Personnel Review

Strategic flexibility, innovative HR practices, and firm performance: A moderated mediation model

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Received 26 September 2016
Revised 14 March 2017
Accepted 27 April 2017

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Abstract

Purpose – The purpose of this paper is to examine the role of innovative HR practices as an important mechanism through which strategic flexibility affects firm performance as well as the role of female leadership in this relationship.

Design/methodology/approach – Data were gathered from a sample of 113 firms in China. The authors collected information on organizational strategy, HR practices, CEO information, corporate social responsibility and other firm characteristics in terms of firm age, location, and financial performance. Conditional procedural analysis was conducted to test the model.

Findings – The authors found strong evidence in support of the mediation relationship in which organizations with a strong focus on strategic flexibility are more likely to adopt Innovative HR Practices. Furthermore, the authors found that the extent to which firms have adopted innovative HR practices has a strong effect on employee productivity. In addition, the authors found that female leadership enhances strategic flexibility-performance relationship.

Research limitations/implications – Information on strategic flexibility, HR practices and firm performance was collected at the same time. Future studies based on panel data would be helpful to establish the causal relationships in the model.

Practical implications – The authors' findings suggest that practitioners should put more emphasis on developing innovative HR practices, as they are required by strategic flexibility.

Social implications – Firms pursuing strategic flexibility should feel more confident when appointing a female CEO, because the results show that female leadership may enhance the positive impact of strategic flexibility on firm performance.

Originality/value – This research study is the first empirical examination of the mediating influence of innovative HR practices on the relationship between strategic flexibility and firm performance. The study also shows that female leadership benefits an organization in implementing strategic flexibility. The results are of value to researchers, human resource management managers, employees, and executives who are seeking to develop practices that are flexible and innovative in order to stay competitive in dynamic environments.

Keywords Quantitative, Firm performance, Strategic flexibility, Female leadership, Innovative HR practices

Paper type Research paper

Personnel Review
Vol. 46 No. 7, 2017
pp. 1335-1357
Emerald Publishing Limited
0048-3486
DOI 10.1108/PR-09-2016-0252

Introduction

Rapid development in technologies, intense competition, and increasing globalization has fundamentally reshaped the external environment of business, making it dynamic, complex, and unpredictable to business administration. In some countries, such as China, where the institutional environment is also changing dramatically, volatility has been challenging the leaders of businesses. To stay competitive and relevant in intensely dynamic environments characterized by discontinuities, innovation, and institutional uncertainties, firms need to develop strategic flexibility to adapt to unprecedented changes (Hitt *et al.*, 1998). Strategic flexibility refers to a firm's ability to modify its strategic course in order to stay competitive in substantial, uncertain, and rapidly occurring environmental changes that impact firm performance (Aaker and Mascarenhas, 1984; Evans, 1991). Empirical evidence reported in the literature shows that strategic flexibility has a positive impact on firm performance in dynamic environments (Grewal and Tansuhaj, 2001; Nadkarni and Narayanan, 2007; Worren *et al.*, 2002) through various mechanisms, from modularity in product design (Sanchez, 1995) and organizational forms (Schilling and Steensma, 2001) to contingent alliance development (Young-Ybarra and Wiersema, 1999). In this study, we propose that in addition to these efforts and mechanisms, organizations in China that adopt strategic flexibility are more likely to use innovative HR practices, and in so doing, strategic flexibility leads to better firm performance. We are also interested in the role of gender-based leadership in this relationship.

Researchers have increasingly emphasized that both the firm's strategic type and strategic orientation should affect the choice of the set of HRM practices (Schuler and Jackson, 1987). Specifically, some have advocated that organizations need to develop HR practices that are flexible and innovative in order to adapt to changing environmental contingencies (Delery and Doty, 1996; Way *et al.*, 2015; Wright and Snell, 1998). In the past three decades in China's economic reform, Chinese firms have gradually shifted away from the traditional personnel administration to innovative HR practices (Chow, 2004; Wei and Lau, 2005; Zheng *et al.*, 2009). Such innovative HR practices include free market selection and recruitment, incentive rewards, performance evaluation and promotion, training and development, and worker participation in the decision-making process that are closely associated with human resource outcomes and firm performance (Zheng *et al.*, 2009).

While strategic flexibility is beneficial for business in dynamic environments, developing and maintaining strategic flexibility would also call for a unique leadership that endorses appropriate operational practices and policies in support of strategic flexibility. After all, organizations are the reflection of their top leaders' attributes (Hambrick and Mason, 1984). It has been found that leaders' commitment to status quo and past strategy increases as they get older and get saddled in their positions (Miller, 1991; McClelland *et al.*, 2010), suggesting that leadership attributes do affect firm adaptation and strategic flexibility. As an important attribute of top management, leadership provides strategic nuances such as vision, motivation, role modeling, and social values that develop organizations strategically. To cultivate strategic flexibility, certain leadership in particular leadership that is versatile and considerate would outperform leadership that is rigid-minded and ignorant.

This renders a promising direction for studying leadership's impact on strategic flexibility from a gender-based demarcation due to advantages associated with gender-based leadership. In particular, female leadership may have an advantage over male leadership in promoting strategic flexibility in an organization. Female leaders are believed to follow a more participative, interactional, and relational style of leading (Fondas, 1997; Adler, 1997). Fondas (1997) observes that findings on female leadership built upon feminine advantages (Chodorow, 1999; Helgesen, 1990) show that:

> when juxtaposed against calls for companies to improve their competitiveness by transforming themselves into learning, self-managing, empowering, and continuously improving organizations – transformations that rely upon more interactional, participative, and relational management style – lead

> some writers to conclude that […] [women] are well-suited for managerial roles in contemporary organizations and that males need to cultivate feminine leadership traits (Aburdene and Naisbitt, 1992; Godfrey, 1996; Grant, 1988).

The above discussion points to the value of studying strategic flexibility, human resource practices, and gender-based leadership collectively in how they successfully impact firm performance in a dynamic environment. Unfortunately, such a study is absent in the literature in fields of strategic management, human resource management, and leadership studies. This research intends to fill such a gap in the literature relevant to all three fields of management science. Specifically, we sought to find answers to these following questions: Do innovative HR practices serve as a mechanism through which organizations' emphasis on strategic flexibility affects firm performance? How does the difference of gender-based leadership style matter in facilitating the process of implementing strategic flexibility and innovative human resource management practices?

With our research focus, this study made three contributions. First, the study contributes to the literature on strategic human resource management (SHRM) by examining firm strategy from a fresh angle: strategic flexibility (Sanchez, 1995). Previous SHRM research has mainly adopted the Porter's (1985) conceptualization of competitive strategy or the Miles and Snow's organizational strategy typology (1978) in conceptualizing strategies. These two strategy schemes, however, treat strategies as mutually exclusive categories. This treatment omitted another avenue delineated by Wright and Snell (1998) that strategic HRM affects firm performance through enabling flexibility in organizations. In our study, we conceptualize firm strategy as a continuum demonstrated as the firms' focus on flexibility in manipulating multi-facet advantages. We find that organizations' emphasis on strategic flexibility affects their adoption of innovative human resource management practices. This new evidence puts the proposed relationship between firm strategy and HRM (see Schuler, 1992) on more solid ground.

In addition, we find that strategic flexibility is a very important context for examining the impact of human resource management practices. In particular, we find that innovative human resource management practices are effective in mediating the relationship between strategic flexibility and employee productivity. This finding helps unpack the black box of how firm strategy affects firm performance through its influence on human resource management. We rationalize a possible role played by innovative HRM practices in the relationship between strategy and firm performance and verify it with our data.

Lastly, by incorporating female leadership in the relationships among strategy, HRM, and firm performance, we extend the previous research in a novel direction that has never been explored. While we did not find a moderating effect by CEO gender on the strategy-HR relationship, the empirical results demonstrate that female leaders matter in the relationship between strategic flexibility and employee productivity. The evidence shows that the gender-based leadership is worthy of discussion in exploring the relationships among strategic flexibility, innovative human resource practices, and employee productivity in a dynamic world.

Theoretical development and hypotheses

Strategic flexibility and innovative HR practices

Strategic flexibility is "the capability of the firm to proact or respond quickly to changing competitive conditions and, thereby, develop and/or maintain competitive advantage" (Hitt *et al.*, 1998). Firms with a strong focus on strategic flexibility are more likely to use innovative HR practices to develop and nurture dynamic core competencies that are of great importance to achieve competitive advantages in a rapidly changing environment. Such unique resources are invisible assets that can be leveraged to not only develop new products and

services but also influence and shape the environment in which firms operate and compete. Then the question is how to build such dynamic core competences.

Organizations with a strategy to promote their flexibility and responsiveness to environmental changes would benefit from adopting innovative HR practices that include selective hiring, extensive and well-designed training, self-managed teams and decentralization of decision making, information sharing throughout the organization, comparatively high compensation, and compensation contingent on organizational performance (Hitt *et al.*, 1998; Pfeffer, 1998). Drawing from the resource-based view (RBV), these HRM practices can enhance firm performance by developing a unique and valuable pool of human capital that cannot be easily imitated (Beltran-Martin *et al.*, 2008; Collins and Clark, 2003; Zheng *et al.*, 2009).

