

Impact of the perception of performance appraisal practices on individual innovative behavior

Impact of the perception of PA practices

Teresa Canet-Giner, Ana Redondo-Cano, Carmen Saorín-Iborra and Naiara Escribá-Carda

Department of Business Management, Universitat de Valencia, Valencia, Spain

Received 24 January 2019
Revised 18 July 2019
23 November 2019
Accepted 6 December 2019

Abstract

Purpose – The purpose of this paper is to analyze the impact of employees' perception of performance appraisal (PA) practices on innovative behavior (IB). The authors also propose to analyze consistency, a dimension of Human Resource Management (HRM) system strength, as a moderating variable in the aforementioned relationship.

Design/methodology/approach – A quantitative study was conducted, using a sample of 166 employees carrying out highly qualified, intensive knowledge jobs in four industrial companies in the Valencian region of Spain. The hypotheses were tested by applying the Smart-PLS 3.2 software.

Findings – The findings confirmed that in a context of professional and qualified work, PA practices have a direct and positive effect on IB. However, the results obtained did not enable us to affirm that employee perceptions of the consistency of the HR system moderated the relationship between PA and IB.

Originality/value – The paper's originality lies in including the role of consistency, a dimension of HRM system strength, in the analyzed relationship. When employees believe that PA achieves the goals for which this practice was designed, and that this appraisal follows a clear strategic direction over time, they perceive that the assessment system is not arbitrary, i.e., that this HR practice is being applied consistently. Consequently, the present work shows the relevant role of the perception of consistent PA when the firm wants to encourage IB. This fact opens up the field to study how to define and implement control mechanisms that tell managers whether there is a fit between employees' perceptions and the intentionality of the HRP these managers have defined.

Keywords Performance appraisal, Innovative behaviour, HRM system strength

Paper type Research paper

Introduction

Innovation is a key element for organizational differentiation and success. In this sense, there is increasing interest in analyzing how to promote innovation in organizations and in studying the mechanisms or factors that lead to the development of innovation capacity. Several previous works have dealt with this issue at organizational level. However, we would like to highlight the recent research that has emerged at individual level (Bednall *et al.*, 2014; Escribá-Carda *et al.*, 2017; Kehoe and Wright, 2013; Shanker *et al.*, 2017; Shin *et al.*, 2017). Analysis from the individual standpoint focuses on employees, considering them to be a key element in the development of innovation capacity in organizations. In this regard, Tang *et al.* (2017, p. 1319) emphasized that “employee creativity contributes substantially to organizational innovation and competitive advantage.”

Likewise, the literature highlights the impact that HR policies and practices (HRP) can have on promoting employees' innovative behavior (IB) (De Leede and Looise, 2005; Dorenbosch *et al.*, 2005; Hayton, 2005). In fact, the number of studies analyzing the influence

© Teresa Canet-Giner, Ana Redondo-Cano, Carmen Saorín-Iborra and Naiara Escribá-Carda. Published in *European Journal of Management and Business Economics*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>

This research has received financial support from the Spanish Ministry of Economy and Competitiveness (Reference code: ECO2015-69316-R).



of these practices on creativity and individual IB has increased (Fu *et al.*, 2015). In this sense, the ability–motivation–opportunity (AMO) framework (Appelbaum *et al.*, 2000; Boxall and Purcell, 2003) has been widely used to explain the link between HRP and individual behavior (Andreeva and Sergeeva, 2016). However, as Tang *et al.* (2017, p. 1319) pointed out, together with (Ehnert *et al.*, 2016; Pfeffer, 2010; Shipton *et al.*, 2016), further studies are necessary “considering that sustainable organizational performance is hinged on organizational innovativeness and a highly skilled and committed workforce.”

However, the design and application of HRP is not sufficient to generate IB since employees may not perceive these practices correctly and, therefore, they may not achieve the expected effect (Nishii *et al.*, 2008). This argument can explain the inconclusive results obtained by previous works, and make it necessary to adopt another perspective in the analysis, as authors such as Boxall and MacKy (2009), Escribá-Carda *et al.* (2017) and Lepak *et al.* (2006) defend. It is necessary to introduce the perceptions of employees in the framework of analysis (Fu *et al.*, 2015; Takeuchi *et al.*, 2009) differentiating, in this way, between the intended, implemented and perceived HRP (Vermeeren, 2010; Nishii, 2013).

The concept of HR system strength, developed initially by Bowen and Ostroff (2004), is argued to be related to the perceptions that employees have of how HRP are implemented. According to Sanders *et al.* (2014), an HR system should be perceived as distinctive, consistent and able to create consensus (human resource management (HRM) system strength) among employees (Bowen and Ostroff, 2004) in order to favor the adoption of the expected attitudes and behaviors for the fulfillment of the organization’s objectives (Kelley, 1973). These three features have been defined as the core dimensions of the HR system strength concept. However, the literature has not established conclusive results about the effect that HRM system strength has on perceptions and consequently on individual behavior. Along these lines, we found works that pointed to a possible direct effect on behavior (Sanders *et al.*, 2008; Li *et al.*, 2011; Farnale and Sanders, 2017), whilst others highlighted a moderating effect of this variable (Pereira and Gomes, 2012; Bednall *et al.*, 2014; Dello Russo *et al.*, 2018; Waheed *et al.*, 2018), and other research posited a mediating effect (Ostroff and Bowen, 2016; Rabenu *et al.*, 2018; Tziner and Rabenu, 2018). Yet there are still other issues to be answered and as Sanders *et al.* (2014) pointed out, perhaps the impact of the three dimensions that make up HRM system strength (distinctiveness, consistency and consensus) should be analyzed from an individual and not joint perspective. This means studying how each of these dimensions influences employees’ perceptions and their behavior separately.

Therefore, in the light of the gaps found and the arguments set out above, this paper analyzes the influence of one of these HR practices on IB. We have studied the impact of performance appraisal (PA) because is considered to be one of the most important HR practices for several reasons. First, it is highly relevant when it comes to explaining differences in organizational performance (Shipton *et al.*, 2005; Bednall *et al.*, 2014); second, it creates a link between individual performance and strategic organizational goals (DeNisi and Sonesh, 2010; Bednall *et al.*, 2014; Andreeva *et al.*, 2017); and finally, through this practice, expectations and goals for subordinates are defined, communicated, reviewed and evaluated by comparing it with pre-established standards (Kampkotter, 2015; Warokka *et al.*, 2012; Dessler and Varkkey, 2016). We have also focused on the possible moderating effect that one of the dimensions of HRM strength can have on this relationship. We are aware of the fact that targeting one of the dimensions may lead to the inconclusive results obtained in previous works on the impact of HRM strength on individual perceptions and behaviors. The dimension at the core of our analysis is consistency. The rationale for focusing on this dimension is because we consider that consistency may play a key role in the relationship studied, as it shows the degree of coherence between the messages sent by HR managers and the implemented practices, in relation to the organizational goals. As stated by Pereira and Gomes (2012), consistency helps

employees to know what the firm expects of them. This implies that consistency facilitates the stability of the signals given out so that employees can perceive clear cause-and-effect relationships in the designed HR practices, in the behaviors expected from employees and the related consequences. This can mitigate the implementation and interpretation gaps in HR practices. In addition, in our case, we consider that it can strengthen the relationship between PA and the desired IB. Therefore, we analyze whether individual behaviors will be more oriented to organizational goals (IB) if PA is perceived as consistent.

The results of this research can be used by managers as a set of guidelines to improve the design, communication and implementation of PA practices. In particular, this research shows the relevance of the design of PA systems in order to improve innovative employee behavior. It also shows the need for an adequate communication process, providing information about the expected goals and the results of PA. In addition, it shows whether the consistency of the process is a key factor in obtaining the desired employee behavior.

Theoretical background

Performance appraisal and innovative behavior

From the review of the traditional literature on HRM, there is no doubt about the impact of HRP on organizational performance. These practices establish the conditions in which relationships between employees and the organization are developed, and they can favor or hinder the employees from adopting positive attitudes and behavior toward the achievement of the organization's goals (Ling and Nasuridin, 2010).

