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Translating stakeholder pressures into environmental performance – the mediating role of green HRM practices

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Abstract

This paper contributes to extant research on green Human Resource Management (HRM) relying on the instrumental value of stakeholder theory, which implies that stakeholders impact on company decisions and their development of organizational resources and performance. Following that theory, the study conceives green HRM practices as a set of management processes that companies implement for responding to stakeholder pressures on environmental issues. Accordingly with those premises, we empirically test the distinct role that different green HRM practices (i.e., green hiring, green training and involvement, and green performance management and compensation) play in mediating the relation between pressures on environmental issues from two specific external stakeholders (i.e., customers and regulatory stakeholders) and environmental performance. Our findings, based on a multi-respondent survey in which the respondents were Human Resource Managers and Supply Chain Managers operating in Italy, confirm the hypothesized mediation model. Our results (as well as their implications) are discussed in light of the recent calls to broaden the scope of HRM research, considering the embeddedness of the company in a socio-political context and exploring the role that actors and factors outside the company play in shaping its green HRM practices.

Keywords: stakeholder theory, green human resource management, environmental performance

1. Introduction

Environmental sustainability is of significant contemporary interest and importance to policy makers, public opinion and practicing managers (Costello, et al., 2009; de Lange, Busch, & Delgado-Ceballos, 2012). Rising environmental awareness has led public actors and regulatory bodies to expand the corpus of environmental law and has led firms to invest in their environmental management systems to improve their reputation and reduce the risk of environmental disasters (Vassinis and Vafeas, 2006). Similarly, consumers are paying increasing attention on the firm's environmental behavior, thus influencing their preferences and loyalty (Dangelico and Pujari, 2010; Bask, Halme, Kallio, & Kuula, 2013). Indeed, an increasing number of CEOs have made environmental sustainability a key priority and a permanent topic on their agenda (BCG & MIT, 2009; McKinsey, 2013).

At the same time, environmental management has become a key area of management research, increasing the available body of knowledge. A recent stream of study has focused on the role played by human resource management (HRM) practices – intended as "the management of work and people towards desired ends" (Boxall Purcell, & Wright, 2009, p. 1) – aimed at developing firm environmental performance (also called green HRM), providing empirical support to the idea that specific green HRM practices are positively related to environmental performance (for a review, see Renwick, Redman, & Maguire, 2014).

Yet, considerable uncertainty remains regarding the role of green HRM in answering to policy makers and consumer pressures (Jackson, Renwick, Jabbour, & Muller-Camen, 2011) and to achieve environmental sustainability (Jackson and Seo, 2010; Renwick et al., 2014). In this regard, this paper aims to overcome two specific knowledge gaps, namely: (i) the stakeholder pressures on environmental issues that lead firms to implement green HRM practices; and (ii) the distinct mediating roles that specific green HRM practices play in the pressure-performance relation.

Concerning the first knowledge gap addressed by this study, drawing on stakeholder theory, other management disciplines, such as Supply Chain Management (e.g., Paulraj, 2009), Logistics Management (e.g., Kim and Lee, 2012), Strategy and Innovation Management (Berrone, Fosfuri, Gelabert, & Gomez-Mejia, 2013), have investigated the impact of stakeholder pressures on environmental performance, and how mangers in the related fields shaped their managerial practices to answer stakeholder pressures and improve environmental performance. Unlikely, only few recent contributions emerged in HRM exploring the relation between organizational performance and HRM practices in a contextualized way, i.e. heavily

considering the socio-political context in which HRM practices are embedded (e.g. Batt and Banerijee, 2012). According to this line of reasoning, we assume here that green HRM is a set of management practices fully embedded in a social, political, and market context in which a wide set of stakeholders presents to companies specific claims, and that, at the organizational level, the consistency between green HRM and that context results in higher performance. More specifically, we assume that companies can use green HRM for responding to stakeholder pressures on environmental issues and, by that, for developing firm environmental performance. This assumption is in line with the limited set of recent theoretical (e.g., Ferrary, 2009; Paawue and Boselie, 2008; Delbridge, Hauptmeier, & Sengupta, 2011; Jackson, Schuler, & Jiang, 2014) and empirical contributions (e.g., Boon, Paauwe, Boselie, & Hartog, 2009; Guerci and Shani, 2013) which have broadened the scope of HRM research, moving beyond organizational boundaries to explore external pressures that shape the HRM system of the firm. In the specific field of green HRM, Jackson and Seo (2010) called for empirical HRM studies to understand the relationship between stakeholder pressures and HRM practices. In this study, we answer to such call employing the stakeholder theory to investigate the impact of two main sources of external stakeholder pressures on the implementation of green HRM practices: customer pressure, which leads a firm to pursue environmental improvement for market reasons; and regulatory stakeholder pressure, which leads a firm to pursue environmental improvement for institutional reasons (Garriga and Melè, 2004).

The second knowledge gap addressed by the present study regards the distinct role that green HRM practices play in developing environmental performance. The gap and its relevance have been widely acknowledged by recent literature. For example, Renwick, Redman, & Maguire (2013) recognized that most extant research on green HRM is focused on the impact of specific HRM practices on environmental performance; as a consequence, they explicitly called for studies that simultaneously consider the distinct effects of different HRM practices on environmental performance. Accordingly, this paper tests and compares the relative effects of three HRM practices on environmental performance, namely, green hiring, green training and involvement, and green performance management and compensation.

Therefore we contribute to the academic literature by addressing the relationship between stakeholder pressures and environmental performance, examining which specific green HRM practices companies use for responding to these pressures, and to what extent such practices increase environmental performance. At the same time, our contributions are relevant for HR practice and for policy makers, as we provide HR practitioners with an evidence-based

argument for presenting a compelling case to senior leaders and top managers for green HRM-related investments. We also provide specific recommendations to HR managers and professionals for prioritizing investments in green HRM practices. In addition, we provide evidence to policy makers and regulatory agencies of the effectiveness of green HRM practices, which might shape specific regulations and, consequently, drive a firm's HRM practice selection and design.

According to its objectives, the paper is organized as follows. Section 2 provides the theoretical framework of the study and advances a set of hypotheses. The methods section then presents the key features of the study. After the presentation of the results, we discuss them and, finally, we provide conclusions on the key contributions and limitations of the study, as well as ideas for its possible future development.

2. Theoretical framework and hypothesis development

2.1 The instrumental value of stakeholder theory – The relation between stakeholder pressures on environmental issues and environmental performance

Stakeholder theory has attracted considerable attention from scholars, politicians and managers. A stakeholder view of the company emerged, proposing that managers should design specific processes to manage stakeholders' expectations (Freeman, 1984). To appreciate the concept of stakeholders, it is useful to understand the idea of a stake, that is, "an interest or share in an undertaking" (Carroll and Buchholtz, 2011: 65). This idea can range from simple interest in an undertaking to a legal claim of ownership. Even though the literature offers several definitions of "stakeholder" (for an overview see Mitchell, Agle, & Wood, 1997), the most cited definition states that a stakeholder is "any individual or group who can affect or is affected by actions, decisions, policies, practices or goals of an organization" (Freeman, 1984: 25).