Organizations faced with dynamic environments characterized by unprecedented and unpredictable events require flexibility to respond to such complex and changing requirements (Snow and Snell, 1993; Wright and Snell, 1998). The key feature of innovative HR practices is to develop employee skills and behavioral repertoires that can provide a firm with sustainable competitive advantages. In pursuit of strategic flexibility, organizations seek flexibility in HR by adopting innovative HR practices. Beltran-Martin *et al.* (2008) developed an important and useful framework on high performance work systems (HPWS), HR flexibility and performance, which shows that the use of comprehensive staffing, extensive training, development performance appraisal, and equitable reward systems significantly increases organizations' HR flexibility, and, as a result, leads to better organizational performance. Flexible HR has three components: skill malleability, functional flexibility, and behavior flexibility (Beltran-Martin *et al.*, 2008; Riley and Lockwood, 2006; Wright and Snell, 1998; Way *et al.*, 2015). To adapt to changes in the environment, organizations need their employees to be able to learn new tasks quickly (skill malleability), to accomplish diverse tasks and assume responsibility for tasks from other jobs (functional flexibility), and to adjust their behavior in different circumstances (behavioral flexibility).

Organizations' emphasis on strategic flexibility promotes firms to adopt training and staffing activities oriented toward personal growth that enable organizations to "have the right numbers of the right types of people to the right places at the right times" (Dyer and Ericksen, 2005) and prepare employees for the rapidly changing environment characterized by the rapid process of knowledge and skill obsolescence (Beltran-Martin *et al.*, 2008; Bhattacharya *et al.*, 2005). Developmental activities are likely to help employees gain skills needed to fulfill a variety of tasks and under diverse circumstances, corresponding to the idea of functional flexibility. Employees can also improve their skill malleability and behavioral flexibility by learning alternative problem-solving methods when attending developmental activities offered by organizations (Beltran-Martin *et al.*, 2008). In fact, research has shown that development culture leads to employee growth, flexibility, and adaptability (Lau and Ngo, 1996), which are positively related to employees' creativity and firms' innovation performance (Lau and Ngo, 2004). In today's competitive environment characterized by increasing innovation and continuous learning (Hitt *et al.*, 1998), organizations aiming to respond quickly to changing competitive conditions (i.e. emphasizing strategic flexibility) are more likely to design and implement effective training and development activities.

The employee involvement component of innovative HR practices is also required in organizations' pursuit of strategic flexibility. Employee involvement practices, such as the use of self-managing teams and information sharing throughout the organization, not only allow individual workers some degree of autonomy in decisions related to their work methods and work process but also helps to identify and eliminate barriers to performance improvement (Macky and Boxall, 2007). Employees with extended roles in organizations are more willing to develop heterogeneous skills and competencies (Wright and Snell, 1998; Beltran-Martin *et al.*, 2008) and assume responsibilities for a wider range of tasks (Parker, 2000). Several authors argue that HR practices that emphasize employee

involvement promote initiative and flexibility required from employees to respond to today's highly dynamic and competitive business environment (Cordero *et al.*, 2005; Ketkar and Sett, 2009).

Moreover, organizations pursuing strategic flexibility are more likely to provide employees with leading market compensation and adopt performance-contingent pay plans. Provision of leading market compensation helps an organization attract versatile employees who possess high qualifications, varied knowledge, and multiple abilities that are needed to perform effectively in a changing environment. In fact, in response to increasing uncertainties in changing environmental situations, organizations inevitably would engage in more reorganization, relocation of roles and responsibilities, and redesign of jobs, which may produce higher work demands and stressful work situations (Cartwright and Cooper, 1997). Organizations that pursue high organizational strategic flexibility tend to require employees' willingness to perform various tasks and, therefore, need to compensate employees for their effort to move across different tasks and jobs (i.e. functional flexibility) as well as for the demanding and stressful work situations with which they need to cope. Furthermore, the use of performance-related pay signifies organizations' intention to provide equitable rewards for employees' performance and helps to create a workforce with higher initiative and flexibility (Beltran-Martin *et al.*, 2008). Some authors highlight the important sorting and incentive effects of pay for performance to the extent that employees who prefer to work in a dynamic work environment and believe they would succeed are more likely to join organizations with high strategic flexibility, and when these employees join, they are more likely to succeed (Cadsby *et al.*, 2007; Cornelissen *et al.*, 2011).

Based upon the prior reasoning, we propose that organizations that emphasize flexibility and innovation will rely on innovative HR practices to build their competitive advantages. This leads to the following hypothesis:

H1. Organizational strategic flexibility is positively related to the use of innovative HR practices.

Innovative HR practice and firm performance

Most research in the strategic HRM field has shown that innovative HR practices are positively associated with organizational performance (e.g. Delaney and Huselid, 1996; Evans and Davis, 2005; Huselid, 1995; Messersmith *et al.*, 2011; Zheng *et al.*, 2009). Combs *et al.* (2006) aggregated the results of 92 empirical studies on the HR practices-performance relationship and estimated that the correlation between the two constructs is sizably around 0.20. More recently, the underlying mechanisms that enable this connection have been analyzed in more detail. It has been argued that innovative HR practices enhance organizational performance by increasing individual-level attitudinal factors, such as employee satisfaction, organizational commitment, psychological empowerment, and trust in management (Macky and Boxall, 2007; Messersmith *et al.*, 2011; Ramsay *et al.*, 2000) as well as by directing employees' behavior toward organizational goals via better employee-management relationships (Ramsay *et al.*, 2000), occupational safety (Zacharatos *et al.*, 2005), and improved organizational citizenship behavior (Sun *et al.*, 2007). In addition, Evans and Davis (2005) argued that innovative HR practices lead to better firm performance by positively influencing the internal social structure (e.g. network ties, norms of reciprocity, shared mental models, and role taking) of an organization. Similarly, Takeuchi *et al.* (2007) showed that innovative HR practices are positively related to organizational performance by creating a higher level of collective human capital and inspiring a high degree of social exchange within an organization.

However, although most studies in the literature have shown that innovative HR practices can provide an economically significant contribution to firm performance, the conclusion has to be drawn with caution. There is still much that researchers do not know about the

contingencies and mediating links in the relationship between innovative HR practices and different aspects of organizational performance (Bamber *et al.*, 2014; Boxall and Macky, 2007). We argue that when innovative HR practices are driven by the organizations' pursuit of strategic flexibility, it will lead to greater employee productivity and firm performance. In fact, Beltran-Martin *et al.* (2008) found that HR practices influence firm performance through their impact on the firm's HR flexibility. Recent studies have reported that HR practices that support strategic flexibility have positive impact on organizations' market performance (Ngo and Loi, 2008), financial performance (Bhattacharya *et al.*, 2005; Ketkar and Sett, 2009), and customer service effectiveness (Beltran-Martin *et al.*, 2008).

In connection with *H1* whereby strategic flexibility leads to the use of innovative HR practices, we propose that firms that adopt strategic flexibility are more likely to use innovative HR practices, and in so doing, strategic flexibility leads to better firm performance:

H2. Innovative HR practices mediate the relationship between strategic flexibility and firm performance.

The impact of CEO gender

The afore-established relationship between firm strategic flexibility and performance may be most evident when the "soft" environment of a firm is supportive of strategic flexibility. Often technical aspects of strategic adjustment are feasible, but employees involved in the adjustment may not be willing to make the adjustment due to some cognitive or psychological barriers to change. To remove these cognitive and psychological barriers to frequent strategic adjustments, a firm needs to develop a "soft" environment that facilitates the implementation of technical flexibility. Such an environment is usually characterized by a high level of diversity, transparency, and democracy, because strategic changes impose heavy decision loads and collaboration. As such, the efforts and commitment of most organizational members are needed to take initiative in providing timely feedback and adjustment to strategic decisions. Nurturing and maintaining such an environment favoring strategic flexibility is dependent heavily upon the leadership of a firm (Nadkarni and Herrmann, 2010). In this regard, female leaders may have an advantage over their male counterparts in facilitating strategic flexibility due to cognitive, social, and behavioral differences between genders.

Shimizu and Hitt (2004) argue that one barrier to strategic flexibility is the top managers' insensitivity to negative feedback from the market. Inability to attend to negative feedback blocks an organization from making timely adjustments to strategy and from its ability to learn. Research on investment decisions has shown that females are more cognizant of negative cues, which males are likely to ignore (Graham *et al.*, 2002). Because of their attention to negative cues, female leaders are able to catch both positive and negative signals of strategic actions. This is important for enacting strategic flexibility because balanced attention creates checking points for the development of cognitive inertia in decision makers.

In addition, organizations with female CEOs may embrace and induce diversity better than male CEOs because females are more sensitive to homogeneity in a work environment (Chatman and O'Reilly, 2004). Diversity produces a wider range of behavioral scripts among employees that prompt behavioral flexibility for organizations (Wright and Snell, 1998). Diversity has in general been associated with high levels of creativity and innovation (Wiersema and Bantel, 1992). Recent research on leadership style based on gender difference indicates that female leaders and managers tend to enact an environment of equality and transparency more effectively than their male counterparts due to their behavioral differences in embracing diversity (Rosener, 1990; Eagly and Carli, 2003). In a synthesis of empirical evidence on gender-based leadership style difference, Eagly and Carli (2003) concluded that female leaders exhibit a more democratic leadership style than male leaders in the behaviors related to the exercise of power. Democratic leadership style promotes

sharing task-related information (Daily and Dalton, 2003), thereby making an organization more effective in facilitating timely adjustment.