In the last decade, some works have emphasized the role of HR practices in the maximization of individual performance and commitment, and particularly in the promotion of IB (De Leede and Looise, 2005; Dorenbosch *et al.*, 2005; Hayton, 2005). IB is defined as “the ability of individuals to generate new ideas and viewpoints which are subsequently transformed into innovation” (Escribá-Carda *et al.*, 2017, p. 273). We argue that the process of generating innovation lies in the creation of new ideas and in how individuals develop them; it is the knowledge accumulated and shared by individuals that increases the possibility of generating a behavior more oriented to innovation (Escribá-Carda *et al.*, 2017).

Based on the approach proposed by Bowen and Ostroff (2004), and in terms of HRM content, in the present work we focus on PA as a possible antecedent of the IB of employees. PA is considered to be one of the most important HR practices to the extent that it creates a link between organizational performance and the objectives of the organization (DeNisi and Sonesh, 2010; Bednall *et al.*, 2014; Andreeva *et al.*, 2017). In addition, it explains differences in organizational performance (Gupta and Singhal, 1993; Jiménez-Jiménez and Sanz-Valle, 2005; Shipton *et al.*, 2005; Bednall *et al.*, 2014). According to Andreeva *et al.* (2017), this is possible because through PA, expectations are stated, certain behaviors are encouraged and feedback is provided. In short, and as pointed out by Ahmed and Sattar (2018, p. 87) based on Dusterhoff *et al.* (2014), PA is considered as “a key component of strategic approach to management in that it is instrumental in linking competencies and behaviour of an employee with strategic objectives of an organization.”

However, despite being considered key to explaining individual behaviors, it is perhaps one of the least studied HR practices in relation to its impact on the adoption of knowledge behavior and by extension, IB (Andreeva *et al.*, 2017). In addition, the scarce evidence found in the literature yields inconclusive results as to whether this relationship is positive or negative (Shipton *et al.*, 2006; Jiang *et al.*, 2012; Medcof and Song, 2013; Bednall *et al.*, 2014; Rabenu *et al.*, 2018).

PA is defined as a formal and planned process by which managers obtain accurate and reliable information on the behavior and performance of employees in their job (Rabenu *et al.*, 2018). Thus, it implies both the identification of performance dimensions and the measurement of employees' performance; and, in a second stage, performance management

(Gómez-Mejía *et al.*, 2007). Although identifying the dimensions that determine efficient performance will enable the application of different methods to measure the performance achieved by each employee, nothing would make sense without performance management. The management of PA results is the main objective of this HR practice. It should be oriented toward the future giving feedback that provides useful information to employees not only to correct mistakes and learn, but also to create an environment that facilitates the sharing of information among the members of the organization, which is a key aspect to foster innovation (Bednall *et al.*, 2014).

Accordingly, PA can have both administrative and development purposes and, by extension, affects individual behavior such as IB. From an administrative standpoint, appraisals constitute the basis of the decisions made on working conditions, promotions, dismissals and rewards, among others. Hence, based on the AMO framework, PA can affect both intrinsic (e.g. working conditions) and extrinsic motivation (e.g. rewards) and consequently, IB. Andreeva and Sergeeva (2016) stated that the effect of HRP on individual performance does not occur directly, but instead takes place through motivation at individual level. Thus, the individual motivation to perform work becomes an important mechanism through which HRP influence the level of knowledge exchange of employees. This exchange facilitates the exploration and identification of new ideas and opportunities and, consequently, the adoption of IB.

However, the purpose of PA can also be employee development. In this case, this practice focuses on improving and developing employees' abilities once their weaknesses and the possible causes of these have been detected. That is why, through correct communication of PA results, the organization can provide feedback and advice on effective work behaviors or can design specific training plans. In addition, it can promote the development of employees' potential and, consequently, generate in them the feeling of being more competent and, therefore, more able to contribute with new ideas and new ways of doing things in the organization.

Bednall *et al.* (2014) pointed out that PA can be a very useful tool from an individual perspective if the people in charge of it provide employees with the appropriate feedback. It can help employees to manage and see errors as a learning opportunity, and to share knowledge and generate new ideas without the fear of being penalized if the desired results are not obtained. The authors suggest that the perception of adequate PA will facilitate knowledge-sharing and IB.

In short, although it is true to say that in some organizations PA may be linked to a reward system, its main purpose is to act in two key areas: first, to give employees a clearer vision about what is expected of them and consequently about the strategic objectives of the company to which individual goals must be aligned; and second, as we have indicated in the previous paragraph, to highlight the importance of receiving adequate feedback on their performance and their job-related behaviors (Rabenu *et al.*, 2018, p. 207).

Based on the social exchange theory, PA, through the feedback it provides, can explain and predict knowledge-sharing and, with this, foster individual IB (Aktharsha and Sengottuvel, 2016). Thus, Radaelli *et al.* (2014) emphasized that organizations which stimulate knowledge-sharing inside and outside their limits are more likely to develop innovation and, consequently, obtain better performance. Social interactions are regulated by norms of reciprocity (Blau, 1964). Thus, when employees receive feedback through a PA, they will feel obliged to return "the favor," adopting positive attitudes and behaviors toward the organization, such as providing new information and ideas that facilitate innovation (Radaelli *et al.*, 2014). Additionally, Chen and Huang (2009) and Jaw and Liu (2003) argued that the pressure that employees feel when they know that are going to be the subject of a PA process, can be positive. This pressure leads them to take on new challenges and tasks, guiding and promoting IB. They affirmed that PA, together with other practices, contributes to increase innovation results in the organization.

Ismail and Rishani (2018) pointed out an expected reciprocity in the organization–employee relationship. Thus, if the employee perceives that they can receive useful feedback from the PA, they also feel obliged to return something to the organization, in the form of new ideas or creative behavior. In addition, the impact of PA on knowledge-sharing and, as a consequence, on the adoption of IBs by employees increases if the aspects evaluated include knowledge activities (knowledge-sharing, creation and utilization) (Inkinen *et al.*, 2015). Receiving feedback at this level can improve IB. In this respect, Jiménez-Jiménez and Sanz-Valle (2005) stated that there is a direct relationship between the adoption of an innovation strategy by the organization and the application of PA practices, both focused on development and results. However, this work analyzed the relationship at organizational level.

Conversely, the success of the PA will depend not only on how the feedback is provided, that is, whether or not it facilitates dialogue that provides opportunities for improvement, but also on the quality of the PA experience (Brown *et al.*, 2010; Bednall *et al.*, 2014; Ismail and Rishani, 2018). In this respect, Sharma and Sharma (2017, p. 685) pointed out that the PA system is of critical importance given that, in many situations, employee dissatisfaction is explained because they perceive the system as being unfair and ineffective (Shrivastava and Purang, 2011). This fact “can further be linked to negative employee outcomes such as higher turnover intention and lower commitment levels (Dusterhoff *et al.*, 2014), which subsequently negatively affects employee performance” (Sharma and Sharma, 2017, p. 685).

Employees’ perception of the PA will influence the level of commitment toward achieving organizational goals and, ultimately, the behaviors of sharing information and innovation (Aktharsha and Sengottuvel, 2016). If employees feel satisfied with the PA, they will be encouraged and motivated to adopt positive behaviors, such as developing and implementing innovative ideas in their organization (Niu, 2014). They will feel obliged to repay the firm through enhanced behavior such as creative contributions (Ismail and Rishani, 2018).

From the previous arguments, we can formulate our first hypothesis:

H1. PA practices will favor IB in employees.

The concept of HRM system strength

HRP constitute a key factor for organizational competitive advantage (Becker and Huselid, 1998). HRP guide and influence individual behavior to ensure that employees are sufficiently motivated to work toward achieving organizational objectives.

Thus, PA is one of the key HRP to achieve expected individual behavior (Bednall *et al.*, 2014), such as IB, as we have hypothesized in the previous section.

