High performance work system and intrapreneurial behavior: the role of relational psychological contract, self-efficacy and boundaryless career orientation

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Abstract. Purpose. The current study investigates the impact of high-performance work system (HPWS) on intrapreneurial behavior (IPB) with mediating effects of self-efficacy and relational psychological contract. In addition, boundaryless career orientation is expected to moderate the relationship between HPWS and IPB. Design. Employees were asked to indicate the extent to which they understood and experienced each HR practice within their firms. The final list of HPWS consists of 13 practices detailed in Appendix 1. The Employee Intrapreneurship Scale (EIS) consists of eight items, measuring two dimensions of IPB, namely strategic renewal behavior and venture behavior. Quantitative research design was applied with data collected from 283 employees using Partial Least Square Structural Equation Modelling (PLS-SEM). Findings. The results confirmed the direct impact of HPWS on IPB as well as the indirect impacts of both relational psychological contract and self-efficacy. Mobility Preference moderated the above relationship while Boundaryless Mindset did not. Theoretical implications. This research confirms the relationship between HPWS and IPB and the mechanisms through which HPWS influences IPB. Practical implications. Building a long-term trust-based relationship between employees and the firm is vital in fostering IPB. Value of results. This study explores the role of general self-efficacy and relational psychological contract as mediators of the link between HPWS and IPB. In addition, it introduces boundaryless career orientation as a moderator of the HPWS-IPB linkage.

Keywords: high performance work system, intrapreneurial behavior, relational psychological contract, self-efficacy, boundaryless mindset.

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Introduction

Intra-firm continuous entrepreneurial activities have been regarded as an essential factor in enhancing competitiveness, growth, and even survival of the firms (Augusto Felício, Rodrigues, Caldeirinha, 2012; Farrukh, Khan, Raza, Shahzad, 2021). Entrepreneurial actions within the context of organizations can be investigated at the organizational level, referred to as corporate entrepreneurship (CE) or at the individual level, conceptualized as intrapreneurship behavior (IPB). Recent advances in the topic favor the examination of IPB because of the scarcity of relevant research and the growing importance of individual human capital in corporate success (Baggen et al., 2016; Escribá-Carda et al., 2020). Intrapreneurial activities have been confirmed to exert positive impacts on various facets of organizational performance such as innovation performance (Ekingen, Ekemen, Yildiz, Korkmazer,
growth and improvement of firms (Augusto Felício et al., 2012), and financial performance (Fis, Cetindamar, 2021). Given the desirable influences of IPB on organizational performance, research interests focus on the factors affecting IPB in organizations (Neessen, Caniëls, Vos, de Jong, 2019). Literature suggests that determinants of IPB range from personal characteristics such as traits, previous knowledge, skills, experience, and attitude to organizational factors including organizational structure, management support, rewards, autonomy, and available resource (Farrukh, Ying, Mansori, 2016; Blanka, 2019; Alam, Kousar, Shabbir, Kaleem, 2020).

Recently, there is emerging interests in examining the impact of human resource (HR) practices on IPB. IPB has been found to be predicted by individual HR practices (Ziyae, 2016; Kühn, Eymann, Urbach, Schweizer, 2016), as well as by a set of interrelated HR applications such as high performance work system (HPWS) (Mustafa, Lundmark, Ramos, 2016; Escribá-Carda et al., 2020). It was found that HPWS influences IPB by enhancing the knowledge and skills necessary for innovative behaviors, providing opportunity for participation in decision making and knowledge sharing, and reciprocating extra-role efforts with appropriate rewards and benefits. In addition, a number of mediators in the relationship have been identified such as perceived organizational support (Farrukh et al., 2021), employees’ knowledge sharing (Escribá-Carda et al., 2020), and manager’s knowledge sharing (Mustafa et al., 2016).

Despite promising evidence found between HPWS and IPB, previous research has several limitations which the current study aims to address. First although extant research provides evidence that support the positive impact of HPWS on IPB, there are signs that the relationship is indirect and is mediated by other variables. Nevertheless, research that identifies the mechanisms through which HPWS influences IPB is still scarce. To date, few work has attempted to include relational psychological contract and self-efficacy as intermediary channels between HPWS and IPB. Second, while external factors are of great importance in predicting IPB, individual differences also essential in fostering such behaviors (Rigtering, Weitzel, 2013). The moderating impact of individual characteristics such as career orientation has not been widely examined. This study seeks to fill this gap by exploring the moderating impact of boundaryless career orientation on the relationship between HPWS and IPB. By expanding current understanding of the HPWS — IPB relationship with the inclusion of mediators and moderators, this paper responds to the call for more research in the topic (Alam et al., 2020).