This gender-based leadership difference is due to: women possessing more social skills that facilitate the development of collaborative, demographic leadership behaviors (Eagly and Karau, 2002); and female leaders intentionally relying more on these social skills in extending their leadership. Besides the social skills, female leaders also play a symbolic role in inducing a sense of diversity and equality in their organizations (Eagly and Carli, 2003). With women's visibility as occupants of top positions in organizational hierarchy, organizations send a message that top management endorses equitable opportunities. This message would be especially motivating for those employees hesitant to take initiative, or engage in discretionary behavior because they are afraid that their efforts may not be compensated well due to potential discrimination. Based on a meta-analysis of 99 independent samples in 95 studies, Paustian-underdahl *et al.* (2014) found that women leaders are rated as significantly more effective by others while men rate themselves as significantly more effective than women rate themselves. In addition, research has shown that more women in the upper echelons of the corporate world help business develop a broader focus on long-term goals rather than being constrained to short-term profit maximization (McElhaney and Mobasseri, 2012) and that the advantage of female CEOs is more evident when an organization pursues an innovation strategy (Dezsö and Ross, 2012).

The above features of female leadership will translate into climates that benefit organizations designed to pursue strategic flexibility. We propose that cognitive and social skills, symbolic advantages, and greater levels of perceived leadership effectiveness make females better CEOs for organizations designed to pursue strategic flexibility in an uncertain environment:

H3. The relationship between strategic flexibility and firm performance is stronger in organizations with female CEOs.

Following the Upper Echelon's perspective that organizations are reflections of their top managers (Finkelstein and Hambrick, 1996; Hambrick and Mason, 1984), we further argue that strategy-HRM-performance linkage would be tighter when female leadership is in control. In the case of strategic flexibility and HR practices, existing literature suggests that gender-based leadership differences would draw a fine line between the effective and ineffective HRM practices. Female leaders are more likely to adopt a transformational leadership style in delivering the organizational goals (Eagly *et al.*, 2003; Bark *et al.*, 2016), which in turn might lead to a greater use of innovative HR practices in order to motivate and empower followers (Zhu *et al.*, 2005). Female CEOs might be more likely to adopt innovative HR practices because doing so promotes the congruency between their organizational roles and social roles as female leaders. Existing literature on role congruity theory has shown that female leaders can be disliked if they display a higher level of authority, adopt a dominant style of communication, or/and use a transactional leadership style (Eagly and Karau, 2002). In contrast, women lead more effectively and receive less resistance when they display communality and warmth (Carli, 2001) by showing their care to employees' needs for achievement and growth, for participation in decision making, and for a higher performance-based compensation system. On the other hand, researchers have found evidence of a female leadership advantage by showing that women tend to be more effective leaders in contemporary organizations in a dynamic environment (Eagly and Carli, 2003; Rosette and Tost, 2010). Communal Leadership behavior and approaches associated with business success today, such as intellectual stimulation, inspiratory motivation, and participatory decision-making, are more commonly found among female leaders (Eagly *et al.*, 2003; Williams, 2012). In fact, Rosette and Tost (2010) indicated that employees today greatly value these leadership skills that focus on relationships and not just traditional

agentic leader characteristics that are masculine. Furthermore, because of the perception that women may face a double standard for competence and, therefore, have to meet or exceed stricter standards and overcome exceptional challenges to become female executives (Foschi, 1996, 2000), research has shown they are rated as more competent than male counterparts by employees, especially women leaders at top-level positions, such as CEOs (Rosette and Tost, 2010; Paustian-underdahl *et al.*, 2014).

Research in the field of top management team demography has shown that female-led businesses tend to implement organizational strategies with more emphasis on innovative HR practices, such as rewarding employees for appropriate performance, encouraging employee participation in decision-making processes, fostering cooperative efforts, and motivating and developing subordinates (Eagly *et al.*, 2003; Paustian-underdahl *et al.*, 2014). Zenger and Folkman (2012) conducted a survey of 7,280 leaders and found that women leaders are more suited to the style of leadership needed in organizations with a changing environment. Women excel in the areas of developing others and building relationships compared to their male counterparts. Authors such as McElhaney and Mobasseri (2012) indicated that one of the key mechanisms that female leaders execute in organizations' pursuit of strategic flexibility is through the use of innovative HR practices. Companies with female leaders are more likely to provide competitive employee pay and benefits, offer performance incentives, implement formalized programs, and proactively manage human capital development through implementing formalized training programs and actively measuring employee satisfaction (McElhaney and Mobasseri, 2012). Businesses with women leaders are more likely to implement employee participation and information sharing programs compared to their male counterparts (Rosener, 1990). Therefore, we expect the effect of strategic flexibility on the adoption of innovative HR practices to be stronger in organizations led by female CEOs:

H4. The relationship between strategic flexibility and innovative HR practices is stronger in organizations led by female CEOs.

The four hypotheses are summarized in Figure 1.

Method and results

Sample and data collection

We contacted 598 small and medium-sized firms from a list of registered businesses obtained from the local small and medium enterprise (SME) Bureau in the Yangtze Delta region and sent out questionnaires. The questionnaire contains information on corporate social responsibility, human resource management practices, organizational strategy, CEO information, and other firm characteristics in terms of firm age, location, and financial performance. A total of 598 questionnaires were distributed, of which 307 were returned and 113 firms provided valid answers to the key questions used in this study. The effective response rate is 18.9 percent.

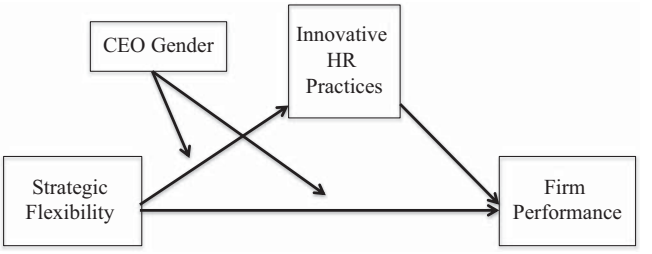

Figure 1.
Strategic flexibility, innovative HR practices, and firm performance: A moderated mediation model

Chinese firms were selected because the environment in which they are located met the desired context to test the hypotheses. In the past three decades or so, China has experienced unprecedented economic, political, institutional, and technological changes. China's GDP grew from RMB 364 billion in 1978 to RBM 74,413 billion in 2016, a growth of 204 folds (National Bureau of Statistics China, 2016). The Chinese environment is certainly dynamic and unpredictable with tremendous uncertainties surrounding the political regime and institutional environment.

Measures

Strategic flexibility: we measure strategic flexibility by adapting Grewal and Tansuhaj (2001)'s four items scale and Nadkarni and Herrmann (2010)'s five items scale. The five items of this scale were: "We regularly share costs across business activities;" "We frequently change our strategies and structures to derive benefits from environmental (political, economic, and financial) changes;" "Our strategy emphasizes exploiting new opportunities arising from environmental changes;" "Our strategy reflects a high level of flexibility in managing political, economic, and financial risks;" and "Our strategy emphasizes versatility and empowerment in allocating human resources." We used confirmative factor analysis to assess the validity and reliability of this measurement model. The goodness of fit statistics demonstrates adequate level of fit ($\chi^2 = 24.157$, CFI = 0.973, RMSEA = 0.077), and the five factors' loadings range from 0.72 to 0.91. The coefficient α reliability for the scale was 0.92.

Innovative HR practices: modern HRM theories and practices in hiring, compensation, and training are still relatively novel to an economic system where state-owned enterprises dominate. To the extent that our targeted contributions are significant for the field of HRM and strategic management, they are even more important in the transitioning economic environment of China. While a considerable deregulation of the employment system has called for individual firms to adopt professional HRM practices to attract and retain talents, the intricacies in the unstable laws and national retirement systems calls for innovative application of these HRM practices (Zheng *et al.*, 2009). Thus, many of the modern HRM practices, especially HPWS, represent innovative HRM practices in China, mostly in Chinese context (Kim *et al.*, 2010).

Considering the unique context of China, we constructed a scale that measures the adoption of innovative HR practices by adapting Pfeffer's (1998) measure on HPWS scale and Zheng *et al.*'s (2009) measure on innovative HR practices. In particular, the scale consists of eight items that measure various aspects of innovative HR practices: free market recruitment and selection; the use of self-managed teams; decentralized decision making and employee participation; extensive training and development; job rotation; information sharing and open communication; compensation contingent on performance; and competitive compensation. The factor loadings range from 0.63 to 0.85. The coefficient α reliability for the scale was 0.90.

Firm performance: we used three established firm performance measures: employee productivity (Huselid *et al.*, 1997), operational profit margin (pretax profit margin), and returns on assets (ROA). Following Huselid (1995) and Huselid *et al.* (1997), we calculated the logarithm of net sales per employee to measure employee productivity. Operational profit margin is measured using the ratio of pretax profits to sales, while ROA is measured using post-tax profit divided by assets.

