performances (Putkonen, 2009; Ayuso *et al.*, 2011; Chugthai and Buckely, 2011; Grissemann *et al.*, 2013; Ehin, 2013; De Spiegelaere *et al.*, 2014; De Spiegelaere *et al.*, 2015; Kumar and Raghavendran, 2015; Roll *et al.*, 2015; Maria Stock *et al.*, 2017; Orth and Volmer, 2017; Eldor, 2017; Garg and Dhar, 2017; Jung and Yoon, 2018; Jena and Memon, 2018).
	Innovation (innovation and service)	This cluster deals with the organizational management of innovation at a deeper level of detail, emphasizing the importance of the employee (Chugthai and Buckely, 2011; Bhatnaghar, 2012; De Spiegelaere *et al.*, 2014, 2015; Gomes *et al.*, 2015; Koch *et al.*, 2015; Roll *et al.*, 2015; Barata, 2016; Maria Stock *et al.*, 2017; Merrilees *et al.*, 2017; Orth and Volmer, 2017; Eldor, 2017; Jung and Yoon, 2018; Jena and Memon, 2018; Pham-Thai *et al.*, 2018). It defines the service industry as the context within which the relationship between engagement and innovation has been studied the most, with the tourism industry the one mostly investigated (Slatten and Mehmetoglu, 2011; Grissemann *et al.*, 2013; Jung and Yoon, 2018).
	Workforce (insecurity, conflict and model)	It defines how the relationship between engagement and innovation can be influenced also by different negative organizational variables (Putkonen, 2009; De Spiegelaere *et al.*, 2015) such as job insecurity (De Spiegelaere *et al.*, 2014; Roll *et al.*, 2015) or conflict management (Scharub *et al.*, 2014; Jung and Yoon, 2018).

Macrocluster	Microthemes	Brief description
Human perspective	Engagement (engagement)	This first cluster is the central node between the two perspectives, i.e. the organizational and the human ones, and it includes all the text of papers explaining the different definitions of engagement used within the document.
	Social relationships (people and change)	It deals with the deepest human factors that can influence engagement and therefore innovation output; they are either personal factors or factors related to a social relationship: to start with, to love own-self is a fundamental condition to be engaged and for leaders to engage subordinates (Maharaj and April, 2013); second, leaders are fundamental to make employees engaged and to make them foster innovation, (Holten and Brenner, 2015; Gomes *et al.*, 2015; Barata, 2016; Garg and Dhar, 2017; Pham-Thai *et al.*, 2018) and in their relationship with subordinated trust is necessary (Chughtai and Buckely, 2011; Memon and Jena, 2017).
	Knowledge management (research and innovation)	This cluster emphasizes the importance of learning process of the employee. It summarizes what are the variables to be studied within the relationship that starts with engagement and has innovation-related outcomes. At one side of the relationship, the players who potentially influence the relationship's output are employees, leaders, the management and the organizational culture. At the other side of the relationship, creativity has been found to mediate the relationship between engagement and innovation (Slåtten and Mehmetoglu, 2011; Kumar and Raghavendran, 2015; Martinez, 2015; Koch *et al.*, 2015; Orth and Volmer, 2017).

Table 6.
The summary of human perspective

Still, in the following years, the world and the innovation's issues emerged. Innovation now has an engagement issue: some people join the innovation process but that is not their primary job so we need to find ways to engage them.

At the beginning of the last decade, we see the emergence of an individual perspective at the intersection between engagement and innovation. It is not just a matter of being engaged in the company's innovation process. It is a matter of having the chance to foster innovation at work. This goes along with the study of a higher level of autonomy – for example – to increase the engagement level (Arrowsmith and Parker, 2013). This is highly coherent with the emergence of employee-driven innovation (e.g. Høyrup, 2010). Engagements seem to be linked with "job design," being engaged by having a more active role in what you do as an individual within the company (e.g. De Spiegelaere *et al.*, 2014; De Spiegelaere *et al.*, 2015).

The end of the 1900s saw the rise of the design-driven literature in management studies, with the initial rise of design thinking (Brown, 2008). The design was meant to support the innovation process by encouraging wild ideas and finding new possible innovations. Still, over the years, it proved to be a great tool to let individuals discover and foster their creativity and creative confidence (Kelley and Kelley, 2013; Dell'Era *et al.*, 2020). Scholars start suggesting that the relationship between engagement and innovation indeed can be mediated by individual creativity (Martinez, 2015; Koch *et al.*, 2015; Kumar and Raghavendran, 2015). This movement toward the "confidence" in doing innovation shows the substantial shift from a view on engagement as "pure involvement" to an actual attitude. Engagement in innovation means having the right attitudes contributing to a cultural dimension (e.g. Kumar and Raghavendran, 2015; Koch *et al.*, 2015; Howaldt *et al.*, 2016).