In particular, stakeholder theory and stakeholder management have three kinds of value. The instrumental value is the first, as stakeholder theory is adopted in order to "identify the connections, or lack of connections, between stakeholder management and the achievement of traditional corporate objectives (e.g. profitability, growth)" (Donaldson and Preston, 1995, p. 71). This first perspective, which is normative in its nature, describes how companies *ought* to be managed. The second kind of value is the ethical one, since stakeholder theory is adopted in order to "interpret the function of, and offer guidance about, the… corporation on the basis

of some underling moral or philosophical principles" (Donaldson and Preston, 1995, p. 72). This perspective, also normative in nature, is used for describing how the world *ought* to be. The third kind of value is descriptive, since stakeholder theory is adopted by management research in order to "describe, and sometimes explain, specific corporate characteristics and behaviors" (Donaldson and Preston, 1995, p. 70). In this perspective, the theory is used for describing how the world *is*.

Building on the instrumental value of stakeholder theory, the literature has advanced the idea that, to maximize a firm's wealth in the long run, a larger set of actors should be considered stakeholders and that managers should design and implement specific processes (called stakeholder management) for managing stakeholders' expectations (e.g., Donaldson and Preston, 1995). On this point, Post, Preston, & Sachs (2002: 8) emphasize that "the capacity of a company to generate sustainable wealth in the long-term, is determined by its relationships with critical stakeholders and any stakeholder relationship may be the most critical one at a particular time or on a particular issue." From the empirical point of view, a wide set of recent papers supported this stance, demonstrating that companies able to positively respond to stakeholder pressures (i.e., specific claims that stakeholders advance on the basis of their specific interests and needs, Ramanathan, Poomkaew, & Nath, 2014) are more likely to have superior performance. On that, Orlitzky, Schimdt, & Rynes (2003) clearly show that companies able to properly manage their stakeholder have superior financial performance.

But what are empirical evidences and the theoretical arguments regarding the application of the stakeholder theory to environmental management? Given the significant attention on environmental aspects by the public opinion and policy makers, but also the financial performance, competitiveness, and innovation benefits associated with improved environmental performance (King & Lenox, 2002; Klassen & Whybark, 1999; Majumdar & Marcus, 2001), several authors suggested the relationship between stakeholder pressures and environmental performance (e.g., Smith, 2003; Kassinis and Vafeas, 2006). For example, focusing on a sample of manufacturing firms operating in the UK, Ramanathan et al. (2014) demonstrate that stakeholder pressures on environmental issues have a significant and positive impact on the firm environmental performance. Similarly, Kassinis and Vafeas (2006) empirically explore the impact of stakeholder pressures on pollution outcomes of firms at the plant level. Their results show that higher stakeholder pressures are related to lower toxic releases.

Theoretically, similarly to the case of financial performance, the relation between stakeholder pressures on environmental issues and environmental performance has been supported by arguing that the company that effectively responds to its stakeholder is more likely to develop deeper and wider environmental-related processes (conceived as an internal resources) and to increase the access to external networks with which sharing competencies and information on environmental-related issues (conceived as an internal resources) (Yu and Ramanathan, 2014).

In this paper, we focus on two specific types of stakeholders that are of critical importance when considering environmental issues: customers and regulatory stakeholders (Henriques and Sadorsky, 1996). We argue that the pressures from these two types of stakeholders on environmental issues lead the firm to improve its environmental performance for two different reasons (Garriga and Melé, 2004; Kassinis and Vafeas, 2006).

In the case of customer pressure, environmental performance is increased for market reasons: the company develops environmental performance to satisfy customers' environmental expectations and, thereby, to improve its market-related and financial performance. In fact, the relationship between environmental performance and other performance dimensions has been widely suggested by previous literature (see for a review Golicic and Smith, 2013). Customer expectations have changed in the last years including not only good quality of products and services, timely and flexible delivery, fair price, but also environmental sustainable behaviors (Dangelico and Pujari, 2010). Customers are more and more aware of the impacts of firms on natural resources consumption and pollution emission (Bask et al., 2013; Van Doorn and Verhoef, 2011). Customers in developed countries are increasingly aware of the firms' environmental performance and pay attention to firms' sustainable and un-sustainable behaviors (Eweje, 2005). This affects the consumers' view of the firm. Firms are facing increasing challenges to address environmental issues in order to attract, satisfy, and retain customers (e.g., Garbarino and Johnson, 1999; Morgan and Hunt, 1994; Palmatier, Jarvis, Bechkoff, & Kardes, 2009). Thus, customers' environmental expectations may pressure firms to improve their environmental performance (e.g., Berry & Rondinelli, 1998; Rugman & Verbeke, 1998). Therefore, we suggest that:

> *HP1a. Customer pressure on environmental-related issues is positively related to environmental performance.*

Concerning regulatory stakeholder pressure, the firm improves its environmental performance for institutional reasons, i.e., acquiring legitimacy and accessing to resources within the social

system in which it operates (Castellò and Lozano, 2011; Hoellerer, 2013). In this second case, we argue that the firm responds to regulatory stakeholder pressure on environmental-related issues, improving its environmental performance to increase its social legitimacy. Indeed, regulatory stakeholders increasingly adopt stringent environmental regulations to pressure firms to improve environmental performance as part of the way they do business (Rugman & Verbeke, 1998). They can promulgate laws and regulations that influence the way firms do business and impose taxes and other financial costs on firms (Clarkson, 1995; Hillman & Keim, 2001). Firms are likely to respond to such pressures because governments could otherwise reduce or even stop flows of resources toward them, and expose them to public scrutiny, which would lead their social legitimacy (Kassinis and Vafeas, 2006). In this way regulatory stakeholders are able to directly influence firm decisions to improve environmental performance. As a result of such pressures companies reevaluate their strategic approaches toward the natural environment to improve their environmental performance (Hart, 1995; Shrivastava, 1995).

Therefore, we advance the following hypothesis:

> *HP1b. Regulatory stakeholder pressure on environmental-related issues is positively related to environmental performance.*

2.2 Green HRM practices and environmental performance

As anticipated in the introduction, in order to contribute to the theory development, we are interested to understand *how* stakeholder pressures can lead to better environmental performance.

A number of researchers suggest looking at the role of internal resources, and in particular at human resources and employee related-issues (Corbett and Kirsch, 2001; Sharma, 2000) in developing a firm's environmental performance. Since the mid-nineties (e.g., Wehrmeyer, 1996; Milliman and Clair, 1996), HRM has been considered as a key factor in improving environmental performance. A recent review carried out by Renwick et al. (2013) confirmed that various HRM practices are positively related to firm environmental performance. In particular, green hiring (i.e., hiring employees with specific environmental competences and with general sensitivity toward the environment), green training and involvement (i.e., developing environmental competencies and skills and engaging employees in green behaviors) and green performance management and compensation (i.e., assessing employee performance by considering green behaviors and rewarding those behaviors) have been associated with superior environmental performance.