Control variables: we use five firm characteristics (firm size, firm age, R&D intensity, corporate social responsibility, and market scope) as controls. Firm size is measured in terms of both the natural logarithmic transformation of the assets and the number of employees. According to the RBV, larger firms with more resources (Barney, 1991) have more advantage than do small firms in implementing strategic plans through various

HRM practices. We measured firm age as the number of years since the firm was founded. According to earlier studies (Miller and Chen, 1996; Delaney and Huselid, 1996), younger firms are more likely to shift their strategies frequently and less likely to have mature HRM systems. R&D intensity is measured based on whether or not the firm is classified as an "R&D firm" by a state-led program that gives policy intervention to improve the overall innovation environment and to influence the formation of a local innovation system (Wu, 2007). We also controlled two variables that measure the extent to which the firms have initiatives to promote corporate social responsibility – a dummy variable on whether the firm regards corporate social responsibility as part of its long-term strategy and a dummy variable on whether the firm has someone who is accountable for corporate social responsibility. Prior studies have shown a positive relationship between corporate social responsibility and firm financial performance (Margolis and Walsh, 2003; Orlitzky *et al.*, 2003), and such relationship is influenced by intangible resources such as human capital (Surroca *et al.*, 2010) and the firm's HRM practices (Sharma *et al.*, 2011). In addition, we controlled for the firm's market scope – within the province, national, and international.

Results

Table I presents descriptive statistics, including the means, standard deviation, correlations, and inter-item reliabilities, calculated from the data. We performed regression analysis and Hayes's (2014) conditional process analysis for testing the moderated mediation relationships in the hypothesized model shown in Figure 1.

Table II shows the regression results for *H1* and *H4*. The parameter estimates are unstandardized coefficients, standard errors for the unstandardized coefficients, and symbols showing coefficient significance at different levels. There are three steps in the regression analysis. As shown in Table II, in Step 1, all of the control variables, including firm size, firm age, R&D intensity, corporate social responsibility, and market focus variables, were entered. In Step 2, strategic flexibility ratings were inserted. In the third step, an interaction term between innovative HR practices and CEO gender was further included in the analysis.

H1 states that organizational strategic flexibility is positively related to the use of innovative HR practices. As shown in Table II, the control variables as a set accounted for 27.2 percent of the variance, $F(9, 103) = 4.28$, $p < 0.01$. In Step 2, the firm strategic flexibility ratings explained 26.5 percent additional variance, ΔF $(1, 102) = 58.19$, $p < 0.01$. The coefficient of strategic flexibility ratings was significant and positive ($\beta = 0.549$, $p < 0.01$). The 95 percent CI did not include zero (0.37 to 0.63), and the lower bound CI is not near zero. Together, these results support *H1*.

H4 proposed that the relationship between strategic flexibility and innovative HR practices is stronger in organizations with a female CEO. In the third step, an interaction term between female CEO and strategic flexibility ratings was entered. As shown in Step 3, Table I, this interaction term explains 0.7 percent additional variance, $\Delta F = (1,101) = 1.51$, $p > 0.05$, in the innovative HR practices ratings with insignificant β's ($\beta = 0.269$, $p > 0.1$). Furthermore, the 95 percent CI included zero (−0.116 to 0.492). These results do not support *H4*.

Table III shows the regression results for *H2* and *H3* using employee productivity as the firm performance measure. The analysis was conducted in four steps. In Step 1, all of the control variables were entered, in Step 2 the strategic flexibility was entered, and in Step 3, the innovative HR practices rating were entered. In the last step, an interaction term between strategic flexibility and female CEO was entered.

We expected that organizational strategic flexibility is positively related to firm performance. As shown in Table III, the control variables as a set accounted for 37 percent of the variance, $F(9, 103) = 6.07$, $p < 0.01$, in the dependent variable (employee productivity) with a significant β for firm size ($\beta = 0.878$, $p < 0.01$), CEO gender ($\beta = 0.249$, $p < 0.01$), and

Table I.
Descriptive statistics

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
(1) Number of employees in 100	1.01	1.54	1.000													
(2) Ln(asset)	6.97	1.74	0.647**	1.000												
(3) Female CEO	0.17	0.38	0.158	0.009	1.000											
(4) Firm age	10.72	7.15	0.225*	0.385**	0.231*	1.000										
(5) Market scope-national	0.44	0.50	−0.021	0.146	−0.019	0.063	1.000									
(6) Market scope-international	0.20	0.40	0.352**	0.348**	0.067	0.258**	−0.450**	1.000								
(7) New tech firm	0.12	0.33	0.587**	0.506**	0.046	0.177	−0.065	0.344**	1.000							
(8) CSR strategy	0.24	0.43	−0.028**	−0.531**	−0.141	−0.383**	−0.165	−0.232*	−0.211*	1.000						
(9) CSR accountability	0.57	0.50	−0.024*	−0.288**	−0.132	−0.288**	−0.083	−0.179	−0.213*	0.448**	1.000					
(10) Strategic flexibility	3.11	1.05	0.156	0.217*	0.115	0.066	−0.078	0.168	0.185*	−0.261**	−0.203*	1.000				
(11) Innovative HR practices	3.24	0.96	0.234*	0.309**	0.075	0.299**	−0.129	0.236*	0.277**	−0.406**	−0.327**	0.637**	1.000			
(12) Employee productivity	45.42	40.02	0.159	0.442**	0.112	−0.064	0.070	0.013	0.140	−0.121	0.025	0.261**	0.239*	1.000		
(13) ROA	0.08	0.10	−0.003	−0.362**	0.135	−0.232**	−0.016	−0.069	0.004	0.070	0.114	−0.062	−0.157	−0.139	1.000	
(14) Operational profit margin	0.08	0.14	0.008	−0.181	0.186	−0.082	−0.049	−0.091	0.042	0.070	0.136	−0.101	−0.147	−0.110	0.857**	1.000

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

Table II.
Effects of strategic flexibility on innovative HR practices

Variables	Step 1: Controls only					Step 2: Strategic flexibility					Step 3: Moderator-female CEO				
	b	SE	*p*	95% CI	*β*	*b*	SE	*p*	95% CI	*β*	*b*	SE	*p*	95% CI	*β*
Female CEO	−0.060	0.228	0.795	[−0.513,0.393]	−0.023	−0.201	0.184	0.278	[−0.566,0.164]	−0.079	−0.822	0.538	0.129	[−1.889,0.244]	−0.323
Number of employees	−0.006	0.077	0.939	[−0.002,0.001]	−0.01	0.015	0.062	0.808	[−0.108,0.138]	0.024	−0.003	0.063	0.966	[−0.129,0.123]	−0.004
Ln(asset)	0.023	0.076	0.764	[−0.127,0.173]	0.042	−0.017	0.061	0.780	[−0.138,0.104]	−0.031	−0.017	0.061	0.778	[−0.138,0.103]	−0.031
Firm age	0.019	0.013	0.158	[−0.007,0.044]	0.139	0.027	0.011	0.013	[0.006,0.048]	0.199*	0.028	0.011	0.010	[0.007,0.049]	0.207**
Market scope-national	−0.418	0.197	0.036	[−0.810,−0.027]	−0.218*	−0.300	0.159	0.062	[−0.615,0.015]	−0.157	−0.290	0.159	0.071	[−0.605,0.025]	−0.151
Market scope-international	−0.124	0.262	0.636	[−0.643,0.395]	−0.053	−0.153	0.210	0.469	[−0.569,0.264]	−0.065	−0.161	0.209	0.443	[−0.577,0.254]	−0.068
New tech firm	0.435	0.312	0.167	[−0.184,1.053]	0.15	0.285	0.251	0.259	[−0.213,0.782]	0.099	0.312	0.251	0.218	[−0.187,0.810]	0.108
CSR strategy	−0.640	0.247	0.011	[−1.130,−0.149]	−0.286*	−0.414	0.200	0.042	[−0.811,−0.016]	−0.185*	−0.437	0.201	0.032	[−0.835,−0.039]	−0.196*
CSR accountability	−0.284	0.185	0.128	[−0.651,0.083]	−0.148	−0.178	0.149	0.235	[−0.473,0.118]	−0.092	−0.192	0.149	0.201	[−0.487,0.104]	−0.100
Strategic flexibility						0.498	0.065	0.000	[0.369,0.628]	0.549**	0.453	0.075	0.000	[0.304,0.601]	0.499**
Strategic flexibility×Female CEO											0.188	0.153	0.222	[−0.116,0.492]	0.269
Constant	3.363	0.510	0.000			1.865	0.454	0.000			2.018	0.469	0.000		
R^2	0.272					0.537					0.544				

Notes: $n = 113$. *$p < 0.05$; **$p < 0.01$

Table III.
The effects of strategic flexibility on firm performance (employee productivity)

Variables	Step 1: Controls only			Step 2: Strategic flexibility			Step 3: Strategic flexibility and HR Prac.			Step 4: Interaction with female CEO		
	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI	β	SE	95%CI
Number of employees	−0.278*	3.008	−13.187,−1.256	−0.266*	2.947	−12.757,−1.068	−0.272*	2.903	−12.814,−1.298	−0.325**	2.932	−14.265,−2.629
Ln(asset)	0.878**	2.945	14.336,26.018	0.853**	2.893	13.854,25.332	0.860**	2.850	14.100,25.409	0.859**	2.804	14.165,25.291
Female CEO	0.249**	8.897	8.904,44.193	0.230**	8.752	7.118,41.836	0.248**	8.668	9.187,43.578	−0.215	25.114	−72.748,26.904
Firm age	−0.292**	0.510	−2.647,−0.623	−0.271**	0.502	−2.513,−0.522	−0.316**	0.509	−2.781,−0.760	−0.295**	0.504	−2.653,−0.652
Market scope – national	−0.072	7.686	−20.988,9.501	−0.05	7.559	−19.003,10.983	−0.015	7.572	−16.186,13.858	−0.009	7.453	−15.510,14.062
Market scope – international	−0.12	10.195	−32.124,8.316	−0.124	9.980	−32.114,7.476	−0.11	9.853	−30.417,8.674	−0.119	9.702	−30.992,7.506
New tech firm	−0.025	12.150	−27.087,21.107	−0.043	11.928	−28.843,18.476	−0.065	11.820	−31.333,15.563	−0.045	11.687	−28.630,17.745
CSR strategy	0.111	9.630	−8.746,29.453	0.146	9.530	−5.234,32.572	0.188	9.579	−1.410,36.593	0.163	9.490	−3.569,34.085
CSR accountability	0.078	7.204	−8.038,20.536	0.097	7.081	−6.242,21.849	0.118	7.022	−4.440,23.419	0.102	6.937	−5.585,21.938
Strategic flexibility				0.192*	3.105	1.142,13.460	0.068	3.832	−5.026,10.177	−0.011	4.034	−8.427,7.581
Innovative HR practices							0.227*	4.636	0.288,18.682	0.199	4.595	−0.796,17.437
Strategic flexibility×Female CEO										0.508*	7.124	0.736,29.005
R^2	0.369			0.402			0.425			0.449		
n	113			113			113			113		