Last evidence let emerge a final shift from the organizational culture to the organizational climate (Jena and Memon, 2018; Pham-Thai *et al.*, 2018; Tuzovic *et al.*, 2018). People need to feel to be in the right place to foster innovation.

This is coherent with the latest developments in the innovation field. On the one hand, we see the rise of agile approaches that go beyond the process and enter the organizational dynamics. Agility is not anymore just a matter of project management; it is a matter of setting an organizational climate where people perceive the opportunity to foster continuous innovation (e.g. Bäcklander, 2019). On the other hand, we see the rising need for new directions rather than solutions and this has a secure connection with the organizational climate. We live in a world overcrowded by ideas; to be innovative, we need new directions that overcome the abundance of solutions with something truly meaningful (Bellis and Verganti, 2020; Verganti, 2017). In doing so, companies need to set the right climate to let people engage and offer their constructive views on the innovative direction through active criticism and building on the others (e.g. Bellis and Verganti, 2019; Verganti and Norman, 2019).

Therefore, we are proposing a strong parallelism between the latest evolutions of the innovation management landscape and the second cluster we see emerging in our analysis, the "Engagement as an Attitude." Once again, we can see a direct link between the subclusters emerging from the text mining analysis. The human side of this "attitude" is not only highly related to the individual perspective emerging in the innovation field (Arrowsmith and Parker, 2013) but also to the design-driven literature that sees the innovation process as an inside–out process that starts from the innovator as a human being (Verganti, 2017). Similarly, the second subcluster, which takes the organizational perspective, is highly correlated with the evolution that organizations are facing, from the agile culture (Bäcklander, 2019) to the need to have an organizational climate coherent with what innovation needs (Bellis and Verganti, 2019; Verganti and Norman, 2019).

In the current world, engagement is not anymore just a matter of being involved in something and it is not even just a matter of the right "culture," but it is a matter of an individual attitude that takes place in organizations with the right climate.

Innovation scholars, probably, still need to explore in-depth this kind of engagement, and our work proposes a research agenda that may help in this direction.

Call for future research

This critical review of the engagement in innovation activities let emerge two things. On the one hand, the engagement concept had a steady evolution over the years, mainly connected with the megatrends of the innovation field. At the same time, we can see (Figure 2) growing attention to the topic in the last decade, even though it remains a relatively small field.

Still, the latest trends in the innovation field – such the movements from solutions to meanings (Verganti, 2017) and from process-oriented models to people-oriented studies – anticipate a growing relevance of the engagement of people in innovation activities. The reasonings at the basis of this paper suggest that innovation mangers, in the next years, will have to prove themselves as able to engage people and create a proper culture in their organizations to foster innovation.

Therefore, we suggest a call for research to increase the focus on the human side of innovation, giving relevance to engagement in innovation activities is proposed.

In particular, we suggest researchers to focus their attention on the basis of two different rationales. On the one hand – moving attention to people rather than processes – identifying as the unit of analysis: individuals, teams or organizations. On the other hand, addressing the kind of engagement we want to target: "Engagement as Involvement" in the innovation activities or "Engagement as an Attitude."

The unit of analysis needs to be highly considered. How can we engage individuals in the innovation process? The design literature tells us a lot about the power of working on something, and we know that individual characteristics play a role in individual engagement. Still, innovation managers need to understand what moves the employee, how the individual may be collectively engaged in innovative projects that he/she may not have conceived from the beginning. The same reasoning can shift to a higher level of aggregation. Indeed, innovation is often done through the involvement of various people. The leadership literature tells a lot about team dynamics but again how can innovation managers deal with the engagement of a group of individuals working on the same project? Finally, there is also the organization's perspective that needs to be considered. The culture and the climate play a role in the engagement of individuals within a complex social system like an organization. This level deserves particular attention as well.

These three layers should be matched and studied according to the type of engagement we are dealing with.

"Engagement as an Attitude" needs to be further exploited through all these levels and innovation managers still need a lot of answers. How can they stimulate engagement in people? What are the behaviors that stimulate engagement? What are the main drivers for engagement? And the main barriers? How do "engaged" people behave? What are the typical interactions between "engaged" people? How can we present ideas, projects and visions in engaging ways? What are the tools that enhance engagement? These are just possible questions that innovation scholars should go through to enlarge the human side of innovation considered the engagement of people while working on innovation projects.

Similar questions may be re-formulated looking at the other kinds of engagement defined in this paper: "Engagement as Involvement." Not considering the personal attitude toward engagement, we still need to understand how to involve people in innovation projects appropriately and all the previous questions may be re-formulated with this goal in mind.

This list of questions does not aim to be exhaustive anyhow; they represent a possible starting point to enlarge the current view of innovation studies aiming to take a broader human perspective.