Essentially, the current study aims to provide the answers to the following questions:

**RQ 1:** Does the perception of HPWS influence IPB of individual employees?

**RQ 2:** Are there mediating effects of relational psychological contract and self-efficacy in the linkage between HPWS and IPB?

**RQ 3:** Does boundaryless career orientation moderate the relationship between HPWS and IPB?

To achieve the above research objectives, this study draws on social exchange theory (SET) and psychological contract theory to clarify the relationship between HPWS and IPB. In addition, self-efficacy theory is borrowed to explain the mediating role of self-efficacy and IPB (Bandura, 1986). Finally, literature on boundaryless career orientation is useful in revealing the moderating impact of career orientation on the above relationships.

The remainder of the paper is detailed as follows: the next section outlines literature review and development of hypotheses, followed by research method section which describes data collection and analysis. Result section illustrates data description and hypothesis testing. The final part includes discussion, implications and research limitations.
Literature review and hypothesis development

**Intrapreneurial behavior**

Intrapreneurship refers to the entrepreneurial efforts performed by the current employees within a business or an organization (Burgers, Covin, 2016). The value of individual IPB has been increasingly acknowledged by both academics and practitioners (de Jong, Parker, Wennekers, Wu, 2015). R. D. Ireland, J. G. Covin, D. F. Kuratko advocated that entrepreneurship activities performed by organizational members is of utmost significance in the firm's long-term plan (Ireland, Covin, Kuratko, 2009). Taking a process view, IPB can be defined as a sequence of activities performed by the individual workers to identify and make use of opportunities which can help in the creation of new product service and process to improve the performance of an organizations (Neessen et al., 2019). Intrapreneurship maneuvers involve the employees engaging in proactive, innovative and risk-taking behaviors (de Jong et al., 2015).

**High performance work system (HPWS)**

Previous research advocates that a set of human resource management practices can foster businesses' competitive advantages and enhance their performance if adopted simultaneously as a system (Delaney, Huselid, 1996; Huselid, Becker, 1997). Such practices are often called “high performance work system” (Macky, Boxall, 2007). HPWS encompasses a set of HR practices that enhance the ability, motivation, and opportunity of organizational members in order to contribute to the success of the organization (Rabl, Jayasinghe, Gerhart, Kühlmann, 2014). HPWS has been linked with intrapreneurial behaviors (Farrukh et al., 2021).

**Relational psychological contract**

Psychological contract is understood as a person's subjective perceptions of his own and other party’s responsibilities in a mutual exchange relationship such as employment (Rousseau, 1989; 1995). Dominant in the literature, authors divide psychological contract into either transactional or relational contract (Rousseau, 1990). The former type of contract refers to a momentary relationship built upon direct and explicit economic exchange with narrow scope. The latter, on the other hand, is usually long-term and involves the development of trust and investment in emotional attachment (Rousseau, McLean Parks, 1993). Psychological contract provides a useful framework to understand the link between HRM practice and individuals' outcomes (Tran, Vu, Hoang, Nguyen, 2020).

**Self-efficacy**

Self-efficacy is a person's belief about his or her ability to plan and implement a sequence of actions necessary to achieve pre-determined goals (Bandura, 1977). A large part of empirical evidences support the positive linkage between self-efficacy and individual performance (Stajkovic, Luthans, 1998). Self-efficacy exerts positive impact by enhancing motivation towards goal, persistency and duration of efforts (Stirin, Ganzach, Pazy, 2016). Individuals with high level of self-efficacy are likely to attach a high value to the possibility that effort will lead to performance, which helps the individuals sustain their goal-directed effort (Carter, Nesbit, Badham, Parker, Sung, 2018). Self-efficacy has been found to positively predict innovative work behaviors (Jose, Mampilly, 2016; Santoso, Heng, 2019).