Regarding the first factor (i.e., green hiring), some studies have argued that the development of the environmental performance of an organization requires the firm to hire employees more sensitive toward the topic and, as a consequence, more willing to engage in environmental-related activities (Bauer, Erdogan, & Taylor, 2012). Firms with the aim to achieve higher environmental performance are expected to hire employees with higher environmental competencies and sensitivity. For example, Jabbour, Santos, & Nagano (2010) demonstrated that companies with an environmental certification are more likely to hire applicants that demonstrate environmental knowledge and motivation. Accordingly, we argue that employees who possess specific environmental competences related to the firm's core business and are sensitive to environmental issues are able to improve the firm environmental performance. Thus, we advance the following hypothesis:

HP2a. Green hiring is positively related to environmental performance.

In addition to green hiring, companies implement a set of green training and involvement practices directed toward current employees. In particular, both researchers and practitioners have focused most of their attention on green training (such as awareness campaigns, training and induction) and involvement (such as bi-directional communication flows) (Daily and Huang, 2001; Harvey, Williams, & Probert, 2013; Daily, Bishop, & Massoud, 2012; Jabbour, 2013). Green training is also shown to be the most adopted practice among green HRM practices (CIPD, 2013). Accordingly, several researchers suggested that enhancing employee environmental knowledge and skills plays a key role in improving environmental performance (Vidal-Salazar, Cordón-Pozo, & Ferrón-Vilchez, 2012; Longoni, Golini, & Cagliano, 2014). Green training increases employees' ability to recognize environmental issues (Govindarajulu and Daily, 2004), to have a deeper understanding of the complexity of environmental problems (Perron, Côté, & Duffy, 2006) and a better comprehension of how the environment can be affected by their working activities (Daily and Huang, 2001). Thanks to green training, employees are capable of identifying environmental problems (Jabbour and Santos, 2008) and of making decisions and taking appropriate actions to improve environmental performance (Vidal-Salazar et al., 2012). Firms combine green training practices with green involvement practices to create a context in which employees can really engage in green behaviors. For example, bi-directional communication flows allow management to instill new environmental values in the organization and positively impact the identification of best practices (Dubois and Dubois, 2012). Green involvement practices provide employees with the opportunity to use their green knowledge and abilities and, thus,

to improve the firm environmental performance (Dubois and Dubois, 2012). As a result of these considerations, we offer the following hypothesis:

HP2b. Green training and involvement is positively related to environmental performance.

A third relevant practice related to green HRM is green performance management and compensation, which seems to be a growing practice in organizations. For example, the CIPD recently reported that 21% of the HR managers surveyed included sustainability objectives as part of employees' performance assessment (CIPD, 2013). Green performance management and compensation practices guide employees' to align their behaviors with the environmental objectives of the organization (Govindarajulu and Daily, 2004; Harvey et al., 2013). Including environmental objectives as part of employee performance management is an effective way to signal to employees the firm's commitment to sustainability (Renwick et al., 2013). Moreover, incorporating environmental activities in performance appraisals provides clear information to employees concerning their role in the firm environmental performance achievement, increases the adoption of green behaviors among extrinsically motivated individuals and enhances employees' sense of efficacy (Becton, Giles, & Schraeder, 2008); it also increases employees' willingness to propose "eco-initiatives" (Ramus and Steger, 2000). Furthermore, compensating employee environmental effort has been found to improve environmental performance (Cordeiro and Sarkis, 2008). Thus, we advance the following hypothesis:

HP2c. Green performance management and compensation is positively related to environmental performance.

2.3 Stakeholder pressures and Green HRM practices

Because there are good theoretical reasons and clear empirical evidence for firms to pursue environmental sustainability, this topic has become an influential one in many management sub-fields; notably, the Academy of Management annual conference in 2009 was entitled "Green Management Matters." It is relevant that most management disciplines, drawing on stakeholder theory, explored the impact of stakeholder pressures on the implementation of specific environmental management systems within the firm and, thereby, on environmental performance. For example, Supply Chain Management (SCM) research recently explored the impact of stakeholder pressures on the adoption of green SCM practices (Sarkis, Gonzales-Torre, & Adenso-Diaz, 2010) and the role of customer and regulatory stakeholder pressures

on the implementation of green SCM practices (Paulraj, 2009). Similarly, empirical evidence has been provided regarding the relationship between stakeholder pressures and the implementation of green logistics practices (e.g., Kim and Lee, 2012). Theoretically, the relationship between stakeholder pressures on environmental issues and environmental performance has been supported by arguing that effectively responding to green-related stakeholder pressures allows the company to develop the internal and external resources to improve environmental performance. In particular, it is argued that the company that effectively responds to its stakeholders is more likely to develop deeper and wider environmental-related processes (conceived as an internal resources) and to increase the access to external networks with which sharing competencies and information on environmental-related issues (Yu and Ramanathan, 2014). These studies suggest how different stakeholder pressures lead to the implementation of different environmental-related practices improving environmental performance to different extent. Such research has been important to understand how stakeholder pressures can be translated at the operational level and with which results.

To our best knowledge, an empirical investigation of the relationship between the stakeholder pressures and the implementation of green HRM practices is still lacking. That is quite surprising because stakeholder theory – even in the seminal work by Beer and colleagues (1984) on the Harvard HRM model – has been widely recognized to be a key theory for understanding why firms adopt and implement specific HRM practices (e.g., Greenwood and Simmons, 2004; Diplboye, 2007; Colakoglu, Lepak, & Hong, 2006). Accordingly, in HRM research, stakeholder theory has proven to be insightful, for example, in creating strategic human resource development systems (e.g., Garavan, 1995; Guerci, Bartezzaghi, & Solari, 2010), managing change via HRM practices (Hussain and Hafeez, 2008; Lamberg, Pajunen, Parvinen, & Savage, 2008), and managing downsizing (Tsai, Rosa, Shu-Ling, & Ing-Chung, 2005).