Notes: $n = 113$. *$p < 0.05$; **$p < 0.01$

firm history ($\beta = -0.292$, $p < 0.01$). In Step 2, the strategic flexibility ratings explained 3 percent additional variance, $\Delta F(1,102) = 5.53$, $p < 0.05$. The coefficient estimate for strategic flexibility (Step 2) was significant and positive ($\beta = 0.192$, $p < 0.05$). The 95 percent CI did not include zero (1.14 to 13.46), and the lower bound of the CI did not approach zero. Together, these results provide support for the positive relationship between strategic flexibility and firm performance.

H2 states that the use of innovative HR practices mediates the relationship between strategic flexibility and firm performance. We tested the mediation model in a more rigorous manner in the next section using conditional process analysis. Here we illustrated partial evidence of mediation. If such mediation relationship does exist, we expect to see that the direct effect of strategic flexibility will be weakened after HR practices ratings are entered into the regression. Following the analysis above, in the third step, we further entered the rating of innovative HR practices. As shown in Table III, for employee productivity, innovative HR practices ratings explained 2.3 percent, ΔF (1,101) = 4.19, $p < 0.05$ of incremental variance in employee productivity with significant, positive β ($\beta = 0.227$, $p < 0.05$). The coefficient of strategic flexibility became insignificant when both innovative HR practices and strategic flexibility variables are entered. These results provide support for *H2*.

H3 proposes that the relationship between strategic flexibility and firm performance is stronger in organizations with a female CEO. To test this relationship, in the next step, an interaction term between strategic flexibility and female CEO was entered in Step 4, and this interaction term explained 2.4 percent of additional variance, $\Delta F = 5.28$, $p < 0.05$. For the parameter estimate, the interaction term has a positive and significant β of 0.508 ($p < 0.05$). Moreover, the 95 percent CI did not include zero (0.736 to 29.005). These results provide support for *H3*. In total, the variables added in Steps 2, 3, and 4, explain approximately an additional 8 percent of the variance in the dependent variable (employee productivity). The results show that strategic flexibility, HR practices, and the interaction term between strategic flexibility and female CEO further explain a significant, though moderate, amount of variance in employee productivity, compared to the baseline model in Step 1.

Finally, the mediating effect of innovative HR practices on the relationship between strategic flexibility and firm performance in terms of employee productivity and the moderation effect of a female CEO on both the direct and indirect (via innovative HR practices) effects of strategic flexibility on employee productivity were examined. According to Baron and Kenny's (1986) causal steps approach, in order for innovative HR practices to be considered as a mediator of the effect of strategic flexibility on firm performance, there are three criteria. First, the independent variable (i.e. strategic flexibility) and the dependent variable (i.e. employee productivity) are associated. The second criterion is that the effect of the independent variable (i.e. strategic flexibility) has a significant effect on the mediator (i.e. innovative HR practices). The third criterion is that the mediator (i.e. innovative HR practices) affects the dependent variable (i.e. employee productivity) controlling for the independent variable (i.e. strategic flexibility). If all three criteria are met, the direct effect of the independent variable (i.e. strategic flexibility) when the mediator effect is controlled for is compared to the total effect of the independent variable (strategic flexibility) when the mediator (i.e. *i*) is not entered in the regression. If the direct effect is smaller than the total effect and is not statistically significant, then it is claimed that the mediator (i.e. innovative HR practices) fully mediates the independent variable (i.e. strategic flexibility) on the dependent variable (i.e. employee productivity). By contrast, if the direct effect is smaller than the total effect but still statistically significant, then it is claimed that the mediator partially mediates the effect of the independent variable on the dependent variable.

The results in Table III (Step 2) show that strategic flexibility was significant and positively related to employee productivity ($\beta = 0.192$, $p < 0.05$), satisfying the first criterion. The second condition was also satisfied given the support found in *H1* that

organizational strategic flexibility is positively related to the use of innovative HR practices ($\beta = 0.549$, $p < 0.05$). Furthermore, the third criterion is also met. As shown in Table III, innovative HR practices have a positive and significant effect on employee productivity ($\beta = 0.227$, $p < 0.05$). Finally, the coefficient estimate of the independent variable (i.e. strategic flexibility) became smaller and insignificant when the mediator (i.e. innovative HR practices) was included in the model in Table III (from $\beta = 0.192$, $p < 0.05$ to $\beta = 0.07$, $p > 0.05$), indicating that innovative HR practices fully mediates the effect of strategic flexibility on employee productivity.

We further conducted the conditional process analysis using Hayes's (2014) conditional process analysis for testing the mediation effect of innovative HR practices on the relationship between strategic flexibility and employee productivity, as well as testing whether a female CEO mediates the direct and indirect effects of strategic flexibility. The conditional process analysis is a recently developed and approved approach that allows for estimating the moderation and mediation effects simultaneously, and it yields estimates of the conditional indirect and conditional direct effects. Such analysis is particularly useful for the purpose of this study. We used statistical syntax, PROCESS, to conduct the statistical analysis. Based on the proposed model (Figure 1), we developed the regression equations and conducted the conditional process analysis accordingly. We present the details of this process at the bottom of Table V.

The results shown in Tables IV and V provide support for a moderated mediation model. We first examined the simple mediation model without considering the moderating effect (shown in Table IV) and then tested the moderated mediation model considering the conditional direct effect and indirect effect of strategic flexibility on employee productivity at different values of the moderator (i.e. male vs female CEO).

H2 proposed that innovative HR practices as a whole serve as a mediator of the effect of strategic flexibility on firm performance. More specifically, firms emphasizing strategic flexibility are more likely to perform better because these firms are more likely to employ innovative HR practices. As shown in Table IV, the total effect of strategic flexibility on employee productivity is 7.301. Two firms that differ by one unit in the strategic flexibility ratings are estimated to differ by 7.301 units in the calculated employee productivity. This effect is significantly different from zero, $t = 2.35$, $p < 0.05$, or between 1.142 and 13.460 with 95 percent CI. The indirect effect of 4.725 means that two firms that differ by one unit in strategic flexibility are estimated to differ by 4.725 units in their calculated employee productivity measure as a result of the tendency for those emphasizing strategic flexibility to implement innovative HR practices, which in turn translates into higher employee productivity. This indirect effect is statistically different from zero, the normal theory-based Sobel test showed $Z = 1.961$, $p < 0.05$, and the 95 percent bias-corrected bootstrap confidence interval is entirely above zero (0.458 to 11.871). The direct effect of strategic flexibility ($b = 2.573$, $p > 0.05$) is the estimated difference in employee productivity between two firms that adopted same levels of innovative HR practices but that differ by one unit in their reported strategic flexibility ratings. The coefficient is positive, meaning that firms emphasizing more in strategic flexibility but equally implementing innovative HR practices are estimated to be 2.573 units lower in the measured employee productivity. However,

	Effect	SE	*t*/*z*	*P*	LLCI	ULCI
Total effect	7.301*	3.105	2.35	0.021	1.142	13.46
Direct effect	2.575	3.832	0.672	0.503	−5.027	10.177
Indirect effect	4.725*	2.7594	1.961	0.049	0.458	11.871

Notes: $n = 113$. *$p < 0.05$; **$p < 0.01$

Table IV. Total, direct and indirect effect of strategic flexibility (*X*) on employee productivity (*Y*)

Conditional direct effects

CEO gender	Effect	SE	*t*	*p*	LLCI	ULCI
Male	−0.423	4.034	−0.105	0.917	−0.8427	7.581
Female	14.447**	6.824	2.12	0.037	0.909	27.985

Conditional indirect effects

Mediator: Innovative HR practices

CEO gender	Effect	Boot SE	Boot LLCI	Boot ULCI
Male	3.768*	2.369	0.394	10.151
Female	5.335**	3.287	0.448	14.135

Notes: $n = 113$. We followed Hayes' (2014) process for testing moderated mediation models using conditional process analysis. Based on Hayes' prescriptions, our conceptual diagram translates into a set of two equations because there are two consequent variables in the model (M and Y). *$p < 0.05$; **$p < 0.001$

$$M = i_1 + a_1X + a_2W + a_3XW + e_M \quad (1)$$

$$Y = i_2 + c'_1X + c'_2W + c'_3XW + bM + e_Y \quad (2)$$

where i_1 and i_2 are constants, X is the strategic flexibility; Y the firm performance; M the mediator, Innovative HR Practices; W the moderator, CEO gender; XW the interaction term between Strategic Flexibility and CEO Gender. Thus:

Conditional indirect effect of X on Y through $M = (a_1 + a_3W)b$

Conditional direct effect of X on $Y = c'_1 + c'_3W$

PROCESS function in SPSS is adopted in estimating the direct and indirect effects of X on Y, as well as the statistical inferences to determine whether the conditional effects are different from zero at different values of W (CEO gender)

Table V.
Conditional direct and indirect effects of strategic flexibility on employee productivity

as can be seen in Table IV, this direct effect is not statistically different from zero, $t = 0.672$, $p > 0.05$, with a 95 percent CI from −5.027 to 10.177. Consistent with the results of regression analysis, these results provide support for *H2*.