**Boundaryless career orientation**

Boundaryless career is among contemporary career orientations that break away from traditional career perspective (Uy, Chan, Sam, Ho, Chernyshenko, 2015). According to the traditional view, a career involves lateral movement within an organization (Yao, Thorn, Doherty, 2014). Boundaryless
career orientation, on the other hand, builds on the premises that individuals can develop their career beyond organizational and occupational borders (Arthur, Inkson, Pringle, 1999). According to J. P. Briscoe, D. T. Hall, and R. L. Frautschy DeMuth boundaryless career attitude consists of two dimensions: boundaryless mindset and organizational mobility preference (Briscoe, Hall, DeMuth, 2006). Boundaryless mindset measures an individual's overall preference toward working across functional or organizational boundaries. Organizational mobility preference refers to the propensity for making actual movements across such boundaries (Verbruggen, 2012). While empirical evidences suggest generally positive relationships between boundaryless mindset and career success, the relationships between mobility preference and career success are inclusive (Guan, Arthur, Khapova, Hall, Lord, 2019).

**Hypothesis development**

**High performance work system and intrapreneurial behavior**

The influences of HPWS on individual outcomes have frequently been explained under the light of social exchange theory (SET) (Blau, 1964). Employees who perceive the gain from the HPWS practices provided by the organization feel obligated to reciprocate by exerting additional efforts to the organization's causes. With regard to IPB, extant studies also argue that HPWS offered by the organizations are usually perceived as an investment from the side of the employers, thus, it encourages the individuals to engage more in both in-role and extra-role behavior including IPB (Mustafa, Richards, Ramos, 2013; Mustafa et al., 2016). Other works draw on the AMO framework to propose that HPWS supply ability, motivation and opportunity needed for employees to engage in IPB (Escribá-Carda et al., 2020). M. Farrukh with colleagues detailed that ability-enhancing practices such as training, and development equip the employees with necessary skills and knowledge for intrapreneurial activities (Farrukh et al., 2021). Motivation-enhancing policies such as performance-based reward may enhance the perception that appropriate efforts will be rewarded. Opportunity-enhancing bundle including information sharing and inclusive decision making creates a favorable environment for IPB.

This study takes the Resource-based view of the firm (Barney, 1991) to argue that human resource is considered as a source of competitive advantage by organizations. Firms adopt and implement HPWS as a strategic investment in order to achieve sustainable advantages (Demirbag, Tatoglu, Wilkinson, 2016; Do, Budhwar, Patel, 2019). Therefore, businesses which emphasize creative and innovative actions from their employees tend to look for the knowledge and skills needed for such actions by way of strict selection and strategic training and development. In addition, firms are willing to provide necessary conditions to foster IPB by implementing opportunity to engage in such behaviors as well as linking rewards to positive outcomes resulting from these behaviors. Therefore, it is hypothesized that:

**H1: A person’s perception of HPWS positively predicts his or her intrapreneurial behaviors.**

**The mediating impacts of relational psychological contract and self-efficacy**

The relationship between HPWS and IPB may be observed through the lens of SET (Blau, 1964) and psychological contract framework (Rousseau, 1989). SET posited that the parties participate in a relationship to make the most out of such interaction. Built upon SET, psychological contract theorists advocate that an individual worker develops an unwritten and implied contract with the employing organization in the light of mutual expectations (Rousseau, 1995). In transactional-relational categorization, transactional contract concerns short-term explicit exchanges such as monetary conditions, working time, and employment conditions. In contrast, relational contract mainly focuses on non-financial and emotional terms and tends to be temporally (Rousseau, 1990).
Relational contract is built upon intangible exchange including trust, respect, and loyalty (De Meuse, Bergmann, Lester 2001). It is proposed that an employee will opt to form a relation contract with the organization if they perceive a long-term, trust-based, and win-win offering from the side of the organization (Tran, 2019). Because HPWS are adopted as a strategic oriented management tools which requires heavy investment from the organization, it can be interpreted as a long-term, trustful commitment from the employer. In addition, HPWS focuses on enhancing ability, motivation, and opportunities for the employees, they should perceive the implementation of HPWS as a mutual beneficial cooperation. J. Zhang with colleagues also support that HPWS is the catalyst in the formation of a long-term relationship between employee and employer (2018, p. 2). Based on the above reasoning, the current research proposes that the perception of HPWS by an employee leads to the formation of relational psychological contract.