In particular, HRM literature provides three main reasons for adopting a stakeholder framework, which are inspired by the aforementioned values of stakeholder theory. The first reason – which is related to the instrumental value of stakeholder theory – is the managerial one, as clearly expressed, for example, by Jackson and Schuler: "the principle that effective management requires attending to all relevant stakeholders is as true for managing human resources as for other management tasks. Human resource management practices cannot be designed solely to meet the concerns of the employees. Nor can they be designed by considering only their consequences for the bottom line. Organizations that are the most

effective in managing people develop HRM systems that meet the needs of all key stakeholders" (2003, p. 28). That multi-stakeholder mindset is also a key requirement for the development of the HR function's credibility (Ulrich and Brockbank, 2005). The second reason – which is related to the ethical value of the theory – is based on the idea that a stakeholder approach in HRM would result in higher perception of procedural and distributive justice (Simmons, 2008) and would prevents forms of inequality, conflict, subordination and manipulation (Greenwood, 2013). The final reason for incorporating a stakeholder orientation in human resource management – which is based on the descriptive value of that theory – is an analytical one. In order to continuously improve the description of the world as it is, scholars emphasize that the boundaries of the HR discipline should not be limited to some specific actors. On that, Dipboye wrote: "if any one constituency dictates what HR should be studying or definitions of the baoundary of the discipline, HR fails as a science" (2007, p. 104). Accordingly, HR research called for a more extensive use of stakeholder theory in order to improve the understanding of HR practices within firms. For example, Ferrary (2009) argues that the stakeholder orientation overcomes a purely instrumental approach to HRM (which reduces the interpretation of organizational conflicts to mere antagonism between employers and employees) and opens insightful avenues for understanding how HRM systems are determined by the interactions of a complex network of actors, as organizations are part of a political-economic system made of both internal and external stakeholders, who interact with and influence management practices. Accordingly, describing and explaining the HR-related topics within companies cannot overlook at the societal embeddedness as an independent variable, since it has a relevant influence on the design of HRM systems and on their impact on organizational performance Paauwe and Boselie (2009).

In line with these arguments for the application of stakeholder theory to HRM, we advance our hypotheses connecting customer and regulatory stakeholder pressures on environment-related issues to green HRM practices. We argue that companies experiencing customer pressure to improve environmental performance are more likely to implement environmental management processes with that aim. Indeed, customer pressure can be related to external forces connected to the market in which the firm operates, which constitute a relevant input for HR-related decision-making processes (Paawue, 2004). The implementation of a HRM system aimed at satisfying customers is a general objective that many companies share, with variable emphasis depending on factors like the industry or the strategy of the organization. In addition, following the idea of a strategically targeted HRM system (Jackson et al., 2014), some companies are even implementing HRM systems with the specific aim to improve

customer service (Chuang & Liao, 2010). As a result, we expect that a firm perceiving customer pressure for environmental sustainability is more likely to implement green HRM practices, and that such practices positively influence environmental performance. Given that we are considering three specific HRM practices (i.e., green hiring, green training and involvement, and green performance management and compensation), we advance the following set of hypotheses:

HP3: Green HRM practices mediate the relationship between customer pressure and environmental performance.

HP3a: Green hiring mediates the relationship between customer pressure and environmental performance.

HP3b: Green training and involvement mediates the relationship between customer pressure and environmental performance.

HP3c: Green performance management and compensation mediates the relationship between customer pressure and environmental performance.

In addition to customer pressures, other forces play a role in shaping a firm's HRM system. In particular, we refer to demands from the regulatory context, which play a key role in shaping both the firm's HRM system (Paawue and Boselie, 2004; Roheling, Posthuma, & Hickox, 2009) and its environmental management practices (Delmas and Toffel, 2004). Concerning the latter, several studies have demonstrated the key influence that pressure from regulatory stakeholders exercises on the implementation of voluntary environmental management practices (Rivera, 2004; Kilbourne, Beckmann, & Thelen, 2002), especially for firms that cannot rely on a wide set of organizational resources for environmental strategies (Clemens and Douglas, 2006). Therefore, we argue that companies experiencing pressure from regulatory stakeholders for the development of their environmental performance are more likely to implement environmental management practices with that aim. In HR-terms, we expect that companies perceiving pressure from regulatory stakeholders for environmental sustainability are more likely to implement green HRM practices. As hypothesized for customer pressure, we argue that the HRM practices implemented by the firm to follow up regulatory stakeholder pressure have a direct and positive impact on environmental performance, mediating the impact of regulatory stakeholder pressure on environmental performance. Accordingly, the following set of hypotheses can be advanced:

HP4: Green HRM practices mediate the relationship between regulatory stakeholder pressure and environmental performance.

HP4a: Green hiring mediates the relationship between regulatory stakeholder pressure and environmental performance.

HP4b: Green training and involvement mediates the relationship between regulatory stakeholder pressure and environmental performance.

HP4c: Green performance management and compensation mediates the relationship between regulatory stakeholder pressure and environmental performance.

The research model implying the hypotheses described above is shown in Figure 1.

Figure 1: Research model

Please insert Figure 1 about here

<center>**3. Methods**</center>

To test our hypotheses, we used a multi-respondent survey to gain insights from individuals who have the best view of the stakeholder pressures the firm is subject to, the HRM practices put into place, and the environmental performance obtained. This method enables us to avoid biases due to single respondents. We developed two questionnaires: one for senior HR managers and one for senior supply chain, purchasing or operations managers. The two questionnaires share some questions about the firm general information and, most importantly, the firm environmental performance, as well as the stakeholder pressures perceived by the respondents. In this way, we are able to triangulate information related to pressures and performance (as they are asked to two respondents), whereas (according to current practices in green HRM, e.g. Vidal-Salazar et al., 2012; Martínez-del-Río, Céspedes-Lorente, & Carmona-More, 2012; Kulik, 2014) the information related to green HRM practices comes from the HR manager, who is the most knowledgeable respondent in this regard. Although the HR manager is the natural target respondent for green HRM practices, we also chose to target the supply chain (SC) function because this part of the value chain has long been subject to environmental-related pressures and managers are expected to be knowledgeable about environmental-related stakeholder pressures, as well as the firm environmental performance. The relative maturity of the SCM domain in terms of environmental issues is also revealed by the extent of broad-reaching and compelling research (for a review see for example Golicic and Smith, 2013; Miemczyk, Johnsen, & Macquet, 2012). In the end, our research design allowed to obtain measures of predictor and criterion variables from different sources, which help to control for method bias (Podsakoff, MacKenzie, & Podsakoff, 2012).

3.1 Data collection

Data were collected in Italy in 2013, targeting both manufacturing and service companies. Because of the need to contact high-level professionals, we collaborated closely with the two leading professional associations for purchasing/supply chain and human resource management. We leveraged the collaboration with the two associations in several ways. First, we shared the research motivation with the associations' representatives, who showed great interest and confirmed the managerial relevance of the topics. Second, both associations helped in revising and approving the questionnaires by providing the perspectives of the two different groups of respondents to improve reliability (Forza, 2002). Third, they contributed

by distributing the surveys to their associates. We used a web-based survey: customized links for the SC and HR questionnaires were sent via e-mail to respondents, who were tracked after completion through the online platform. Fourth, we discussed the research results with the associations' members through a series of focus groups and dedicated events that allowed us to improve our own understanding and make the research more relevant from a managerial perspective.

We were able to collect data from both SC and HR managers for 74 firms, corresponding to an average response rate of approximately 10%. As for the composition of the sample, 29.7% of the firms in the final sample are SMEs, 69% are manufacturing firms and the rest are service firms. The quality of respondents is satisfactory: the vast majority are HR and SC directors or senior managers, with an average seniority in their role of more than 8 years.