Some authors argue that PA may not always generate the desired effects on individual behavior, due to the existence of asymmetry problems between the appraised subject and the appraiser (Azzone and Palermo, 2011; Fay and Thompson, 2001). This fact shows that the design and application of specific HRP, such as PAs, is not enough to generate the desired behaviors, since these practices may not be perceived correctly by the employees or the employees may think that they are not going to contribute to the achievement of the desired goals (Nishii *et al.*, 2008). This makes employees, and more specifically, their perceptions, a key factor to consider (Sanders *et al.*, 2008).

Under these conditions, it is essential to focus any analysis on the role played by process aspects linked to the implementation of HRP (Bowen and Ostroff, 2004).

The HRM process refers to whether employees have the ability to understand the signals and messages sent by the organization and to respond accordingly in the manner expected by the latter (Escribá-Carda, 2015). Delmotte *et al.* (2012, p. 1481) defined it as “the set of activities aimed at developing, communicating, and implementing HR practices.”

Khilji and Wang (2006) concluded that there is a clear distinction between what is intentionally defined by managers, in terms of HRP, and what is actually experienced or perceived by employees.

This approach focuses attention, on one hand, on the importance of the psychological processes through which employees interpret and respond to the information contained in the HR system (Bowen and Ostroff, 2004; Ehnrooth and Björkman, 2012; Escribá-Carda, 2015); and on the other, on the design and effective administration of the HRM system (Bowen and Ostroff, 2004). If we put the focus on the “process” aspects, the concept of HRM strength emerges, which refers to the effectiveness of sending the appropriate signals to employees in relation to the type of conduct expected and measured by managers and organization (Bednall *et al.*, 2014; Bowen and Ostroff, 2004).

Consequently, following Bowen and Ostroff (2004) and García-Carbonell *et al.* (2015), HRM system strength is defined by three dimensions: distinctiveness; consistency and consensus. Distinctiveness refers to the degree of visibility, clarity and certainty of the HRM system for all members of the organization and measures whether the system captures employees’ attention (Bednall *et al.*, 2014). Bowen and Ostroff (2004) included four attributes to define this dimension: visibility, understanding, legitimacy of authority and relevance.

Visibility refers to the degree to which the HRP are easily observable, which may favor the interpretation of information and, therefore, the construction of cause-and-effect relationships in the minds of employees (García *et al.*, 2013; García-Carbonell *et al.*, 2015). In addition, practices must be understandable, as this will foster a shared interpretation. Conversely, if the content of the practices is ambiguous, there will be a high risk of misunderstanding, that is, employees will understand the implemented practices in a different way with respect to the original intentions of managers. Legitimacy of authority is related to the degree to which employees consider that the HR function has a high status and credibility. The CEO should send signals showing the strategic value of the HR function in the organization. The last attribute of this dimension is relevance, that is, the degree to which individuals perceive HRP as being important to achieve strategic objectives. According to García *et al.* (2013), through these four attributes, the distinctiveness dimension essentially reflects the perceived importance of the HR function. Bowen and Ostroff (2004) highlighted the importance of these four attributes as they focus on the message and on the communicator, which increases the likelihood of adequate and uniform coding and interpretation of the HRM message.

Another dimension refers to consensus, which is related to the degree of agreement among employees in their perception of cause-and-effect relationships. This dimension refers to the probability of employees behaving in a similar way when sharing perceptions. As in the rest of the dimensions, we find two aspects that help to better analyze this dimension, which are: agreement between the main agents that must make HRM decisions and justice or equity.

Agreement between the main agents that must make HR decisions: this sub-dimension refers to the good collaboration among top management team (TMT) and HR managers, who should be integrated in this TMT and jointly define and implement the HR strategy of the firm (Bowen and Ostroff, 2004). This facilitates easier identification of the relevant HR strategic objectives and it is a way of recognizing the authority of the persons in charge of HRP (García *et al.*, 2013), that will be perceived as a key player in the strategy-making process.

Equity is the cornerstone of any HR system: the perception of equity directly affects employees’ behavior, as they notice that when they perform better, they receive a fair compensation. Equity enhances the worker’s assimilation of the functioning of the system and the rationality of the evaluation results with respect to the methods used (García *et al.*, 2013). A lack of equity in the HRM system will generate dissatisfaction among employees, which can negatively affect the individual behaviors and organizational results.

Finally, consistency refers to the degree to which HRP communicate consistent and regular messages over time, to people and in context. It is related to the degree to which the messages emanating from HRP are uniformly coded and interpreted by employees. Bowen and Ostroff (2004) associated three attributes with this dimension: instrumentality, validity and the consistency or coherence of the information that the HRM system transmits.

Instrumentality refers to the degree to which employees perceive the cause-and-effect relationship, that is, the relationship between the content of HRP and the consequences/behaviors expected from these practices.

Validity is related to the degree to which the employees perceive the HRP messages as being valid. This attribute reflects the “degree to which employees perceive that the HRM system is properly designed and will produce the expected effects” (García-Carbonell *et al.*, 2014, p. 142). Therefore, HR practices show consistency when their implementation (and their perception by the employees) do or achieve what they strategically intend to do (Delmotte *et al.*, 2012).

Coherence of HRP refers to the degree of compatibility and stability in the signals associated with HRP. A lack of consistency could lead to different interpretations of HRP or the reception of contradictory messages (Kepes and Delery, 2007). This fact could generate confusion among employees. Therefore, the information coming from senior management, in relation to the organizational objectives and/or values, must be consistent with that interpreted by employees, based on their perceptions (García *et al.*, 2013).

Consequently, a consistent HRM system implies the stability of signals over a long period of time, so that employees can clearly perceive cause-and-effect relationships between practices, desired behaviors and associated consequences.

Most authors suggest that the goal of HR managers is to create a common context and coherent practices for employees (Ostroff and Bowen, 2016), leading to understanding and acceptance of the HRP implemented and unequivocal understanding of the expected behaviors (Bednall *et al.*, 2014). Following the arguments of Dello Russo *et al.* (2018), HRP are effective when they are consistently applied in the organization, because employees perceive and interpret them in the same way. From the other features that make up the HR strength concept, these authors point to consistency as the most relevant variable, when they state that variability in employees’ perceptions “indicates that the HR message is most likely ambiguous because it does not uniformly reach all employees” (Dello Russo *et al.*, 2018, p. 291).

Although some authors analyze the concept of HRM strength as a whole, others do so based on one or two of its dimensions, depending on the relationship analyzed. The works of Bednall *et al.* (2014), García *et al.* (2013) and Pereira and Gomes (2012) analyzed the concept as a whole. For example, García *et al.* (2013) stated that if employees perceive a fully integrated HRM system, and the standards and attitudes required are well-known, this perception of integration will lead them to align their actions with the objectives of the organization. Conversely, an ambiguous situation is generated when employees perceive the messages of HR managers in a different way and there is no common understanding of HR managers’ intentions. The work of Dorenbosch *et al.* (2006) only focused on two sub-dimensions: consensus in the HR message and legitimacy of the HR message. They decided to examine only these two features of strength because they are the sub-dimensions that directly affect the relationship studied between line managers and HR professionals.

Following this line of research, we decided to focus on one strength dimension, namely consistency, which may play a key role in the relationship between PA and IB. Consistency shows the coherence between the messages sent by HR managers and the practices they implement in relation to the definition of organizational objectives and/or values. Consistency “helps employees to gain awareness and understand what is expected of them” (Pereira and Gomes, 2012, p. 4303). Accordingly, one of the main objectives of PA is to transmit to employees what the organization expects from them. If this HR practice is perceived as consistent, individual behaviors will be more oriented toward organizational goals.

Moreover, consistency establishes the perception of a cause-and-effect relationship (Pereira and Gomes, 2012), that is, when the employee knows exactly (in our case, through the PA objectives) what the desired behavior and its associated consequences are, they are more likely to invest all their efforts in achieving these results and expected behavior.

The moderating effect of the perception of consistency in the relationship between performance appraisal and innovative behavior

As mentioned previously, authors such as Dusterhoff *et al.* (2014) and Ahmed and Sattar (2018, p. 87) assign a strategic role to PA, as it is essential to link employees' behavior and skills with an organization's strategic objectives. Accordingly, as the organization's objectives are oriented toward innovation, the PA system should be designed so that it enables employees to cultivate this type of behavior (IB).