As suggested by P. C. M. Neessen, IPB requires the organizational members to be proactive, innovate and risk-taking (Neessen et al., 2019). Proactivity requires an individual to take initiative and control the environment rather than wait for something to happen. Innovativeness involves a lengthy process from identification of opportunities until implementation of new ideas. Finally risk-taking refers to the acknowledgement and acceptance of the potential loss and the ability to make decision under uncertainty (Escribá-Carda et al., 2020; De Jong et al., 2015). An employee who holds a relational contract may set a long-term vision with the organization and is willing to commit his future in exchange for professional career development. The employee, therefore, monitors and forecasts the changes in the environment, and attempt to find opportunities for fostering the mutual success of himself and the organization. In addition, a long-term commitment enables the employee to engage himself in innovation projects which usually require a long timeline with multiple stages. The employee also expects to stay long enough to enjoy the results of his lengthy effort. Finally, a relational trust-based contract enhances psychological safety and reduces perceived consequences of risk, which promote risk-taking. Thus, it is hypothesized that:

**H2: An individual’s relational psychological contract mediates the relationship between perceived HPWS and intrapreneurial behaviors.**

Self-efficacy measures an individual’s subjective judgement of his or her competence in selecting and following a chain of activities to attain some pre-determined objectives (Niu, 2010). According to A. Bandura there are four sources of information that influence self-efficacy including past performance, vicarious experience, verbal persuasion, and emotional cues (Bandura, 1997). The most important of the above is past performance because it is related to the person’s own experience. Human resource management practices such as participative performance appraisal will enables the individual to learn from both successes and failures and thereby enhance his or her confidence in the work-related areas. Vicarious know-how is obtained through learning and drawing experience from others’ work activities. Self-efficacy can be boosted by observing and copying others’ actions in similar settings (Hendricks, 2015). Progressive training, through which employees can gain knowledge from both the trainers and other participants, can be a source of vicarious experience. Verbal persuasion such as praises, recommendations, and advices from trainers and colleague can boost employees’ confidence in performing complicated tasks (Bandura, 1997). Components of HPWS such as knowledge sharing, collective decision making, and participative performance management can, therefore, provide verbal persuasion. Finally, a person’s self-efficacy is influenced by emotional and physiological states (Bandura, 1997). Research shows that high anxiety decreases self-efficacy while physical and emotional well-being enhance self-efficacy (Usher; Pajares, 2009; Hendricks, 2015). High performance work practices such as selective hiring, extensive training, and participative performance management can help in reducing performance-related anxiety. In addition, organizational support, delegation of authority and rewards can contribute to the overall well-being.
Draw upon social cognitive theory, it was proposed that high self-efficacy people are likely to accept challenging and risky tasks than their low self-efficacy counterparts who tend to avoid uncertainty (Mielniczuk, Laguna, 2020). In addition, high-efficacious workers often take initiative and show autonomy at work in order to achieve good results (Santoso, Heng, 2019). The authors also argued that people high in self-efficacy have good understandings of their strengths and weaknesses, and therefore, are able to deal well with demanding situations. Because IPB entails initiation, autonomy and risk-taking, high level of self-efficacy would be a driver of IPB. Therefore, the following is proposed:

**H3:** An individual’s self-efficacy mediates the relationship between perceived HPWS and intrapreneurial behaviors.

**The moderating impact of boundaryless career orientation**

A career orientation is often conceptualized as a person’s attitudes and intentions that impact his or her career-related decisions (Gerber, Grote, Geiser, Raeder, 2012). Boundaryless career orientation is measured by boundaryless mindset and organizational mobility preference (Briscoe et al., 2006). Boundaryless mindset involves a person’s inclination toward selecting and following jobs that expand beyond group and organizational boundaries. This mindset is associated with the person’s openness to new experience and enthusiasm for developing relationships with others outside his or her department and organization (Volmer, Spurk, 2011). Organizational mobility concerns a person’s preference toward the actual movement across organizational boundaries. High mobility preference is associated with the intention to seek employments in other organizations (Verbruggen, 2012). Because intrapreneurial behaviors are understood to constitute multiple processes from opportunity recognition to idea development, polishing, and implementation (Neessen et al., 2019), they are likely to involve personnel from different internal departments and even external organizations. In addition, intrapreneurial behaviors embrace the exploration and development of newness and ingenuity. Thus, it can be expected that individual with high level of boundaryless mindset will find it more attractive and fulfilling to engage in IPB under the condition of HPWS application. On the other hand, because intrapreneurship is a lengthy process (De Jong et al., 2015), it may require long-term commitment from the side of the employee who participates in the process. Individuals who have high organizational mobility preference may find it less appealing to engage in IPB due to their desire to move across organizational boundary. Therefore, it is hypothesized that:

**H4a:** Boundaryless Mindset moderates the relationship between HPWS and IPB in that the relationship is stronger for high Boundaryless Mindset than for low Boundaryless Mindset.

**H4b:** Organizational Mobility Preference moderates the relationship between HPWS and IPB in that the relationship is weaker for high Organizational Mobility Preference than for low Organizational Mobility Preference.

**Method**

**Data collection and analysis**

To test the proposed hypotheses and provide the answers to the research questions, the current study adopts a quantitative research design with data collected from survey with the help of self-administered questionnaires. Respondents are full time employees in 12 enterprises in Hanoi, the capital city of Vietnam. The survey collected 295 returned questionnaires. Because the employees may decide to participate in the survey or not, so response rate was not estimated. After discarding 12 questionnaires that were incomplete, the final data set consisting of 283 observations were used for subsequent data analysis.
The current study uses structural equation modeling technique (SEM) for data analysis with PLS-SEM modelling with the help of SmartPLS software version 3.3. PLS-SEM has been recommended by researchers because of its advantages in handling data related problems such as small sample size and normality (Hair Jr; Hult, Ringle, Sarstedt, 2016).

**Measure**

*High performance work system*

Employees were asked to indicate the extent to which they understood and experienced each HR practice within their firms. Responses to these items range from “1” — “To a very little extent” to “5” — “To a very large extent”. The current study adopts HRM practices that were used in previous research (Jiang et al., 2012; Kroon et al., 2013; Zhang, Di Fan et al.,) and adapts them to match with the context of Vietnam (Do, Shipton, 2019; Phuong, 2020). The final list of HPWS consists of 13 practices detailed in Appendix 1.

Confirmatory factor analysis (CFA) was conducted with 13 items as a single dimension and as three dimensions of ability-, motivation- and opportunity-enhancing practices. The results indicated that the single factor structure outperformed the three-dimension alternative. Therefore, HPWS is analyzed as a single dimension with a reliability of 0.905.

Responses for all other variables were measured with a five-point Likert scale ranging from “1” — “Strongly Disagree” to “5” — “Strongly Agree” unless stated otherwise.

*Intrapreneurial behaviors (IPB)*

The Employee Intrapreneurship Scale (EIS) developed and validated by J. C. Gawke with colleagues (Gawke, Gorgievski, Bakker, 2019) was used to measure IPB in this study. The EIS scale consists of eight items, measuring two dimensions of IPB, namely strategic renewal behavior and venture behavior. Four items in strategic renewal behavior dimension include “I undertake activities to realize change in my organization”, while a sample item measuring venture behavior is “I undertake activities to reach new market or communities for my organization”. Results of a CFA recommended the eight-item unidimensional construct of IPB, which has a Cronbach’ alpha scale of 0.925.

*Boundaryless Career Attitude*

The short form boundaryless career attitude (BCA) scale (Porter, Woo, Tak, 2015) was adopted in the current study. Boundaryless mindset was measured using a three-item scale which includes a sample item of “I like tasks at work that require me to work beyond my own department”. Organizational Mobility Preference scale also consists of three items including “I would feel very lost if I couldn’t work for my current organization”, in reversed format. The scale has been developed and verified with samples from Korea and US contexts by (Porter et al., 2015), who claimed that the scale is more efficient than the original scale developed by (Briscoe et al., 2006). Data analysis supports the differentiation between Organizational Mobility Preference (Mobility) and Boundaryless Mindset (Mindset) in this study, based on the CFA treatment. Organizational Mobility Preference and Boundaryless Mindset have reliability coefficients of 0.799 and 0.896, respectively.