In the second step, we tested the full conditional process model shown in Figure 1, allowing both the direct and indirect effects of strategic flexibility on employee productivity contingent upon CEO gender. *H3* proposes that the effect of strategic flexibility on employee productivity is conditional on the CEO gender. As one of the indirect effect components is conditional, then so is the indirect effect, itself. We then conditioned the discussion of the mediation effect on the moderator, CEO gender. The conditional indirect effect of the independent variable (i.e. strategic flexibility) on the dependent variable (i.e. employee productivity) through the mediator (i.e. ratings) conditioned on the moderator (i.e. CEO gender), in this case refers to the amount by which two firms with a given condition of CEO gender (female or male CEO) that differ by one unit on strategic flexibility ratings, are estimated to differ on employee productivity indirectly through the effect of emphasis on strategic flexibility on the use of innovative HR practices, which in turn influences employee productivity. As shown in Table V, in firms with female CEOs, the firm with one unit higher in strategic flexibility ratings is estimated to be 5.335 units higher in employee productivity as a result of the greater use of innovative HR practices promoted by more emphasis on strategic flexibility, which in turn enhances employee productivity. In firms with a male CEO, the indirect effect is still positive and statistically significant (95 percent CI from 0.394 to 10.151) but is smaller than in firms with female CEOs. The direct effect of strategic flexibility on employee productivity is also hypothesized to be moderated by CEO gender (*H3*). As show in Table IV, the direct effect is statistically significant and positive ($b = 14.447$, $p < 0.05$, 95 percent CI from 0.909 to 27.985) in firms with female CEOs but not significant in firms with male CEOs ($b = -0.423$, $p > 0.05$, 95 percent CI from −0.843 to 7.581). Viewed together, these results show that the use of innovative HR practices in an

establishment mediated the relationship between strategic flexibility and employee productivity both in firms with male CEOs (full mediation) and female CEOs (partial mediation), thereby providing support for *H2* and *H3*.

We followed the same procedure examining the hypotheses using ROA and operational profit margin as dependent variables. Regression results are shown in Table VI. Neither the total effect of strategic flexibility on ROA or operational profit margin is significant. Further conditional process analysis indicated no statistically significant direct or indirect effect of strategic flexibility on ROA or operational profit margin.

Discussion and conclusions

The main objective of this study is to examine the role of innovative HR practices as an important mechanism through which strategic flexibility affects organizational performance, as well as the role of gender-based leadership in this relationship. First of all, our results provide support for the mediated relationship in which strategic flexibility is associated with employee productivity indirectly through innovative HR practices. As far as we know, this is one of the first studies to investigate this mediating mechanism. This finding contributes both theoretically and empirically to the SHRM literature by examining the flexibility advantage in HRM practices induced by firm strategy (Wright and Snell, 1998). We found that firm strategy can affect firm performance directly through innovative HR practices in addition to the channels identified in earlier studies, such as resource flexibility and coordination flexibility of the firm in using its available resources in product markets (Sanchez, 1995), market orientation (Grewal and Tansuhaj, 2001), diversified organizational forms (Schilling and Steensma, 2001), and contingent alliance development (Young-Ybarra and Wiersema, 1999).

In addition, our study also sheds light on the intricate role that CEO gender plays in the Strategy-HRM-performance linkage. Literature on gender difference has implied, but not explicitly stressed, the different effect of gender-based leadership on this linkage. We extended the theories on female leadership by proposing a moderating effect of leaders' gender on the relationship between organizations' focus on strategic flexibility and firm performance. Our empirical results suggest that the gender-based leadership makes a difference in connecting strategic flexibility and firm performance. In particular, the effect of strategic flexibility on firm performance is greater in organizations with a female CEO than a male CEO. This finding is consistent with a recent report that shows female representation in TMT of a firm improves firm performance when a firm's strategy is focused on innovation (Dezsö and Ross, 2012). While Dezso and Ross conducted their analysis based upon S&P 1,500 companies in the USA, we found that the same relationship exists in private firms in Chinese cultural and institutional environments. Thus, evidence converged in support of the female leadership advantage in a particular strategy context – one that emphasizes innovation and flexibility. As a result, our study enriches the theories of gender-based leadership and HR by expanding the territory of gender influence and HR influence on firm performance as well as by explicating the mechanism through which the influence happens.

Although we found a positive relationship between strategic flexibility and firm performance measured as employee productivity and the role of innovative HR practices as a mediator in this relationship, these relationships are not significant when a firm's financial performance was used as a dependent variable. This insignificant relationship is indeed consistent with the contention that operational effects of HR practices are greater than the financial effect (Dyer and Reeves, 1995; Huselid, 1995). A second limitation stems from the common research method. The measures for innovative HR practices and strategic flexibility were collected and then aggregated from the same sets of firms. Future research that includes separate measures of the independent variable and the mediating variable within in the same firms would be useful to better understand the causal relationship in the

Table VI.
The effects of strategic flexibility on firm performance (ROA and OPM)

	Return of asset (ROA)				Operational profit margin (OPM)			
	Model1	Model2	Model3	Model4	Model5	Model6	Model7	Model8
	Controls only	Strategic flexibility	HR practices	Interaction	Controls only	Strategic flexibility	HR practices	Interaction
Number of employees	0.021** (0.008)	0.021** (0.008)	0.022** (0.008)	0.025** (0.008)	0.013 (0.013)	0.013 (0.013)	0.014 (0.013)	0.018 (0.013)
Ln(asset)	−0.042** (0.008)	−0.041** (0.008)	−0.043** (0.008)	−0.042** (0.008)	−0.027 (0.014)	−0.026 (0.014)	−0.027 (0.015)	−0.025 (0.014)
Female CEO	0.022 (0.024)	0.024 (0.025)	0.019 (0.025)	0.143 (0.086)	0.061 (0.038)	0.066 (0.039)	0.060 (0.039)	0.272* (0.128)
Firm age	−0.002 (0.001)	−0.002 (0.001)	−0.002 (0.001)	−0.002 (0.001)	−0.001 (0.002)	−0.001 (0.002)	−0.000 (0.002)	−0.001 (0.002)
Market scope-national	0.021 (0.021)	0.020 (0.021)	0.011 (0.022)	0.013 (0.021)	−0.007 (0.034)	−0.010 (0.034)	−0.018 (0.035)	−0.018 (0.034)
Market scope-international	0.015 (0.027)	0.016 (0.027)	0.012 (0.027)	0.014 (0.027)	−0.033 (0.043)	−0.032 (0.043)	−0.035 (0.043)	−0.033 (0.043)
New tech firm	0.044 (0.033)	0.044 (0.033)	0.051 (0.033)	0.045 (0.033)	0.063 (0.053)	0.064 (0.053)	0.071 (0.053)	0.059 (0.053)
CSR strategy	−0.060* (0.026)	−0.063* (0.026)	−0.074** (0.027)	−0.068* (0.027)	−0.039 (0.042)	−0.047 (0.043)	−0.060 (0.045)	−0.046 (0.045)
CSR accountability	0.017 (0.020)	0.017 (0.020)	0.011 (0.020)	0.016 (0.020)	0.038 (0.031)	0.037 (0.031)	0.032 (0.032)	0.042 (0.032)
Strategic flexibility		−0.005 (0.009)	0.007 (0.012)	0.012 (0.012)		−0.015 (0.014)	−0.003 (0.018)	0.006 (0.018)
Innovative HR practices			−0.022 (0.014)	−0.017 (0.014)			−0.022 (0.022)	−0.014 (0.022)
Strategic flexibility×Female CEO				−0.035 (0.023)				−0.061 (0.035)
Constant	0.349** (0.054)	0.363** (0.061)	0.409** (0.068)	0.372** (0.072)	0.240* (0.100)	0.284* (0.108)	0.334** (0.119)	0.250 (0.128)
R^2	0.307	0.309	0.326	0.343	0.120	0.130	0.139	0.167
n	101	101	101	101	104	104	104	104

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

present model. In addition, the use of cross-sectional data is a limitation of this study. Future longitudinal research will further elucidate whether firms' emphasis on strategic flexibility and innovative HR practices will have a long-term impact on firm performance.

Implications for research and practice

The findings of this study show that firms that emphasize strategic flexibility rely on HR practices to achieve competitive advantages. This finding is of importance to firms emphasizing strategic flexibility in their organizations. Given that in today's world of increasing uncertainty, flexibility almost becomes a necessity for firms in order to sustain and maintain their competitive advantages. Our findings suggest that practitioners should put more emphasis on developing innovative HR practices to stay competitive in a rapidly changing business environment.