Non-respondent bias was tested by comparing early and later respondents using two tailed t-statistics across the survey items (Armstrong and Overton, 1977). No statistically significant differences among the variables were identified between the two groups. We controlled for common method bias through both the survey design and the statistical assessment (Podsakoff et al., 2012). Regarding the survey design, the two questionnaires were independently administered so that the respondents' attention was not drawn to the relationships being targeted in this study. The collaboration with the two professional associations and the survey pre-test helped to reduce scale items ambiguity. In addition, proximal separation of the construct variables related to the implementation of practices and performance achievement was used to prevent the respondents from developing their own theories about the possible relationships. The common method bias was statistically assessed using Harman's one-factor test. This test revealed the presence of six factors rather than a single general factor, indicating that common method bias is unlikely to be a major concern for our data.

3.2 Measurement development

The scale used to measure *stakeholder pressures* is based on Zhu and Sarkis (2007); this scale has been used by several other authors (e.g., Simpson, Power, & Samson, 2007; Lai and Wong, 2011) proving good internal validity. In particular, we ask HR and SC respondents to rate the extent to which their firm perceived stakeholder pressures to take actions related to environmental sustainability in the last two years, specifically related to *customer pressure* and *regulatory stakeholder pressure*, on a 6 point scale (1= not at all; 6= completely). The list of specific items is provided in Table 1.

The scale used to measure Green HRM practices is adapted from Sun, Aryee, & Law (2007) and Renwick et al. (2013). In particular, we ask the HR respondents to specify the extent to which they implemented green HRM practices related to *green hiring, green training and involvement,* and *green performance management and compensation* on a 6-point scale (1= not implemented; 6= fully implemented). The list of specific items is provided in Table 1.

Environmental performance is measured in terms of improvement using the Kinder, Lydenberg and Domini (KLD) strength parameters for evaluating firm environmental performance (Walls, Berrone, & Phan, 2012). Each KLD parameter is measured as the average improvement indicated by the SC and HR respondents on a 6-point Likert scale (1= very low; 6= very high). The list of specific items is provided in Table 1.

Finally, we control for firm size and industry. Larger firms are suggested to have higher adoption rates for environmental practices (Wilkinson, Hill, & Gollan, 2001, Burke and Gaughran 2007). Similarly, manufacturing firms have been sensitive to environmental issues for longer than service firms (Carter and Easton, 2011; Sampson and Spring, 2011), therefore we expect the industry might partially explain the performance.

4. Data analysis and results

To test our research model, we employed the partial least square (PLS) approach using Smart PLS (Oh, Teo, & Sambamurthy, 2012), supported by a full set of robustness checks, following the indication provided by Peng and Lai (2012). This components-based approach is appropriate to accommodate the presence of mediation relationships (see Figure 1) and does so effectively with a relatively small sample size (Peng and Lai, 2012). The dataset satisfies the criterion that the sample size should be at least 10 times larger than the largest number of structural paths directed at any one construct (Chin, Marcolin, & Newsted, 2003).

4.1 Measurement validation

Table 1 shows the measurement scales of the reflective constructs investigated by our research model. We used three tests to determine the convergent validity and internal consistency of the six reflective constructs: item loading, composite reliability (CR) of the construct, and the construct's average variance extracted (AVE). All item loadings between an indicator and its posited underlying construct factor are greater than 0.7. CRs of constructs exceed Nunnally and Burstein's (1994) threshold of 0.7, and the AVE is above the

recommended threshold of 0.5, adequately demonstrating convergent validity per Fornell and Larcker (1981). To further test for discriminant validity, we compared the squared correlation between two latent constructs and their average variance extracted estimates (Fornell and Larcker 1981). These constructs meet the validity condition of the average variance extracted estimates exceeding the squared correlation between each pair of constructs (see Table 2). We also tested for discriminant validity through the heterotrait-monotrait ratio (HTMT) as suggested by Henseler et al. (2015). All HTMT ratios are lower than the most restrictive threshold of 0.85, showing good discriminant validity properties (see Table 3).

Table 1: Measurement properties of reflective constructs

Reflective Construct	Indicator	Mean	Standard deviation	Item loading	CR	AVE
Customer Pressure	Main customers require the ISO 14000 certification (or later)	3.73	1.51	0.907		
	Main customers have a clear environmental orientation	3.52	1.17	0.916	0.90	0.75
	Main customers collaborate for supply chain environmental initiatives	3.01	1.33	0.765		
Regulatory Stakeholder Pressure	Environmental regulations in your industry are severe	3.85	1.27	0.860		
	Materials used are controlled by norms that limit the use of dangerous substances	4.04	1.38	0.904	0.92	0.79
	Your products are compliant with environmental regulations of many countries	4.68	1.23	0.909		
Green hiring	Employee selection based on environmental criteria	2.16	1.39	0.897	0.89	0.80
	Employee attraction through environmental commitment	2.81	1.67	0.898		
Green training & Involvement	Environmental training for employees	3.50	1.77	0.916		
	Environmental training for managers	3.38	1.75	0.857	0.92	0.75
	Job descriptions include environmental responsibilities	2.91	1.78	0.805		
	Employee involvement on environmental issues	3.19	1.64	0.881		
Green performance management & compensation	Environmental goals for managers	2.54	1.82	0.923		
	Managers evaluation includes environmental performance	2.45	1.69	0.947		
	Employees evaluation includes environmental performance	2.09	1.46	0.891	0.94	0.76
	Non-monetary incentives for environmental performance	1.46	0.80	0.716		
	Variable compensation based on environmental performance	1.81	1.27	0.859		
Environmental Performance	Total direct and indirect toxic emissions	4.13	1.24	0.865		
	Volume of recycled materials	3.72	1.23	0.853		
	Rate of renewable energy consumption	3.57	1.21	0.708	0.90	0.64
	Number of eco-friendly products developed	3.17	1.18	0.799		
	Total direct and indirect energy consumption	4.14	1.17	0.776		

Table 2: Construct correlations

Variables	1	2	3	4	5	6
1. Customer pressure	**0.8656**					
2. Regulatory stakeholder pressure	0.6697	**0.8916**				
3. Green hiring	0.3585	0.3571	**0.8978**			
4. Green training & involvement	0.4344	0.3587	0.5082	**0.8658**		
5. Green performance management & compensation	0.3267	0.2396	0.6360	0.5837	**0.8712**	
6. Environmental performance	0.5677	0.5355	0.2994	0.5114	0.4505	**0.8022**

Note: The square root of AVE is shown on the diagonal of the correlation matrix, and inter-construct correlations are shown off the diagonal.