Relational psychological contract (RPC) was measured by a nine-item scale extracted from the 18-item scale (Raja, Johns, Ntalianis, 2004) that was abbreviated from the original Psychological Contract Scale with 33 items (Millward, Hopkins 1998). Sample questions include “I expect to grow in this organization” and “I feel this company reciprocates the effort put in by its employees”. The scale has been verified to be valid and reliable in previous research (Phuong, Takahashi, 2021). In the current study, RPC operates as a single dimension variable with an internal consistency coefficient of 0.838.

*Self-efficacy (SE)*

The six-item short-form Generalized Self-Efficacy scale (GSE-6) developed and validated by (Romppel et al., 2013) was adopted. The scale was later tested by (Brünger, Spyra, 2018). Results from
both studies suggested that the short-form scale is reliable and valid and similar to the original scale (Schwarzer, Jerusalem, 1995). Sample items include “I am confident that I could deal efficiently with unexpected events” and “Thanks to my resourcefulness, I know how to handle unforeseen situations”. A reliability score of 0.819 was obtained for this unidimensional scale in the current study.

**Control variables**

This research controls for employee’s demographic variables such as age, gender, tenure, managerial position, and educational attainment. However, because none of these variables produce significant influences on the dependent variable, subsequent analyses will not report these impacts.

![Figure 1. Theoretical framework](image)

**Results**

The model’s reliability and validity was first evaluated. Internal consistency and convergent validity of all constructs was assessed based on composite reliability (CR), and average variance extracted (AVE). As reported in Table 1, all CRs are higher than 0.7 and all AVEs are larger than the cut-off points of 0.5. Also, as shown in Figure 2, all factor loadings are well above 0.7, thus confirm reliability and convergent validity of the constructs (Hair, Black, Babin, Anderson, 2010).

<table>
<thead>
<tr>
<th>Variables</th>
<th>α</th>
<th>CR</th>
<th>AVE</th>
<th>Mindset</th>
<th>HPWS</th>
<th>IPB</th>
<th>Mobility</th>
<th>RPC</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mindset</td>
<td>.896</td>
<td>.906</td>
<td>.764</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPWS</td>
<td>.905</td>
<td>.912</td>
<td>.604</td>
<td>.104</td>
<td>.777</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPB</td>
<td>.916</td>
<td>.925</td>
<td>.724</td>
<td>.048</td>
<td>.525</td>
<td>.402</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility</td>
<td>.799</td>
<td>.837</td>
<td>.831</td>
<td>-.135*</td>
<td>-.23**</td>
<td>-.383**</td>
<td>-.393**</td>
<td>.818</td>
<td></td>
</tr>
<tr>
<td>RPC</td>
<td>.838</td>
<td>.848</td>
<td>.67</td>
<td>.347**</td>
<td>.402**</td>
<td>.451**</td>
<td>-.393**</td>
<td>.818</td>
<td></td>
</tr>
<tr>
<td>SE</td>
<td>.819</td>
<td>.837</td>
<td>.712</td>
<td>.005</td>
<td>.359*</td>
<td>.564**</td>
<td>-.503**</td>
<td>.317**</td>
<td>(.844)</td>
</tr>
</tbody>
</table>

Note: α — Cronbach’s alpha; CR — Composite Reliability; AVE — Average Variance Extracted; * — p < 0.05, ** — p < 0.01. Square root of AVE in Parentheses.

Discriminant validity was confirmed based on both Fornell-Lacker criterion, and the Heterotrait-Monotrait ratio. In Table 1, all bivariate correlations between a latent variable and other variables

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are lower than the square root of AVE for this variable. In addition, all Heterotrait-Monotrait ratios are less than 0.6. Model fit indices were also obtained for the proposed framework, a SRMR value of 0.069 and NFI of 0.835 showed an acceptable model fit.