In turn, the efficiency of an HRP system, measured in terms of motivation or of encouraging certain employee attitudes and/or behaviors, will be conditioned by the perceptions that these employees have of them (Gibb, 2001; Garcia-Carbonell *et al.*, 2014, p. 140). Accordingly, if employees perceive that their organization believes them to be key or strategic, "they will respond with positive behavior oriented to achieving the organization's objectives" (Garcia-Carbonell *et al.*, 2014, p. 140).

The study of the influence of HR system strength on the relationship between HRP and results (in terms of commitment, organizational climate, IB and organizational performance) has been addressed from different methodological approaches. Some studies have analyzed the moderating effect of HR system strength (Dello Russo *et al.*, 2018; Bednall *et al.*, 2014; Pereira and Gomes, 2012), that is, the authors have tried to analyze whether the existence of a strong perception of the HR management system intensifies the previous relationship between HRP and results. In their investigation, Chen *et al.* (2007, p. 1134) found that the strength of the HPR system played a moderating role in the relationship between HRP and employees' commitment, i.e., "the more consistent the perception of HR practices between managers and employees, the greater the employee commitment, suggesting that HR systems and practices communicate clear and direct signals to employees regarding norms and expectations."

Conversely, others consider that strength plays the role of a mediator between HRP and performance measures (Ostroff and Bowen, 2016; Rabenu *et al.*, 2018). In fact, this last paper examines whether HR strength is a mediator or a moderator in the HRP–innovation relationship, considering four high-commitment HRP individually: training and education, career management, decision making and PA. Their results show that strength is a full mediator in the relationship between PA and organizational innovation (Rabenu *et al.*, 2018; Tziner and Rabenu, 2018).

Bowen and Ostroff (2004) also established the main features of the concept, arguing that strength acts as a mediator in the relationship between HRM practices and performance. They posited that the relationship between HRM systems and performance is mediated by psychological strength. Later on, in their review paper about the reflections on the construct, over a decade after their 2004 paper, these authors continued to argue that their framework aims to explain how HRM systems forge substantial linkages, in the shape of mediators, to explain the relationship between HR systems and performance (Ostroff and Bowen, 2016).

The above demonstrates that research into the influence of HR system strength on the relationship between HRP and their results does not offer conclusive evidence. This leads to the need to carry out further research in order to establish whether the effect of HRM system strength, or of any of its individual dimensions, on perceptions and the resulting behavior is a direct, mediating or moderating one. In the light of this gap, in this paper we have aimed to explore the moderating effect of the dimension under study (consistency), given that the analytical logic tells us that the greater the perceived consistency, the more employees will

feel that the practices are not biased or erratic, and therefore, the direct relationship between the designed PA system and the expected (innovative) behavior will be reinforced. We consider that consistency, as a dimension, can also be applied to each of the human resource practices and, in the case of this research, to PA. Just as it is argued that to ensure there is no mismatch between implementation and interpretation, the HRM system must be perceived as being consistent. In our view, PA practices must also be perceived as being consistent so that employees can behave as expected (IB).

For the particular case of the PA under study, employees can be expected to increase their satisfaction, and therefore, adopt the expected behaviors, in so far as they perceive the system as being appropriate, related and unbiased. Conversely, PA can cause great dissatisfaction when employees perceive that the process is incomplete, ambiguous, unfair, political and subjective (Skarlicki and Folger, 1997; Ahmed and Sattar, 2018, p. 97).

The consistency of the system is linked to the fact that the policies put into practice, in our case PA, are not erratic, nor do they have any unpredictable effects. In fact, quite the contrary is true: they need to be the result of deliberate strategic processes (García-Carbonell *et al.*, 2014, p. 142). More precisely, it is a question of ensuring that PA does not display any ambiguities in its cause-and-effect relationships, that is, the actions defined and put into practice must lead to the behaviors expected of employees. Likewise, the PA system must be consistent in the sense that “related practices must be understood in a uniform manner by all employees, given that they are capable of sending out coherent messages, thus fostering agreement among workers (Nishii *et al.*, 2008)” (García-Carbonell *et al.*, 2014, p. 142).

On the other hand, if the system is not consistent, employees may receive conflicting information about the same PA practice, leading to confusion among the workforce as to what PA aims to achieve. As Delmotte *et al.* (2012) and García-Carbonell *et al.* (2014, p. 142) pointed out: “the confusion generated by the lack of consistency would prevent the creation of shared meanings required for the implementation of joint responses aimed at achieving business success.”

Consequently, we can establish that the consistency of PA, in terms of what is intended to be achieved and what is actually achieved, will help to create a solid and shared situation among the members of the organization that will coincide with managers’ intentions. When employees perceive that PA is consistent, the shared vision of the members of the organization will be reinforced and behavior will be aligned with the vision and objectives of the organization (García-Carbonell *et al.*, 2014, p. 140). Accordingly, employees will feel that the appraisal helps them to improve and achieve their objectives, and they will try harder to achieve their goals, orientating their behavior toward what the organization expects from them and intensifying the direct effect of PA on IB.

In short, we propose that the dimension of consistency has a moderating effect on the relationship between PA and IB; that is, if PA is perceived as consistent, the relationship between PA and IB will be stronger.

According to these arguments, we formulated our second hypothesis:

H2. Consistency moderates the relationship between PA and employees’ IB.

Methodology

Procedure and sample

Our sample consisted of 166 employees carrying out intensive knowledge jobs in four industrial companies in the Valencian region of Spain.

These employees belonged to different departments: marketing, purchasing, human resources, information technology, research and development. We selected this type of employees as they worked in organizations that compete with innovative products and/or advanced manufacturing technologies. In addition, they belonged to departments where

knowledge and learning are key factors for them to perform their work. The companies in the study had a special interest in analyzing the extent to which their employees' perceptions of applied HRP, specifically in terms of PA, affected the relationship of these practices on IB.

Measurement procedures

The different constructs analyzed were measured using multiple item scales (seven-point Likert scales) based on previous studies. A pretest of the questionnaire was carried out with some skilled employees included in the sample. The information obtained enabled us to refine the tool.

The final version of the survey was sent by e-mail to employees, who had to respond through a link. In other cases, the questionnaires were completed in the workplace, filling them out voluntarily and collecting them through a suggestion box.

The data were collected in 2018. Regarding the gender variable, 51.3 percent were men and 48.7 percent were women. With respect to experience in the sector, the results indicate that most of the employees had been working in their industry for a prolonged period of time (average accumulated experience of 13.6 years). Only 25 percent of the sample had been working in their sector for less than five years.

Measurement scales

The PA scale (two items) was taken from the work of Jensen *et al.* (2013). The scale that measured individual IB had six items and was drawn up by Scott and Bruce (1994). The scale that measured the consistency of the HRP system included a dimension of the scale developed by Bednall *et al.* (2014).

Data analysis

Smart-PLS 3.2 (Ringle *et al.*, 2015) was used to test the hypotheses proposed in our model. Bootstrapping was used to generate standard errors and *t*-statistics. We proposed two relationships or hypotheses:

- (1) *H1* aimed to measure the direct effect of PA on IB; and
- (2) *H2* measured the moderating effect of consistency on the relationship between PA and IB.

Analysis and results

Descriptive analysis

Table I shows the means, standard deviations and correlations of the different constructs analyzed and the control variables included. The correlations between PA, IB and the consistency of the HRP were positive and significant ($p < 0.01$).

Table I.
Means, standard deviations and correlations between study variables

	Mean	SD	1	2	3	4
1. Performance appraisal	4.68	1.57				
2. Innovative behavior	4.97	1.1	0.383**			
3. HRP Consistency	4.67	1.3	0.702**	0.452**		
4. Gender	0.49	0.50	-0.041	-0.156	-0.215*	
5. Experience	13.59	9.65	0.083	-0.103	0.208*	-0.168*

Notes: * $p < 0.05$; ** $p < 0.01$

Evaluation of the structural model

To estimate the structural model, we used partial least squares path modeling (PLSPM) using Smart-PLS 3.2. Our study used reflexive constructions.