Moreover, it is crucial to consider the changes also in the data gathering and data analysis techniques, rather than focusing only on how the innovation field changed. In other words, the vast majority of the studies in the article are based on self-reported measures analyzed through traditional statistical methods. Obviously, these methods proved the accuracy over the years and worth to be further explored. Nevertheless, we also need to consider alternate methods. Self-reported measures need to deal with various kinds of intrinsic biases, which may become even more relevant in dealing with engagement. In our daily life, we create an enormous amount of data, from how we use our computer to what we write on social media and the digital services we enjoy. Digital data – created for different purposes rather than research – proved to be valuable for commercial and research purposes (Trabucchi and Buganza, 2019). Researchers may think about innovative ways also to measure engagement – obviously in respect of all the data policies and privacy laws – but developing methodological innovation in terms of data gathering and data analysis may open new and relevant ways to study how people behave in doing innovation.

Despite all the studies reported aims at framing the present literature into a model, our work is not without limitations. The research approach employed for gathering and selecting the reviewed studies may not totally avoid any loss of information, as relevant studies might have been excluded from the sample for inconsistency with the methodology applied. The authors are aware that applying to the study a more inclusive Scopus database, together with identifying a more detailed multistep process could potentially enrich knowledge in the field for future development and possibly reduce the accidental biases. Further insights on how to stimulate and assess engagement inside the organizations could foster the willingness to invest in such aspect for companies aiming at strengthening their purpose in producing more innovative products and organizations.

Conclusion

Nowadays, innovation pace is at its highest, reaching levels that make people feeling overwhelmed by innovation initiatives (Verganti, 2017). More and more often, people tend to link innovation with "danger" rather than "opportunity" (Zhexembayeva, 2020). Therefore, the engagement of people in innovation is one of the biggest challenges organizations are facing. This study offers a new view at the intersection between engagement and innovation. It explores the overlapping of these two streams and highlights what has been written and how it evolved coherently with the innovation management world.

Our study contributes to the current debate in two different ways. Taking an academic perspective, the chance to highlight the labels "Engagement as Involvement" and "Engagement as an Attitude" enhances the scholarly debate and offers a theoretical contribution that may push forward future research, as mentioned in the previous paragraph. The chance to distinguish between these two labels and the systematization of the literature may help the stream at the intersection between engagement and innovation to evolve building on these two perspectives. The present study identified what enables and defined the two "kinds" of engagement. Still, much more need to be explored about how to nurture and implement such engagement dynamics to sustain innovation and the people to make it happen. In the concluding part, our study proposes a research agenda that may help in this direction.

Taking a practitioner's perspective, this review helps innovation managers better understand what "engaging people in innovation" means. "Engagement as Involvement" and "Engagement as an Attitude" are both relevant as never before. It means that people need not only feel just an attitude toward innovation but also to perceive to be a part of the innovation process and to be in an environment with the right climate. This study has two main takeaways for managers. On the one hand, it helps them go deeper into the concept of engagement through the labels and the subclusters that highlight different perspectives and nuances. On the other hand, this study may offer a compass for them to find relevant studies that explore the various kinds of engagement, helping them in accessing and exploring the literature at the intersection between engagement and innovation.

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Due to the great number of references, in the list there are only the references cited in the next, all the other are available upon request.

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Further reading

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About the authors

Daniel Trabucchi (corresponding author) is an assistant professor at the School of Management of Politecnico di Milano, where he serves as a researcher of Leadin' Lab, the Laboratory for Leadership, Design and Innovation. His research interests are focused on innovation management. In particular, he has been working on digital two-sided platforms and their peculiarities (focusing on how they can create and capture value and the related data-driven business models); moreover, he focuses on innovation strategy based on the interplay between technology and meaning. His research has been published in peer-reviewed journals such as *Technological Forecasting and Social Change, Internet Research*, *Research-Technology Management*, *Creativity and Innovation Management*, *Technology Analysis and Strategic Management* and *European Journal of Innovation Management*; he is also a reviewer of many of these journals. Daniel Trabucchi is the corresponding author and can be contacted at: daniel.trabucchi@polimi.it

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Tommaso Buganza is an associate professor of leadership and innovation at the School of Management of Politecnico di Milano, where he also is a co-founder of Leadin' Lab, the Laboratory for Leadership, Design and Innovation. He is a member of the scientific committee of the International Product Development Management Conference EIASM-IPDMC. His research activity explores the intersection between technological innovation and leadership and has been published in peer-reviewed journals such as *Journal of Product Innovation Management*, *International Journal of Project Management*, *International Journal of Innovation Management, European Journal of Innovation Management* and *Creativity and Innovation Management* and in a number of books; he is also a reviewer for many of these journals.

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Award as one of the best six management books published in 2008 and 2009. Roberto has issued more than 150 articles. He is in the Hall of Fame of the *Journal of Product Innovation Management* and has been featured on *The Wall Street Journal*, *The New York Times, Financial Times, Forbes*, *Business Week*. Roberto is a regular contributor to *the Harvard Business Review*.