Second, corresponding to the effort in strategy literature that shows effects of CEOs' individual characteristics in terms of demographics (e.g. Carpenter and Geletkanycz, 2004; Hambrick and Mason, 1984) and personalities (e.g. Nadkarni and Herrmann, 2010) on the organizational outcomes, this study tried to seek evidence on whether the direct and indirect effect of strategic flexibility on firm performance varied in firms with a male vs a female CEO. Our findings on female CEOs offer some insights for the board of directors to select CEOs who match their organizational strategy. Firms pursuing strategic flexibility should feel more confident when appointing a female CEO, because our results show that female leadership may enhance the positive impact of strategic flexibility on firm performance.

References

Aaker, D.A. and Mascarenhas, B. (1984), "The need for strategic flexibility", *Journal of Business Strategy*, Vol. 5 No. 2, pp. 74-82.

Aburdene, P. and Naisbitt, J. (1992), *Megatrends for Women*, Villard Books, New York, NY.

Adler, N.J. (1997), "Global leadership: women leaders", *Management International Review*, Vol. 37 No. 1, pp. 171-196.

Bamber, G.J., Stanton, P., Bartram, T. and Ballardie, R. (2014), "Human resource management, lean processes and outcomes for employees: towards a research agenda", *The International Journal of Human Resource Management*, Vol. 25 No. 21, pp. 2881-2891.

Bark, A.S.H., Escartín, J., Schuh, S.C. and van Dick, R. (2016), "Who leads more and why? A mediation model from gender to leadership role occupancy", *Journal of Business Ethics*, Vol. 139 No. 3, pp. 473-483.

Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.

Baron, R.M. and Kenny, D.A. (1986), "The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51 No. 6, pp. 1173-1182.

Beltran-Martin, I., Roca-Puig, V., Escrig-Tena, A. and Bou-Llusar, J.C. (2008), "Human resource flexibility as a mediating variable between high performance work systems and performance", *Journal of Management*, Vol. 34 No. 5, pp. 1009-1044.

Bhattacharya, M., Gibson, D.E. and Doty, D.H. (2005), "The effects of flexibility in employee skills, employee behaviors, and human resource practices on firm performance", *Journal of Management*, Vol. 31 No. 4, pp. 622-640.

Boxall, P. and Macky, K. (2007), "High performance work systems and organisational performance: bridging theory and practice", *Asia Pacific Journal of Human Resources*, Vol. 45 No. 3, pp. 261-270.

Cadsby, C.B., Song, F. and Tapon, F. (2007), "Sorting and incentive effects of pay for performance: an experimental investigation", *The Academy of Management Journal*, Vol. 50 No. 2, pp. 387-405.

Carli, L.L. (2001), "Gender and social influence", *Journal of Social Issues*, Vol. 57 No. 4, pp. 725-741.

Carpenter, M.A. and Geletkanycz, M.A. (2004), "Upper echelons research revisited: antecedents, elements, and consequences of top management team composition", *Journal of Management*, Vol. 30 No. 6, pp. 749-778.

Cartwright, S. and Cooper, C.L. (1997), *Managing Workplace Stress*, Vol. 1, Sage, Thousand Oaks, CA.

Chatman, J.A. and O'Reilly, C.A. (2004), "Asymmetric reactions to work group sex diversity among men and women", *Academy of Management Journal*, Vol. 47 No. 2, pp. 193-208.

Chodorow, N.J. (1999), *The Reproduction of Mothering: Psychoanalysis and the Sociology of Gender*, University of California Press, Berkeley, CA.

Chow, I. (2004), "Human resource management in China's township and village enterprises: change and development during the economic reform era", *Asia Pacific Journal of Human Resources*, Vol. 42 No. 3, pp. 318-335.

Collins, C. and Clark, K. (2003), "Strategic human resource practices, top management team social networks, and firm performance: 'The role of human resource practices in creating organizational competitive advantage'", *Academy of Management Journal*, Vol. 46 No. 6, pp. 740-751.

Combs, J., Liu, Y., Hall, A. and Ketchen, D. (2006), "How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance", *Personnel Psychology*, Vol. 59 No. 3, pp. 501-528.

Cordero, R., Walsh, S.T. and Kirchhoff, B.A. (2005), "Motivating performance in innovative manufacturing plants", *The Journal of High Technology Management Research*, Vol. 16 No. 1, pp. 89-99.

Cornelissen, T., Heywood, J.S. and Jirjahn, U. (2011), "Performance pay, risk attitudes and job satisfaction", *Labour Economics*, Vol. 18 No. 2, pp. 229-239.

Daily, C.M. and Dalton, D.R. (2003), "Women in the boardroom: a business imperative", *Journal of Business Strategy*, Vol. 24 No. 5, pp. 8-10.

Delaney, J.T. and Huselid, M.A. (1996), "The impact of human resource management practices on perceptions of organizational performance", *Journal of Management*, Vol. 39 No. 4, pp. 949-969.

Delery, J.E. and Doty, D.H. (1996), "Modes of theorizing in strategic human resource management: tests of universalistic, contingency, and configurational performance predictions", *Academy of Management Journal*, Vol. 39 No. 4, pp. 802-835.

Dezsö, C.L. and Ross, D.G. (2012), "Does female representation in top management improve firm performance? A panel data investigation", *Strategic Management Journal*, Vol. 33 No. 9, pp. 1072-1089.

Dyer, L. and Ericksen, J. (2005), "In pursuit of marketplace agility: applying precepts of self-organizing systems to optimize human resource scalability", *Human Resource Management*, Vol. 44 No. 2, pp. 183-188.

Dyer, L. and Reeves, T. (1995), "Human resource strategies and firm performance: what do we know and where do we need to go?", *The International Journal of Human Resource Management*, Vol. 6 No. 3, pp. 656-670.

Eagly, A.H. and Carli, L.L. (2003), "The female leadership advantage: an evaluation of the evidence", *Leadership Quarterly*, Vol. 14 No. 6, pp. 807-834.

Eagly, A.H. and Karau, S.J. (2002), "Role congruity theory of prejudice toward female leaders", *Psychological Review*, Vol. 109 No. 3, pp. 573-598.

Eagly, A.H., Johannesen-Schmidt, M.C. and van Engen, M.L. (2003), "Transformational, transactional, and laissez-faire leadership styles: a meta-analysis comparing women and men", *Psychological Bulletin*, Vol. 129 No. 4, pp. 569-591.

Evans, J.S. (1991), "Strategic flexibility for high technology maneuvers: a conceptual framework", *Journal of Management Studies*, Vol. 28 No. 1, pp. 69-89.

Evans, W.R. and Davis, W.D. (2005), "High-performance work systems and organizational performance: the mediating role of internal social structure", *Journal of Management*, Vol. 31 No. 5, pp. 758-775.

Finkelstein, S. and Hambrick, D.C. (1996), *Strategic Leadership*, West Publishing Company, St. Paul, MN.

Fondas, N. (1997), "Feminization unveiled: management qualities in contemporary writings", *Academy of Management Review*, Vol. 22 No. 1, pp. 257-282.

Foschi, M. (1996), "Double standards in the evaluation of men and women", *Social Psychology Quarterly*, Vol. 59 No. 3, pp. 237-254.

Foschi, M. (2000), "Double standards for competence: theory and research", *Annual Review of Sociology*, Vol. 26, pp. 21-42.

Godfrey, J. (1996), "Mind of the managers", Inc., Vol. 18 No. 3, p. 21.

Graham, J.F., Stendardi, E.J. Jr, Myers, J.K. and Graham, M.J. (2002), "Gender differences in investment strategies: an information processing perspective", *International Journal of Bank Marketing*, Vol. 20 No. 1, pp. 17-26.

Grant, J. (1988), "Women as managers: what they can offer to organizations", *Organizational Dynamics*, Vol. 16 No. 1, pp. 56-63.

Grewal, R. and Tansuhaj, P. (2001), "Building organizational capabilities for managing economic crisis: the role of market orientation and strategic flexibility", *Journal of Marketing*, Vol. 65 No. 2, pp. 67-80.

Hambrick, D.C. and Mason, P.A. (1984), "Upper echelons: the organization of reflection of its top managers", *The Academy of Management Review*, Vol. 9 No. 2, pp. 193-206.

Hayes, A. (2014), *Introduction to Mediation, Moderation, and Conditional Process Analysis*, Guilford, New York, NY.

Helgesen, S. (1990), *The Female Advantage: Women's Ways of Leading*, Doubleday, New York, NY.

Hitt, M.A., Keats, B.W. and Demarie, S.M. (1998), "Navigating in the new competitive landscape: building flexibility and competitive advantages in the 21st century", *The Academy of Management Executive*, Vol. 12 No. 4, pp. 22-42.

Huselid, M.A. (1995), "The impact of human resource management practices on turnover, productivity, and corporate financial performance", *Academy of Management Journal*, Vol. 38 No. 3, pp. 635-672.

Huselid, M.A., Jackson, S.E. and Schuler, R.S. (1997), "Technical and strategic human resource management effectiveness as determinants of firm performance", *The Academy of Management Journal*, Vol. 40 No. 1, pp. 171-188.

Ketkar, S. and Sett, P.K. (2009), "HR flexibility and firm performance: analysis of a multi-level causal model", *The International Journal of Human Resource Management*, Vol. 20 No. 5, pp. 1009-1038.