Table 3: HTMT results

Variables	1	2	3	4	5	6
1. Customer pressure						
2. Regulatory stakeholder pressure	0.781					
3. Green hiring	0.444	0.441				
4. Green training & involvement	0.489	0.395	0.628			
5. Green performance management & compensation	0.373	0.270	0.763	0.654		
6. Environmental performance	0.199	0.182	0.121	0.183	0.160	

4.2 Estimation model

Table 4 shows the PLS results of the estimation models, including standardized path coefficients, with the significance based on two-tailed t-tests for our hypotheses. To test the robustness and quality of the structural model estimate, we followed Peng and Lai's (2012) instructions. First, we ran the structural model using the bootstrap procedure with 200, 500 and 1000 rounds of resampling, and the magnitude and significance of the structural paths are consistent. Second, we used Stone–Geisser's Q^2 (Geisser 1975, Stone 1974) to assess the predictive relevance of the model (see Table 5). Because $Q^2 > 0$ for all endogenous constructs, this indicates accepted predictive relevance. Third, because the performance constructs have more than one exogenous construct (i.e., green hiring, green training and involvement, and green performance management and compensation), we calculated the relative effect sizes (f^2) of the exogenous constructs using Cohen's equation (Cohen 1988). All f^2 are relatively small effect sizes. Fourth, to test overall quality of the research model, we computed the Goodness of Fit (GoF) in terms of average communality (i.e., AVE) and the quality of the complete structural model in terms of average R^2 (see Table 5). The resulting GoF is 0.4312. Each step of the procedure was also controlled for multicollinearity by checking the variance inflation factor (VIF) of the regressors. The VIF is always lower than 2.2, whereas the cut-off point is usually between 5 and 10 (Menard, 1995; Neter, Wasserman, & Kutner, 1989; Hair, Anderson, Tatham, & Black, 1995). Therefore, multicollinearity was not considered to be a problem for any model.

To test the mediation effect, we performed several tests by following some of the most recent recommendations (Preacher, 2015; Rungtusanatham, Miller, & Boyer, 2014). Although different testing methods usually provide similar results (Hayes and Scharkow, 2013), each method has its advantages and disadvantages. Therefore, we assessed the reliability of our results through multiple criteria (see Table 6). First, we applied the classical Baron and Kenny

method (1986). We checked the following: i) the direct effect of customer and regulatory pressure on environmental performance without mediators (c) and with mediators (c'), showing that it is reduced when the mediators are considered; ii) the direct effect of customer and regulatory stakeholder pressure on the mediators (a); iii) the effect of the mediators on environmental performance (b); iv) the total effect of customer and regulatory stakeholder pressures ((a*b)+c'). Second, we performed the Sobel's test to check the significance of the ab product. Finally, we tested the indirect effect through bootstrapping analyses by considering bias-corrected and accelerated confidence intervals (95%) for indirect effects. Mediation is said to occur if the derived confidence interval does not contain zero. All of the aforementioned tests confirmed the results reported below.

Overall, the amount of adjusted variance explained of the environmental performance (R^2 adjusted) is 0.51. Finally, we considered the firm's industry and size as control variables. We found that industry is significant, suggesting that manufacturing companies improve environmental performance more than service companies.

Coming back to the sets of hypotheses presented above, results confirm that both customer and regulatory stakeholder pressures exert a direct impact on a firm's environmental performance, thus supporting HP1a and HP1b. Concerning the impact of green HRM practices, results suggest that green training and involvement and green performance and compensation are positively related to environmental performance (thus supporting HP2b and HP2c), whereas green hiring is not (thus not supporting HP2a). Finally, regarding the hypotheses on the role of green HR practices mediating stakeholder pressures and environmental performance, the findings do not support the mediating role played by green hiring on the relationship between customer pressure and environmental performance (HP3a) because green hiring is not significantly related to environmental performance. Interestingly, findings support HP3b and HP3c because green training and involvement and green performance management and compensation mediate the relation between customer pressure and environmental performance. On the contrary, the hypotheses related to the mediating role of green HR practices between regulatory stakeholder pressure and environmental performance are not supported. Indeed, HP4a, related to the mediating role played by green hiring on the relationship between regulatory stakeholder pressure and environmental performance, is not supported because hiring practices are not positively related to environmental performance. Neither HP2b nor HP2c is supported because regulatory stakeholder pressure did not emerge as related to green training and involvement and green management and compensation practices. Consequently, H4b and H4c are not supported.

Table 4: PLS model

Path	Coefficient	T-stat
Size → Environmental performance	-0.02	ns
Industry→ Environmental performance	**0.280**	**6.216**
Green hiring → Environmental performance	-0.085	ns
Green training & involvement → Environmental performance	**0.229**	**3.758**
Green perf. mgmt. & compensation →Environmental performance	**0.179**	**3.057**
Customer pressure → Environmental performance	**0.307**	**5.433**
Regulatory pressure → Environmental performance	**0.141**	**2.290**
Customer pressure → Green hiring	**0.216**	**2.945**
Regulatory stakeholder pressure → Green hiring	**0.212**	**3.094**
Customer pressure → Green training & involvement	**0.352**	**5.158**
Regulatory stakeholder pressure → Green training & involvement	0.123	ns
Customer pressure → Green perf. mgmt. & compensation	**0.301**	**4.157**
Regulatory stakeholder pressure → Green perf. mgmt. & compensation	0.038	ns

Table 5: R^2, communality, and redundancy

Construct	R^2	Communality (AVE)	Q^2	f^2
Customer pressure	-	0.749	-	-
Regulatory stakeholder pressure	-	0.795	-	-
Green hiring	0.1533	0.806	0.1168	0.0055
Green training & involvement	0.1970	0.750	0.1355	0.0582
Green perf. mgmt. & compensation	0.1075	0.759	0.0741	0.0289
Environmental performance	0.5488	0.643	0.2839	-
Average	0.2517	0.739[a]	0.1526	-

[a] *The average of communality is computed as a weighted average of all of the communalities using weights as the number of manifest variables in each construct with at least two manifest indicators.*

Table 6: Tests for mediation

	Direct effect coefficients (β)				Indirect effect (mediation)			Total effect
	c	c'	a	b	ab	Sobel test	Bootstrapping confidence intervals	(a*b) + c'
Customer pressure → Green training & involvement → Environmental performance	0.421 (t=6.738)	0.319 (t=5.806)	0.326 (t=4.667)	0.229 (t=3.864)	0.075	2.936 (p=0.003)	(0.003 ; 0.190)	0.394
Customer pressure → Green performance management & compensation → Environmental performance	0.421 (t=6.738)	0.319 (t=5.806)	0.301 (t=3.109)	0.179 (t=3.232)	0.054	2.521 (p=.002)	(0.007 ; 0.176)	0.373

5. Discussion of the main findings

Our results show the distinct role(s) that different green HRM practices (i.e., green hiring, green training and involvement, and green performance management and compensation) play in mediating the relation between stakeholder pressures on environmental issues from two specific external stakeholders (i.e., the customers and the regulatory stakeholders) and environmental performance. In the following paragraphs we discuss such results focusing firstly on our first hypothesis, at the base of our research, suggesting that stakeholder pressures are positively related to environmental performance (HP1a and 1b). Then we discuss our contributions to the second research hypothesis on the relation between green HRM practices and environmental performance (HP2a, 2b, 2c, and 2d) and finally we discuss our main contribution on the relation between stakeholder pressures and green HRM practices

and their mediating role in the stakeholder pressures – performance relation (HP3a, 3b, and 3c; and HP4a, 4b, and 4c).