The properties of the measurement model were evaluated according to the recommendations of Hair *et al.* (2012) for PLSPM. All the indicators were significantly associated with their respective constructs ($p < 0.01$) with standardized loads greater than 0.7 (Barroso *et al.*, 2010). These results show a high reliability of the indicator.

Table II shows the internal consistency, and convergent and discriminant validity. We used the measures of composite reliability (CR) and average variance extracted (AVE) to evaluate internal consistency and convergent validity. The CR values of the constructs varied from 0.91 to 0.95, and were all greater than the threshold of 0.7 (Bagozzi and Yi, 1988). Similarly, the values of AVE for each construct were higher than the threshold of 0.50 (Fornell and Larcker, 1981), confirming the convergent validity of the measurement model.

Finally, to test discriminant validity we used the measure proposed by Henseler *et al.* (2015), i.e., the heterotrait-monotrait (HTMT) ratio of the correlations (Voorhees *et al.*, 2016). There are discriminant validity issues when HTMT values are high, with Henseler *et al.* (2015) proposing a threshold value of 0.90. As we can see in Table II, the HTMT values were lower than the threshold.

Structural model

The predictive relevance of the two dependent variables on the model was evaluated using Stone-Geisser's Q^2 (Geisser, 1975; Stone, 1974), measured using blindfolding procedures. All latent dependent variables exhibited a Q^2 greater than 0 ($Q^2(\text{IB}) = 0.16$; $Q^2(\text{Consistency}) = 0.36$), suggesting the predictive relevance of the model (Chin, 1998). The R^2 value of the latent dependent variables was used to determine the amount of variance explained by the model (see Tables III and IV). According to Falck and Miller (1992), this index must be greater than 0.1.

Testing hypotheses

H1 focused on the direct effect of PA on IB. The analysis results show a positive and significant effect on IB ($r = 0.40$, $p < 0.00$, $t = 5.82$). Therefore, our first hypothesis is supported.

	CR	AVE	1	2
1. Performance appraisal	0.91	0.84		
2. Innovative behavior	0.93	0.69	<i>0.45</i>	
3. HRP consistency	0.95	0.76	<i>0.80</i>	<i>0.50</i>

Note: Italic values are HT-MT ratios

Table II. Internal consistency, convergent and discriminant validity

Proposed relationships	Estimate	t-value	Result
Direct effect of performance appraisal on IB	0.40***	5.82	<i>H1</i> accepted
<i>Moderation test</i>			
Effect of consistency on IB	0.38***	3.86	
Moderating effect of consistency	-0.09	0.59	<i>H2</i> rejected

Notes: $R^2(\text{IB}) = 0.25$. The experience control variables show a significant influence on IB. *** $p < 0.01$

Table III. Testing hypotheses

The second hypothesis predicted a moderating effect of consistency in the relationship between PA and IB. Results showed that consistency was positively and significantly linked to IB ($r = 0.38$; $p < 0.00$; value $t = 3.86$). However, the moderating effect was not significant ($r = -0.09$; $p > 0.05$; value $t = 0.59$). Thus, we cannot confirm $H2$ (Figure 1).

Otherwise, following the previous literature (Ostroff and Bowen, 2016; Rabenu *et al.*, 2018; Tziner and Rabenu, 2018) that predicted or tested the mediation hypothesis, we have tried to analyze whether consistency had any kind of mediating effect between the two variables analyzed (PA and IB). The alternative mediating hypothesis proposed an indirect effect of PA on IB through the perceived consistency of this HR practice, that is, the mediating effect of consistency in the previous relationship. As shown in Table IV, the indirect effect was significant ($r = 0.28$, $p < 0.00$, value $t = 2.84$). Besides, the confidence interval bias corrected did not include 0 (0.078–0.448). The table also shows that the direct relationship was not significant.

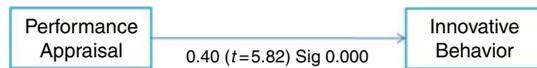
Therefore, we can affirm that consistency mediated the relationship between PA and IB. Therefore, PA influenced IB when employees perceived that the practices served the purposes for which they were designed, remained constant over time and helped to consolidate the shared vision of the organization’s members. That is to say, the effect of PA on IB takes place through the perception of the consistency of this practice (PA) implemented by the organization.

Proposed relationships	Estimate	t-value	2.5%	97.5%
Direct effect of performance appraisal on IB	0.13	0.986		
Indirect effect of performance appraisal on IB through the consistency	0.28***	2.837		
Confidence intervals bias corrected of the indirect effect			0.078	0.45

Notes: R^2 (IB) = 0.24; R^2 (consistency) = 0.52. The experience control variables show a significant influence on IB. *** $p < 0.01$

Table IV. Testing the mediation hypothesis

H1: Direct relationship



H2: Moderation

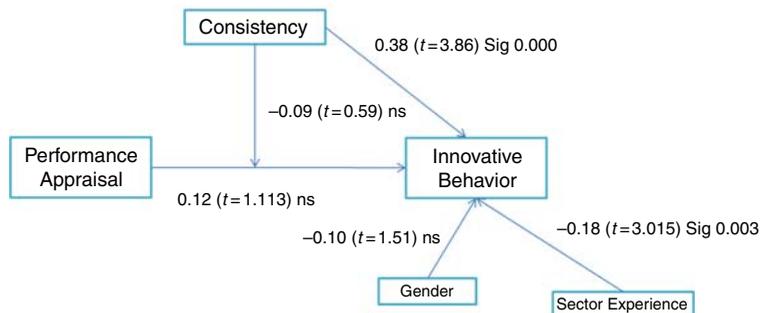


Figure 1. Direct relationship and moderation effect

In addition, as we can see in the note in Table IV, only one of the control variables (experience in the sector) had a significant influence on IB. In particular, employees' experience showed a negative effect on IB.

These results are shown in Figure 2.

Discussion and conclusions

This research tries to address a topic that has not received sufficient attention in the literature. In particular, we focused on the effect of consistency (as a dimension of HRM system strength) on the relationship between PA and employees' IB. As argued in the theoretical framework, there is general agreement in pointing out the role played by PAI in achieving organizational goals. It can be stated that fostering IB among employees is today one of the key aspects in improving organizational competitiveness.

Although it is not possible to categorically state that IB is difficult to encourage in any type of work, from our point of view, it is more likely to occur in more qualified and complex jobs. In general, there are many exceptionalities and changes in a qualified and complex job which force employees to seek solutions to the different contingencies that may occur. This dynamic nature can develop an ability to generate new ideas and points of view that can be transformed into innovation. Faced with this type of qualified and complex jobs, high performance and commitment practices make total sense, since management will use them to achieve IB.

However, previous works have stated that the design and application of HRP is not sufficient to generate certain behaviors, such as IB, since these HRP may not be perceived correctly by employees and, therefore, may not have the desired effect on them (Bowen and Ostroff, 2004; Nishii *et al.*, 2008). Thus, it is interesting to ascertain how to achieve coincidence between the intentions of the management team, in terms of HRP, and what employees actually experience and perceive in relation to those practices. This interest corresponds to the theoretical trend that seeks to focus on process aspects, rather than on the content of HR practices themselves. Bowen and Ostroff (2004) initiated this process perspective when they talked about HRM system strength, a construct in which they identified three dimensions (distinctiveness, consensus and consistency). If employees perceive HRM as being fully integrated, their behavior will be aligned with the organization's objectives.