Kim, S., Wright, P.M. and Su, Z.S. (2010), "Human resource management and firm performance in China: a critical review", *Asia Pacific Journal of Human Resources*, Vol. 48 No. 1, pp. 58-85.

Lau, C.M. and Ngo, H.Y. (1996), "One country many cultures: organizational cultures of firms of different country origins", *International Business Review*, Vol. 5 No. 5, pp. 469-486.

Lau, C.M. and Ngo, H.Y. (2004), "The HR system, organizational culture, and product innovation", *International Business Review*, Vol. 13 No. 6, pp. 685-703.

McClelland, P.L., Liang, X. and Barker III, V.L. (2010), "CEO commitment to the status quo: replication and extension using content analysis", *Journal of Management*, Vol. 36 No. 5, pp. 1251-1277.

McElhaney, K.A. and Mobasseri, S. (2012), "Women create a sustainable future", U.C. Berkeley Haas School of Business, October, Berkeley, CA.

Macky, K. and Boxall, P. (2007), "The relationship between 'high-performance work practices' and employee attitudes: an investigation of additive and interaction effects", *The International Journal of Human Resource Management*, Vol. 18 No. 4, pp. 537-567.

Margolis, J.D. and Walsh, J.P. (2003), "Misery loves rethinking companies: social initiatives by business", *Administrative Science Quarterly*, Vol. 48 No. 2, pp. 268-305.

Messersmith, J.G., Patel, P.C., Lepak, D.P. and Gould-Williams, J. (2011), "Unlocking the black box: exploring the link between high-performance work systems and performance", *The Journal of Applied Psychology*, Vol. 96 No. 6, pp. 1105-1118.

Miller, D. (1991), "Stale in the saddle: CEO tenure and the match between organization and environment", *Management Science*, Vol. 37 No. 1, pp. 34-52.

Miller, D. and Chen, M. (1996), "The simplicity of competitive repertoires: an empirical analysis", *Strategic Management Journal*, Vol. 17 No. 6, pp. 419-439.

Nadkarni, S. and Herrmann, P. (2010), "CEO personality, strategic flexibility, and firm performance: the case of the Indian business process outsourcing industry", *Academy of Management Journal*, Vol. 53 No. 5, pp. 1050-1073.

Nadkarni, S. and Narayanan, V.K. (2007), "Strategic schemas, strategic flexibility, and firm performance: the moderating role of industry clockspeed", *Strategic Management Journal*, Vol. 28 No. 3, pp. 243-270.

National Bureau of Statistics China (2016), "China statistics yearbook", available at: www.stats.gov.cn/english/statisticaldata/AnnualData/ (accessed March 13, 2017).

Ngo, H.Y. and Loi, R. (2008), "Human resource flexibility, organizational culture and firm performance: an investigation of multinational firms in Hong Kong", *The International Journal of Human Resource Management*, Vol. 19 No. 9, pp. 1654-1666.

Orlitzky, M., Schmidt, F. and Rynes, S. (2003), "Corporate social and financial performance: a meta-analysis", *Organization Studies*, Vol. 24 No. 3, pp. 403-441.

Parker, S. (2000), "From passive to proactive motivation: the importance of flexible role orientations and role breath self-efficacy", *Applied Psychology: An International Review*, Vol. 49 No. 3, pp. 447-469.

Paustian-underdahl, S.C., Walker, L.S. and Woehr, D.J. (2014), "Gender and perceptions of leadership effectiveness: a meta-analysis of contextual moderators", *Journal of Applied Psychology*, Vol. 99 No. 6, pp. 1129-1145.

Pfeffer, J. (1998), "Seven practices of successful organizations", *California Management Review*, Vol. 40 No. 2, pp. 96-124.

Porter, M.E. (1985), *Competitive Strategy: Creating and Sustaining Superior Performance*, The Free Press, New York, NY.

Ramsay, H., Scholarios, D. and Harley, B. (2000), "Employees and high-performance work systems: testing inside the black box", *British Journal of Industrial Relations*, Vol. 38 No. 4, pp. 501-531.

Riley, M. and Lockwood, A. (2006), "Strategies and measurement for workforce flexibility: an application of functional flexibility in a service setting", *International Journal of Operations and Production Management*, Vol. 17 No. 4, pp. 413-419.

Rosener, J. (1990), "How women lead", *Harvard Business Review*, Vol. 68 No. 6, pp. 119-125.

Rosette, A.S. and Tost, L.P. (2010), "Agentic women and communal leadership: how role prescriptions confer advantage to top women leaders", *Journal of Applied Psychology*, Vol. 95 No. 2, pp. 221.

Sanchez, R. (1995), "Strategic flexibility in product competition", *Strategic Management Journal*, Vol. 16 No. S1, pp. 135-159.

Schilling, M.A. and Steensma, H.K. (2001), "The use of modular organizational forms: an industry-level analysis", *Academy of Management Journal*, Vol. 44 No. 6, pp. 1149-1168.

Schuler, R.S. (1992), "Strategic human resources management: linking the people with the strategic needs of the business", *Organizational Dynamics*, Vol. 21 No. 1, pp. 18-32.

Schuler, R.S. and Jackson, S.E. (1987), "Linking competitive strategies with human resource management practices", *The Academy of Management Executive*, Vol. 1 No. 3, pp. 207-219.

Sharma, S., Sharma, J. and Devi, A. (2011), "Corporate social responsibility: the key role of human resource management", in Simons, R. (Ed.), *Human Resource Management: Issues, Challenges and Opportunities*, CRC Press, Boca Raton, FL, pp. 9-18.

Shimizu, K. and Hitt, M.A. (2004), "Strategic flexibility: organizational preparedness to reverse ineffective strategic decisions", *The Academy of Management Executive*, Vol. 18 No. 4, pp. 44-59.

Snow, C.C. and Snell, S.A. (1993), "Staffing as strategy", in Schmitt, N. and Borman, W. (Eds), *Personnel Selection in Organizations*, Jossey-Bass, San Francisco, CA, pp. 448-478.

Sun, L., Aryee, S. and Law, K. (2007), "High-performance human resource practices, citizenship behavior, and organizational performance: a relational perspective", *Academy of Management Journal*, Vol. 50 No. 3, pp. 558-577.

Surroca, J., Tribó, J. and Waddock, S. (2010), "Corporate responsibility and financial performance: the role of intangible resources", *Strategic Management Journal*, Vol. 31 No. 5, pp. 463-490.

Takeuchi, R., Lepak, D.P., Wang, H. and Takeuchi, K. (2007), "An empirical examination of the mechanisms mediating between high-performance work systems and the performance of Japanese organizations", *The Journal of Applied Psychology*, Vol. 92 No. 4, pp. 1069-1083.

Way, S.A., Tracey, J.B., Fay, C.H., Wright, P.M., Snell, S.A., Chang, S. and Gong, Y. (2015), "Validation of a multidimensional HR flexibility measure", *Journal of Management*, Vol. 41 No. 4, pp. 1098-1131.

Wei, L. and Lau, C. (2005), "Market orientation, HRM importance and competency: determinants of strategic HRM in Chinese firms", *International Journal of Human Resource Management*, Vol. 16 No. 10, pp. 1901-1918.

Wiersema, M.F. and Bantel, K.A. (1992), "Top management team demography and corporate strategic change", *Academy of Management Journal*, Vol. 35 No. 1, pp. 91-121.

Williams, R. (2012), "Why women may be better leaders than men", available at: www.psychologytoday.com/blog/wired-success/201212/why-women-may-be-better-leaders-men (accessed December 15, 2012).

Worren, N., Moore, K. and Cardona, P. (2002), "Modularity, strategic flexibility, and firm performance: a study of the home appliance industry", *Strategic Management Journal*, Vol. 23 No. 12, pp. 1123-1140.

Wright, P.M. and Snell, S.A. (1998), "Toward a unifying framework for exploring fit and flexibility in strategic human resource management", *The Academy of Management Journal*, Vol. 23 No. 4, pp. 756-772.

Wu, W. (2007), "Innovation system in Shanghai, China", *Growth and Change*, Vol. 38 No. 4, pp. 544-566.

Young-Ybarra, C. and Wiersema, M. (1999), "Strategic flexibility in information technology alliances: the influence of transaction cost economics and social exchange theory", *Organization Science*, Vol. 10 No. 4, pp. 439-459.

Zacharatos, A., Barling, J. and Iverson, R.D. (2005), "High-performance work systems and occupational safety", *The Journal of Applied Psychology*, Vol. 90 No. 1, pp. 77-93.

Zenger, J. and Folkman, J. (2012), "Are women better leaders than men?", Harvard Business Review, March 15, pp. 80-85.

Zheng, C., O'Neill, G. and Morrison, M. (2009), "Enhancing Chinese SME performance through innovative HR practices", *Personnel Review*, Vol. 38 No. 2, pp. 175-194.

Zhu, W., Chew, I.K.H. and Spangler, W.D. (2005), "CEO transformational leadership and organizational outcomes: the mediating role of human-capital-enhancing human resource management", *The Leadership Quarterly*, Vol. 16 No. 1, pp. 39-52.

Further reading

Miles, R.E., Snow, C.C., Meyer, A.D. and Coleman, H.J. (1978), "Organizational strategy, structure, and process", *Academy of Management Review*, Vol. 3 No. 3, pp. 546-562.

Turban, D.B. and Greening, D.W. (1996), "Academy of management", *The Academy of Management Journal*, Vol. 40 No. 3, pp. 658-672.

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