Our first set of hypotheses is based on the idea that stakeholder pressures are related to environmental performance (Kassinis and Vafeas, 2006). Accordingly, our results show that customer pressure and regulatory stakeholder pressure are significantly and positively related to environmental performance. However, customer pressure prevails over regulatory stakeholder pressure because it fosters environmental performance to a greater extent (see higher coefficient values in Table 4), which is in line with previous findings (e.g., Zhu, Sarkis, & Lai, 2007; Berrone et al., 2013). We believe these results offer an interesting interpretation. One would expect that regulatory stakeholder pressure, which enjoys strong enforcement mechanisms, would generate greater pressure than customer and therefore greater effect on performance. However, regulatory stakeholder pressures can easily be satisfied with symbolic or reluctant efforts (Berrone et al., 2013), leading firms to simply comply with the minimum performance level enforced by the law. Instead, customers might require more concrete and differential actions, thus leading companies to a greater development of environmental performance. Therefore we suggest that stakeholder pressures related to market aspects (i.e., customer expectations) play a stronger impact than social legitimacy aspects (i.e., regulatory pressures).

Given our main aim to investigate *how* performance could be improved and not only *why (*i.e., stakeholder pressures), we identified (in our second set of hypotheses) green HRM practices as potential mechanisms to improve environmental performance (Renwick et al., 2014). Our findings support a positive relationship between green training and involvement, as well as green performance management and compensation, and environmental performance. An unexpected result is that green hiring is not associated with environmental performance. We interpret those results by advancing the idea that, in environmental management, employees constitute a resource that leads to competitive advantage when they have a high degree of firm-specific green competencies, feel that they play a key role in the firm's environmental-related choices, understand the environmental-related duties associated with their roles, and perceive that their effort on environmental management is evaluated and rewarded. In other words, employees become a resource for the firm's environmental management only when they are able to serve the firm's purpose. The fact that they are hired because of their environmental skills does not necessarily result in better environmental performance.

Our third and fourth set of hypotheses suggest that green HRM practices may provide an answer to stakeholder pressures on environmental issues, mediating the relation between

stakeholder pressures and environmental performance. Accordingly, we show that stakeholder pressures play a significant role in the implementation of green HRM practices. On the one hand, customer pressure is translated into the adoption of all green HRM practices studied. On the other hand, regulatory stakeholder pressure is positively related only to green hiring implementation. This result differs from previous studies that found customer and regulatory stakeholder pressures to have similar effects on environmental management practices. For example, Murillo-Luna, Garcés-Ayerbe, & Rivera-Torres (2008) found external stakeholder (including customers) and regulatory stakeholder pressures to have the same level of association with the company proactivity in environmental management. A possible explanation of our results is that companies address customer pressure by implementing green HRM practices, whereas they tend to address regulatory stakeholder pressure through other sets of environmental management systems, such as green SCM (e.g., Sarkis et al., 2010), green Logistics (e.g., Kim and Lee, 2012), or environmental investments in Marketing or Research and Development practices (e.g., Berrone et al., 2013).

Having identified the relationship between stakeholder pressures and green HRM practices and their impact on performance, the key contribution of our study relates to the mediating role of green HRM practices on the stakeholder pressures-performance relationship. Indeed, we provide evidence that green HRM practices are mechanisms through which stakeholder pressures ultimately affect environmental performance.

Specifically, we found that green HRM mediate the impact of customer pressure on environmental performance through green training and involvement as well as green performance management and compensation. Instead, despite the fact that customer pressure significantly affects green hiring, the latter has no significant effect on environmental performance. In other words, we can say that two green HRM practices (i.e., green training and involvement; green performance management and compensation) successfully allow companies to address customer pressure by improving environmental performance. Still, the direct effect of customer pressure on environmental performance remains significant even when considering the green HRM mediation, suggesting that other organizational mechanisms (such as SCM, Logistics, Marketing or R&D practices) can be adopted to answer to stakeholder pressures and parallel green HRM systems for the improvement of the firm's environmental performance.

Further, regulatory stakeholder pressure is related to green hiring implementation but this does not impact environmental performance and therefore does not mediate the pressure-performance relationship. Therefore, regulatory stakeholder pressure is supposed to impact

environmental performance through other mechanisms (e.g., green supply chain management and operations practices). As a result, we argue that the set of green HRM practices considered in this study does not enable a firm to effectively deal with regulatory stakeholder pressure and to improve environmental performance. As anticipated, regulatory pressures are not only related to green HRM but also to a wide set of environmental management systems spanning other corporate functions, such as operations and supply chain management.

Our final finding focuses on the role of the control variables. On the one hand, we did not find any significant effect of firm size over environmental performance. On the other hand, we found a significant effect for the industry over environmental performance, suggesting that manufacturing firms tend to perform better than service companies. This is reasonable and consistent with previous literature on the topic (e.g., Gonzales-Benito and Gonzales-Benito, 2010; Vasquez-Brust, Liston_Heyes, Plaza-Ubeda, & Burgos-Jimenez, 2010), considering that environmental compliance has been emphasized in manufacturing for a long time (given the impact of manufacturing processes on the ecosystem), whereas service firms are only recently approaching the topic. In addition, since manufacturing firms are perceived as greater pollutants, they attract a greater scrutiny from institutions, social groups and customers. As a consequence, manufacturing firms are more mature in dealing with environmental issues and are therefore expected to achieve better results.

6. Implications for research and practice

Our study reveals important theoretical contributions to management research. In particular, we extend previous studies on environmental management showing that stakeholder pressures may have an impact on the development of HRM systems and not only on the firm effort on other management systems, such as operations, innovation or strategy planning (e.g., Zhu et al., 2007; Berrone et al., 2013). In this regard, we demonstrate that both regulatory and customer pressures on environmental performance shape, even in different ways, green HRM within companies. Namely, customer pressures positively affect all green HRM practices whereas regulatory pressures only affect green hiring. Specifically, we showed that green HRM can be rightfully considered as a set of practices deploying a firm-specific resource (i.e., employees) that explains how firms can address stakeholder pressures by improving their environmental performance. Yet, different green HRM practices play distinct roles: while some (i.e., green training and involvement; green performance management and compensation) do mediate the pressures-performance relationship, others (i.e., green hiring) do not. That confirms the fertility of the contextually based HRM theory proposed by Paauwe

(2004), which assumes that the HRM system of a firm is shaped by demands and pressures from the market, and by demands and pressures from the political and legal context. In the particular field of green HRM, we argue that customer pressures on environmental issues represent external forces connected to the market context in which the company is embedded, whereas regulatory pressures on environmental issues represent external forces connected to the institutional context faced by the company. More in general, this result broadens the scope of HRM research by studying antecedents and consequences of the HRM practices combining constructs placed *in* and *out* the organizational boundaries, which is in line with recent calls in HRM literature (Delbridge et al., 2011; Jackson et al., 2014; Townsend and Wilkinson, 2014). Our results also provide insightful implications for management practice, policy makers, and HRM teaching.