We consider that consistency, out of all of the HRM system strength dimensions, is the one that is most closely related to PA and IB. Consistency reflects the instrumental nature of the system, its validity and the coherence of the information transmitted by HRM; that is, the perception that the practices implemented are not erratic, nor are their effects unpredictable,

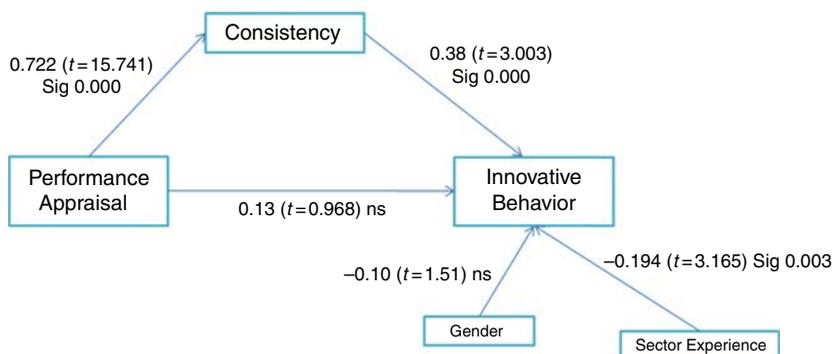


Figure 2. Mediation effect

but instead they respond to a previously designed and deliberate plan (García *et al.*, 2013). PA, which is related to the reward system, is one of the managerial practices that have the greatest influence in achieving desired behaviors. However, if we consider the process perspective, the system needs to be perceived as being consistent. It is only in this scenario that PA will lead to intentionally defined or expected behaviors. In this sense, we have formulated our hypotheses, establishing a direct relationship between PA and IB in a knowledge-intensive context; as well as establishing the moderating effect of the perception of consistency in this context. The first hypothesis, clearly relating PA to IB, was supported. However, we did not find a moderating or intensifying effect for consistency.

With respect to the first hypothesis, we can affirm that in a context of professional or qualified work, PA practices have a direct and positive effect on IB. We must not forget that PA is one of the practices that can have the greatest impact on the attitudes and behavior of employees, since it directly affects their work life, through the administration of rewards, including opportunities for compensation, promotion and training (Ismail and Rishani, 2018). All these practices (giving feedback to employees or establishing compensations related to PA), when properly managed, can stimulate and encourage IB.

However, the results on the moderating role of consistency were not significant. As we have argued in the theoretical framework, there is no clear approach when studying the role of the different dimensions of HRM strength on the analyzed behaviors. Consequently, we have also explored the mediating role of consistency, in line with the previous literature (Bowen and Ostroff, 2004; Ostroff and Bowen, 2016). Our results show the mediating effect of this particular dimension, consistency, on the relationship between PA and IB. That is, when firms work in a knowledge-intensive context, PA must be oriented to improving the capabilities of these knowledge workers, showing them their weaknesses so they can improve and continuously learn. This evaluation must offer them an opportunity to grow and develop inside the organization. However, if this appraisal is erratic (e.g. it is not consistent over time, is carried out randomly or everyone receives the same appraisal results), employees will feel that the objective of the assessment has not been achieved. Accordingly, a PA system oriented to learning and continuous improvement will be directly enhanced by the degree of consistency perceived by knowledge workers; and it is this perception of consistency which will lead employees to behave innovatively.

The results obtained can motivate future research focused on the link between the implementation of HRP and IB. In the case of employees with knowledge-intensive jobs, HRM must build an integrated and coherent system so the employees perceive it in the same way. This fact opens up the field to study how to define and implement control mechanisms that enable managers to ascertain whether there is a fit between employee perceptions and the intentionality of the HRP defined by managers. This research could provide authors interested in this topic with a starting point for further investigation into the subject. With the same underlying intention, some researchers may be interested in the study of communication processes analyzing the key elements that ensure there is no gap between managerial intentions and employee perceptions.

As a general recommendation, managers should not only pay attention to the content of practices in order to achieve organizational objectives, but should also focus on HR implementation aspects. This shift in the focus of attention will ensure that as long as employees perceive coherence, integrity and credibility in a firm's HRP, organizational objectives will be aligned with their own goals and, therefore, their behaviors will be geared to the achievement of these organizational goals. For practitioners, organizations that aim to encourage IB in their employees should firstly focus on the design of PA systems that include aspects related to knowledge activities. Therefore, when an

employee knows that they are going to be evaluated on these topics, they will direct their efforts to achieve these innovation results. In addition, if the employee receives feedback on these knowledge aspects, this will improve their IB. Second, the results of our research can help managers to focus on organizational aspects such as communication and feedback systems that can explain the successful implementation of HRP, and especially of PA. On one hand, managers have the responsibility of communicating the goals and expected behaviors to their employees and, on the other, they have to provide accurate and effective feedback of the results of the PA process. If employees clearly perceive what is expected of them and what they have to do to improve their behavior, that is, if the messages are consistent, innovation results will improve. Lastly, practitioners have to take into account the role of middle managers in the communication process. Middle managers also have to perceive consistent, unambiguous messages from the HR department as this will help them to clarify and efficiently transmit the goals and results of the PA process.

The research presented here is not free from limitations, but it can lay the foundations for future investigation. Our sample was made up of employees from industrial companies located in a particular area of Spain. Thus, in the future, it would be interesting to extend the sample to employees from different geographical areas, both inside and outside Spain. It would also be interesting to incorporate employees with knowledge-intensive jobs from companies working in the service sector in order to analyze whether this fact would generate different results.

Another limitation that we should highlight is the fact of having centered our analysis on employee perceptions. It would be interesting in future research to consider a multilevel perspective to compare the views of managers and employees. Last, but not least, it would be interesting to extend the study to test the effect of the other dimensions included in HRM system strength (consensus and distinction).

Finally, in this research we have focused on PA, system consistency and IB. In future research, it would be advisable to analyze the effect of other key human resource practices (e.g. professional development or participation in decision making) on IB.

References

- Ahmed, I. and Sattar, A. (2018), "The influence of justice perceptions on performance appraisal reactions in telecom sector of Pakistan", *Global Management Journal for Academic & Corporate Studies*, Vol. 8 No. 1, pp. 86-100.
- Aktharsha, U.S. and Sengottuvel, A. (2016), "Knowledge sharing behavior and innovation capability: HRM practices in hospitals", *Journal of Indian Management*, Vol. 13 No. 1, pp. 118-130.
- Andreeva, T. and Sergeeva, A. (2016), "The more the better... or is it? The contradictory effects of HR practices on knowledge sharing motivation and behaviour", *Human Resource Management Journal*, Vol. 26 No. 2, pp. 151-171.
- Andreeva, T., Vanhala, M., Sergeeva, A., Ritala, P. and Kianto, A. (2017), "When the fit between HR practices backfires: exploring the interaction effects between rewards for and appraisal of knowledge behaviours on innovation", *Human Resource Management Journal*, Vol. 27 No. 2, pp. 209-227.
- Appelbaum, E., Bailey, L.M. and Griffeth, R.W. (2000), *Manufacturing Advantage: Why High-Performance Work Systems Pay Off*, Cornell University Press, Ithaca, NY.
- Azzone, G. and Palermo, T. (2011), "Adopting performance appraisal and reward systems", *Journal of Organizational Change Management*, Vol. 24 No. 1, pp. 90-111.
- Bagozzi, R.P. and Yi, Y. (1988), "On the evaluation of structural equation models", *Academy of Marketing Science*, Vol. 16 No. 1, pp. 74-94.