From the standpoint of HRM practice, the above-presented findings reflect two key implications. First, our results might be useful for those managers involved in decision-making processes on possible investments in green HRM: we provide an evidence-based argument on the consistency of specific HRM practices with stakeholder pressures and on the impact of green HRM practices on environmental performance. Indeed, the benefit that those practice might provide to the organization includes both improving its environmental performance and responding to customer and regulatory stakeholder pressures on environmental issues. Second, valuing our specific results on the impacts of three green HRM practices on environmental performance, we provide specific recommendations to practicing managers interested to determine which set of green HRM practices is worth investing for improving the environmental performance of the firm. On that, considering their distinct effects on performance, our results suggest to prioritize the investments on green training and involvement, green performance management and compensation, and only residually on green hiring.

Concerning policy maker implications, this paper fuels the ongoing debate regarding the effectiveness of government and regulators in promoting environmentally desirable outcomes. We do show the effectiveness of regulatory stakeholder pressure on the firm environmental performance. However, among the green HRM practices we considered, regulatory stakeholder pressure only leads to green hiring implementation, which does not improve environmental performance. That means that regulatory stakeholder pressure results in higher environmental performance following different paths than the implementation of green HRM practices. Therefore, considering the mediating effects that green HRM practices play in the relation between customer stakeholder pressure and environmental performance, it might be

argued that government and regulators are losing the opportunity to improve firm environmental performance via green HRM practices. In order to exploit that possibility, policy makers might re-consider the nature of their pressures on environmental issues, in order to frame those pressures such in a way that fosters the implementation of green HRM practices impacting to a higher extent on environmental performance (e.g., green training and involvement, and green performance management and compensation). In this direction, lowering the taxation on the components of the compensation package based on the environmental performance might be an example of public policies that exploit the potential impacts of green performance management and compensation. Similarly, the provision of financial and/or non-financial support to companies investing in training projects related to environmental management, especially when developed in collaboration with unions, might be an example of public policies that exploit the potential impacts of green training and involvement.

Finally, for HRM education, our findings emphasize the need for a broader explanation of the external pressures that lead companies to implement specific HRM practices and their effectiveness (Subramony, 2006; Kaufman, 2010). In particular, our results might be helpful for HR educators in providing their students with a broad understanding of the reasons why companies implement HR practices, which – instead of being always seen as the result of a one-sided managerial choice – are sometimes implemented for responding to the expectations of a wide set of actors, placed within and without the organization.

7. Conclusion

This paper, based on a multi-respondents survey, explores the role played by external stakeholders (i.e., customers and regulatory stakeholders) on the implementation of three sets of green HRM practices (i.e., green hiring, training and involvement, and performance management and compensation) and compares the effects of such practices on environmental performance. Findings demonstrate that: (i) customer pressure is associated with all the green HRM practices considered, whereas regulatory pressure is associated only with green hiring; (ii) green training and involvement as well as green performance management and compensation have a positive impact on environmental performance and mediates the role of customer stakeholder pressures in improving the environmental performance.

The above findings should be interpreted in light of the limitations this study has and that we suggest could be addressed in future research. A first limitation relates to our adopted concepts of HRM practices; indeed a "functional" view of the green HRM systems is implicitly adopted, but this view is still under debate in the literature (Guest, 2011; Boxall and Macky, 2009; Godard, 2010) because it does not include any "functional" work practices, such as teamwork. The second limitation regards the stages of implementation for HRM practices (e.g., intended, or actually perceived HRM practices, Nishii and Wright, 2008): this study focused on intended HRM practices by examining the managers' point of view. As a result, the study relied on self-reported surveys and at one point in time. The third basic limitation is about the indicators used for measuring the HRM practices. The questionnaire we used measured the extent to which a set of green HRM practices are implemented, without focusing, for example, on their coverage or level of sophistication. The final basic limitation is about the country context of the study (Europe and Italy in particular). Indeed, the way stakeholder pressures are perceived and followed up can be contingent to the national or regional culture, which deserve a specific analysis.

Other avenues for future research that might further extend our study can be discussed on the basis of the limitations presented above. A first possible avenue for future research relates to the "functional" view of the HRM systems adopted in this study and presented above and the functional view's assumed internal synergies. Future studies can overcome that particular limitation by testing the impact on environmental performance of both green HRM practices – relating to the management of the people who perform the work in the organization – and to work practices – relating to the management of the work domain, such as teamwork practices (Boxall and Macky, 2009). By extension, the model tested in this study can be used as a stepping stone for more comprehensive models that are likely to be multi-level and cross-disciplinary in nature, to address the concerns posed by Huselid and Becker (2000), who published one of the first studies on strategic HRM and recommended that readers should not consider the HRM system to be the only possible explanation of organizational performance. In addition, future research might test the possible interactions among green HRM practices, testing to what extent they have additive, substitutive or synergistic effects on environmental performance (Chadwick, 2010; Jiang et al., 2012).

Secondly, the stages of implementation of HRM practices can open interesting roads for future research. As noted above, this study focused on intended HRM practices, by considering the managers' point of view. Concerning the ongoing debate regarding the reliability of raters in the HR literature (e.g., Huselid and Becker, 2000; Gerhart, Wright,

McMahan, & Snell, 2000; Wright et al., 2001), future research can be based on research designs involving multiple respondents, which could acknowledge the points of view of HRM system users (i.e., employees) and of the HRM system "implementers" (i.e., line managers).

Thirdly, future research can test the implementation of green HRM practices in terms of their quality by using different measurements that are related to the coverage, intensity or sophistication of those HRM practices (Boselie, 2005). Alternatively, the use of subjective evaluative items could be useful because the HRM literature has argued that inadequate implementation of specific HRM practices may be more damaging than its absence (Wright and Gardner, 2003). Finally, future studies might investigate green HRM practices by considering any possible interactive effects between them.

A final suggestion for future research relates to the Italian scope of the present study, which, in HRM terms, can be included in the so called European HRM model, which is characterized by a strong stakeholder orientation (Mayrhofer, Sparrow, & Brewster, 2012). Recognizing the importance of both national and macro-regional cultures and institutional settings for HRM practices, future research in other countries and different institutional settings would be valuable for investigating the possible relationship between green HRM practices, stakeholder pressures, and environmental performance.

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