-
- Barroso, C., Carrión, G.C. and Roldán, J.L. (2010), "Applying maximum likelihood and PLS on different sample sizes: studies on SERVQUAL model and employee behavior model", in Barroso, C., Carrión, G.C. and Roldán, J.L. (Eds), *Handbook of Partial Least Squares*, Springer Publisher, New York, NY, pp. 427-447.
- Becker, B.E. and Huselid, M.A. (1998), "High performance work systems and firm performance: a synthesis of research and managerial implications", *Research in Personnel and Human Resources Management*, Vol. 6, pp. 53-101.
- Bednall, T.C., Sanders, K. and Runhaar, P. (2014), "Stimulating informal learning activities through perceptions of performance appraisal quality and human resource management system strength: a two-wave study", *Academy of Management Learning and Education*, Vol. 13 No. 1, pp. 45-61.
- Blau, P. (1964), *Exchange And Power in Social Life*, Wiley, New York, NY.
- Bowen, D.E. and Ostroff, C. (2004), "Understanding HRM-firm performance linkages: the role of the 'strength' of the HRM system", *Academy of Management Review*, Vol. 29 No. 2, pp. 203-221.
- Boxall, P. and MacKy, K. (2009), "Research and theory on high-performance work systems: progressing the high-involvement stream", *Human Resource Management Journal*, Vol. 19 No. 1, pp. 3-23.
- Boxall, P. and Purcell, J. (2003), *Strategy and Human Resource Management*, Palgrave Macmillan, London.
- Brown, M., Hyatt, D. and Benson, J. (2010), "Consequences of the performance appraisal experience", *Personnel Review*, Vol. 39 No. 3, pp. 375-396.
- Chen, C.J. and Huang, J.W. (2009), "Strategic human resource practices and innovation performance - the mediating role of knowledge management capacity", *Journal of Business Research*, Vol. 62 No. 1, pp. 104-114.
- Chen, S.J., Lin, P.F., Lu, C.M. and Tsao, C.W. (2007), "The moderation effect of HR strength on the relationship between employee commitment and job performance", *Social Behavior and Personality: An International Journal*, Vol. 35 No. 8, pp. 1121-1138.
- Chin, W.W. (1998), "Issues and opinions on structural equation modelling", *MIS Quarterly*, Vol. 22 No. 1, pp. 7-15.
- De Leede, J. and Looise, J.K. (2005), "Innovation and HRM: towards an integrated framework", *Creativity and Innovation Management*, Vol. 14 No. 2, pp. 108-117.
- Dello Russo, S., Mascia, D. and Morandi, F. (2018), "Individual perceptions of HR practices, HRM strength and appropriateness of care: a meso, multilevel approach", *The International Journal of Human Resource Management*, Vol. 29 No. 2, pp. 286-310.
- Delmotte, J., De Winne, S. and Sels, L. (2012), "Toward an assessment of perceived HRM system strength: scale development and validation", *The International Journal of Human Resource Management*, Vol. 23 No. 7, pp. 1481-1506.
- DeNisi, A.S. and Sonesh, S. (2010), "The appraisal and management of performance at work", in Zedeck, S. (Ed.), *APA Handbook of Industrial and Organizational Psychology: Selecting and Developing Members for the Organization*, Vol. 2, American Psychological Association, Washington, DC, pp. 255-279.
- Dessler, G. and Varkkey, B. (2016), *Human Resource Management*, Prentice Hall.
- Dorenbosch, L., de Reuver, R. and Sanders, K. (2006), "Getting the HR message across: the linkage between line HR consensus and commitment strength among hospital employees", *Management Revue*, Vol. 17 No. 3, pp. 274-291.
- Dorenbosch, L., Engen, M.L.V. and Verhagen, M. (2005), "On the job innovation: the impact of job design and human resource management through production ownership", *Creativity and Innovation Management*, Vol. 14 No. 2, pp. 129-141.
- Dusterhoff, C., Cunningham, J.B. and MacGregor, J.N. (2014), "The effects of performance rating, leader-member exchange, perceived utility, and organizational justice on performance appraisal satisfaction: applying moral judgement perspective", *Journal of Business Ethics*, Vol. 119 No. 2, pp. 265-273.

- Ehnert, I., Parsa, S., Roper, I., Wagner, M. and Muller-Camen, M. (2016), "Reporting on sustainability and HRM: a comparative study of sustainability reporting practices by the world's largest companies", *The International Journal of Human Resource Management*, Vol. 27 No. 1, pp. 88-108.
- Ehrnrooth, M. and Björkman, I. (2012), "An integrative HRM process theorization: beyond signalling effects and mutual gains", *The Journal of Management Studies*, Vol. 49 No. 6, pp. 1109-1135.
- Escribá-Carda, N. (2015), "High performance work systems and employee innovative behaviour", PhD dissertation, Universitat de València, Valencia.
- Escribá-Carda, N., Balbastre-Benavent, F. and Canet-Giner, M.T. (2017), "Employees' perceptions of high-performance work systems and innovative behaviour: the role of exploratory learning", *European Management Journal*, Vol. 35 No. 2, pp. 273-281.
- Falck, R.F. and Miller, N.B. (1992), *A Primer for Soft Modelling*, University of Akron Press, Akron, OH.
- Farndale, E. and Sanders, K. (2017), "Conceptualizing HRM system strength through a cross-cultural lens", *The International Journal of Human Resource Management*, Vol. 28 No. 1, pp. 132-148.
- Fay, C.H. and Thompson, M.A. (2001), "Contextual determinants of reward systems' success: an exploratory study", *Human Resource Management*, Vol. 40 No. 3, pp. 213-226.
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.
- Fu, N., Flood, P., Bosak, J., Morris, T. and O'Regan, P. (2015), "How do high performance work systems influence organizational innovation in professional service firms?", *Employee Relations: The International Journal*, Vol. 37 No. 2, pp. 209-231.
- García, N., Martín, F. and Sánchez, G. (2013), "Una aproximación teórica a la valoración del doble ajuste en el diseño de la estrategia de recursos humanos", *Investigaciones europeas de dirección y economía de la empresa*, Vol. 19 No. 2, pp. 112-119.
- García-Carbonell, N., Martín-Alcázar, F. and Sánchez-Gardey, G. (2014), "El papel moderador de la percepción del sistema de dirección de recursos humanos y su influencia en los resultados organizativos", *Revista Europea de Dirección y Economía de la Empresa*, Vol. 23 No. 3, pp. 137-146.
- García-Carbonell, N., Martín-Alcázar, F. and Sánchez-Gardey, G. (2015), "Is double fit a sufficient condition for SHRM success? The missing link between intended and implemented HRM strategy", *International Journal of Organizational Analysis*, Vol. 23 No. 2, pp. 264-284.
- Geisser, S. (1975), "The predictive sample reuse method with applications", *Journal of the American Statistical Association*, Vol. 70 No. 350, pp. 320-328.
- Gibb, S. (2001), "The state of human resource management: evidence from employees' views of HRM systems and staff", *Employee Relations*, Vol. 23 No. 4, pp. 318-336.
- Gómez-Mejía, L., Balkin, D. and Cardy, R. (2007), *Management: People, Performance, Change*, Prentice Hall, Boston, MA.
- Gupta, A.K. and Singhal, A. (1993), "Managing human resources for innovation and creativity", *Research-Technology Management*, Vol. 36 No. 3, pp. 41-48.
- Hair, J.F., Sarstedt, M., Pieper, T. and Ringle, C.M. (2012), "The use of partial least squares structural equation modeling in strategic management research: a review of past practices and recommendations for future applications", *Long Range Planning*, Vol. 45 Nos 5-6, pp. 320-340.
- Hayton, J.C. (2005), "Promoting corporate entrepreneurship through human resource management practices: a review of empirical research", *Human Resource Management Review*, Vol. 15 No. 1, pp. 21-41.
- Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43 No. 1, pp. 115-135.
- Inkinen, H.T., Kianto, A. and Vanhala, M. (2015), "Knowledge management practices and innovation performance in Finland", *Baltic Journal of Management*, Vol. 10 No. 4, pp. 432-455.

-
- Ismail, H.N. and Rishani, M. (2018), "The relationships among performance appraisal satisfaction, career development and creative behavior", *The Journal of Developing Areas*, Vol. 52 No. 3, pp. 109-124.
- Jaw, B.S. and Liu, W. (2003), "Promoting organizational learning and self-renewal in Taiwanese companies: the role of HRM", *Human Resource Management*, Vol. 42 No. 3, pp. 223-241.
- Jensen, J.M., Patel, P.C. and Messersmith, J.G. (2013), "High-performance work systems and job control: consequences for anxiety, role overload, and turnover intentions", *Journal of Management*, Vol. 39 No. 6, pp. 1699-1724.
- Jiang, K., Wnag, S. and Zhao, S. (2012), "Does HRM facilitate employee creativity and organizational innovation? A study of Chinese firms", *International Journal of Human Resource Management*, Vol. 23 No. 19, pp. 4025-4047.
- Jiménez-Jiménez, D. and Sanz-Valle, R. (2005), "Innovation and human resource management fit: an empirical study", *International Journal of Manpower*, Vol. 26 No. 4, pp. 364-381.
- Kampkotter, P. (2015), "Performance appraisals and job satisfaction", *The International Journal of Human Resource Management*, Vol. 28 No. 5, pp. 1-25.
- Kehoe, R.R. and Wright, P.M. (2013), "The impact of high-performance human resource practices on employees' attitudes and behaviors", *Journal of Management*, Vol. 39 No. 2, pp. 366-391.
- Kelley, H.H. (1973), "The processes of causal attribution", *American Psychologist*, Vol. 28 No. 2, pp. 107-128.
- Kepes, S. and Delery, J.E. (2007), "HRM systems and the problem of internal fit", in Boxall, P.F., Purcell, J. and Wright, P.M. (Eds), *The Handbook of Human Resource Management*, Oxford University Press, Oxford, pp. 385-404.
- Khilji, S.E. and Wang, X. (2006), "Intended and implemented HRM: the missing linchpin in strategic human resource management research", *The International Journal of Human Resource Management*, Vol. 17 No. 7, pp. 1171-1189.
- Lepak, D.P., Liao, H., Chung, Y. and Harden, E.E. (2006), "A conceptual review of human resource management systems in strategic human resource management research", *Research in Personnel and Human Resources Management*, Vol. 25 No. 1, pp. 217-271.
- Li, X., Frenkel, S.J. and Sanders, K. (2011), "Strategic HRM as process: how HR system and organizational climate strength influence Chinese employee attitudes", *The International Journal of Human Resource Management*, Vol. 22 No. 9, pp. 1825-1842.
- Ling, T.C. and Nasurdin, A.M. (2010), "Human resource management practices and organizational innovation: an empirical study in Malaysia", *Journal of Applied Business Research*, Vol. 26 No. 4, pp. 105-115.
- Medcof, J. and Song, L. (2013), "Exploration, exploitation and human resource management practices in cooperative and entrepreneurial HR configurations", *International Journal of Human Resource Management*, Vol. 24 No. 15, pp. 2911-2926.
- Nishii, L.H. (2013), "The benefits of climate for inclusion for gender-diverse groups", *Academy of Management Journal*, Vol. 56 No. 6, pp. 1754-1774.
- Nishii, L.H., Lepak, D.P. and Schneider, B. (2008), "Employee attributions of the 'why' of HR practices: their effects on employee attitudes and behaviors, and customer satisfaction", *Personnel Psychology*, Vol. 61 No. 3, pp. 503-545.
- Niu, H.J. (2014), "Is innovation behavior congenital? Enhancing job satisfaction as a moderator", *Personnel Review*, Vol. 43 No. 2, pp. 288-302.
- Ostroff, C. and Bowen, D.E. (2016), "Reflections on the 2014 decade award: is there strength in the construct of HR system strength?", *Academy of Management Review*, Vol. 41 No. 2, pp. 196-214.
- Pereira, C.M. and Gomes, J.F. (2012), "The strength of human resource practices and transformational leadership: impact on organisational performance", *The International Journal of Human Resource Management*, Vol. 23 No. 20, pp. 4301-4318.

-
- Pfeffer, J. (2010), "Building sustainable organizations: the human factor", *Academy of Management Perspectives*, Vol. 24 No. 1, pp. 34-45.
- Rabenu, E., Tziner, A., Oren, I., Sharoni, G. and Vasiliu, C. (2018), "HR strength as a mediator or a moderator in the relationship between HR practices and organizational innovation? The romanian study", *JEEMS*, Vol. 23 No. 2, pp. 203-233.
- Radaelli, G., Lettieri, E., Mura, M. and Spiller, N. (2014), "Knowledge sharing and innovative work behaviour in healthcare: a micro-level investigation of direct and indirect effects", *Creativity and Innovation Management*, Vol. 23 No. 4, pp. 400-414.
- Ringle, C.M., Wende, S. and Becker, J.M. (2015), *SmartPLS 3*, SmartPLS GmbH, Boenningstedt, available at: www.smartpls.com (accessed May 22, 2019).
- Sanders, K., Dorenbosch, L. and De Reuver, R. (2008), "The impact of individual shared employee perceptions of HRM on affective commitment", *Personnel Review*, Vol. 37 No. 4, pp. 412-425.
- Sanders, K., Shipton, H. and Gomes, J.F. (2014), "Is the HRM process important? Past, current, and future challenges", *Human Resource Management*, Vol. 53 No. 4, pp. 489-503.
- Scott, S.G. and Bruce, R.A. (1994), "Determinants of innovative behavior: a path model of individual innovation in the workplace", *Academy of Management Journal*, Vol. 37 No. 3, pp. 580-607.
- Shanker, R., Bhanugopan, R., Van der Heijden, B.I. and Farrell, M. (2017), "Organizational climate for innovation and organizational performance: the mediating effect of innovative work behaviour", *Journal of Vocational Behavior*, Vol. 100, pp. 67-77.
- Sharma, A. and Sharma, T. (2017), "HR analytics and performance appraisal system: a conceptual framework for employee performance improvement", *Management Research Review*, Vol. 40 No. 6, pp. 684-697.
- Shin, S.J., Yuan, F. and Zhou, J. (2017), "When perceived innovation job requirement increases employee innovative behavior: a sensemaking perspective", *Journal of Organizational Behavior*, Vol. 38 No. 1, pp. 68-86.
- Shipton, H., Budhwar, P., Sparrow, P. and Brown, A. (2016), *Human Resource Management, Innovation and Performance*, Palgrave Macmillan, Basingstoke.
- Shipton, H., Fay, D., West, M., Patterson, M. and Birdi, K. (2005), "Managing people to promote innovation", *Creativity and Innovation Management*, Vol. 14 No. 2, pp. 118-128.
- Shipton, H., West, M.A., Dawson, J., Birdi, K. and Patterson, M. (2006), "HRM as a predictor of innovation", *Human Resource Management Journal*, Vol. 16 No. 1, pp. 3-27.
- Shrivastava, A. and Purang, P. (2011), "Employee perceptions of performance appraisals: a comparative study on Indian banks", *The International Journal of Human Resource Management*, Vol. 22 No. 3, pp. 632-647.
- Skarlicki, D.P. and Folger, R. (1997), "Retaliation in the workplace: the roles of distributive, procedural, and interactional justice", *Journal of Applied Psychology*, Vol. 82 No. 3, pp. 434-443.
- Stone, M. (1974), "Cross-validated choice and assessment of statistical predictions", *Journal of the Royal Statistical Society, Series B (Methodological)*, pp. 111-147.
- Takeuchi, R., Chen, G. and Lepak, D.P. (2009), "Through the looking glass of a social system cross level effects of HPWS on employees' attitudes", *Personnel Psychology*, Vol. 62 No. 1, pp. 1-29.
- Tang, G., Yu, B., Cooke, F.L. and Chen, Y. (2017), "High-performance work system and employee creativity: the roles of perceived organisational support and devolved management", *Personnel Review*, Vol. 46 No. 7, pp. 1318-1334.
- Tziner, A. and Rabenu, E. (2018), "Organizational environment factors influencing the appraisal process", in Tziner, A. and Rabenu, E. (Eds), *Improving Performance Appraisal At Work*, Edward Elgar Publishing, pp. 82-107.
- Vermeeren, B. (2010), "Diversity in HRM implementation and its effect on performance", *Proceedings of the 32nd EGPA Annual Conference, Toulouse*, pp. 1-25.

- Voorhees, C.M., Brady, M.K., Calantone, R. and Ramirez, E. (2016), "Discriminant validity testing in marketing: an analysis, causes for concern, and proposed remedies", *Journal of the Academy of Marketing Science*, Vol. 44 No. 1, pp. 119-134.
- Waheed, A., Abbas, Q. and Malik, O. (2018), "Perceptions of performance appraisal quality' and employee innovative behavior: do psychological empowerment and 'perceptions of HRM system strength'matter?"; *Behavioral Sciences*, Vol. 8 No. 12, p. 114, available at: <https://doi.org/10.3390/bs8120114>
- Warokka, A., Gallato, C.G. and Moorthy, T.A. (2012), "Organizational justice in performance appraisal system and work performance: evidence from an emerging market", *Journal of Human Resources Management Research*, Vol. 12 No. 12, pp. 1-18.

Corresponding author

Ana Redondo-Cano can be contacted at: Ana.Redondo@uv.es