Figure 2. Factor loadings of latent variables

To test the proposed hypotheses, a bootstrapping run with 500 sample was performed. The results of the analysis were depicted in Figure 3. Path coefficients and their significant levels (p-value) are shown in parentheses. Accordingly, HPWS perceptions have been found to significantly and positively predict individual IPB, providing support for Hypothesis H1. In addition, HPWS were positively associated with both self-efficacy and relational psychological contract. The latter two variables also positively influenced IPB. Finally, bootstrapping results confirmed the significance of the indirect effects. Therefore, both Hypothesis H2 and H3 were partially support by the data. Relational psychological contract and self-efficacy partially mediated the impact of HPWS on IPB. Finally, to test the moderation effect of Boundaryless Mindset and Mobility Preference, two moderating variables were calculated with mean-centered interactions between HPWS and two moderators using the two-stage approach. Results showed that Mobility Preference moderated the relationship between HPWS and IPB in that the relationship is weaker when Mobility Preference is high. On the other hand, the moderating impact of Boundaryless Mindset was not significant. Therefore, hypothesis 4a was not supported and hypothesis 4b was supported by the data. Details about path coefficients and significance levels for the proposed mediation impacts are shown in Table 2.
Discussion

The current study provides additional evidences to support the positive impact of HPWS on individual outcomes. Specifically, results highlight the positive impact of HPWS perception on IPB. The results are in line with previous works on the topic (Escribá-Carda et al., 2020; Farrukh et al., 2021) a plethora of studies has investigated the organizational and individual outcomes of high-performance work systems (HPWS). Adoption and implementation of HPWS can be seen as a strategic investment of the firm in order to equip the employees with skills, attitudes and commitment needed to achieve strategic goals. In response to HPWS coverage, employees may feel obligated to engage in desired behaviors such as IPB, according to social exchange perspective. In addition, the influences of HPWS on individual-level IPB can be explained in terms of human capital (Blanka, 2019).

Table 2: Path coefficients and significance level

<table>
<thead>
<tr>
<th>Path</th>
<th>Coefficient</th>
<th>p value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPWS -&gt; Intrapreneurial Behavior</td>
<td>.310</td>
<td>.000</td>
<td>H1 is supported</td>
</tr>
<tr>
<td>HPWS -&gt; Relational contract -&gt; Intrapreneurial Behavior</td>
<td>.103</td>
<td>.001</td>
<td>H2 is partially supported</td>
</tr>
<tr>
<td>HPWS -&gt; Self-efficacy -&gt; Intrapreneurial Behavior</td>
<td>.118</td>
<td>.000</td>
<td>H3 is partially supported</td>
</tr>
<tr>
<td>HPWS * Boundarless Mindset -&gt; Intrapreneurial Behavior</td>
<td>.025</td>
<td>.643</td>
<td>H4a is not supported</td>
</tr>
<tr>
<td>HPWS * Mobility Preference -&gt; Intrapreneurial Behavior</td>
<td>-.117</td>
<td>.041</td>
<td>H4b is supported</td>
</tr>
</tbody>
</table>

Employees are willing to perform intrapreneurial activities because they are fully equipped with necessary ability, motivation and opportunity to engage in such behaviors. The role of human capital in fostering IPB has been confirmed by previous research (Parker, 2011; Martiarena, 2013). In addition, the study shows that relational psychological contract acts as a mediator of the relationship
between HPWS and IPB. This finding also supplements previous works on intrapreneurship domain. It was found that compared to entrepreneurs, intrapreneurs are more risk adverse and expect lower unexpected rewards (Martiarena, 2013). Given that intrapreneurship involves a long-term multi-stage process, a relational psychological contract which entails a long-term trust-based relationship will create favorable conditions for employees to engage in IPB.

This research pointed out the role of self-efficacy as a mediator of the relationship between HPWS and IPB. The direct impact of self-efficacy and IPB has been reported in the literature (Wakkee, Elfring, Monaghan, 2010; Fitzsimmons, Douglas, 2011), confirming the consistency of results. In addition, because HPWS is a strategic HRM tool, it aims to supply organizational members with strategy-relevant skills and attitude (Huselid, Becker, 1995). HPWS provides employees the knowledge, skills and opportunities they need and thereby, increases their self-efficacy.

Finally, the results confirm the moderating influence of organizational mobility preference on the relationship between HPWS and IPB in which the relationship is stronger for low mobility preference. On the other hand, no significant relationship has been obtained for boundaryless mindset. Literature on boundaryless career orientation indicates that, in general, boundaryless mindset is linked with positive outcomes while the association between mobility preference and individual outcomes is inconclusive (Guan et al., 2019). Mobility preference has been found to negatively correlate with all three forms of organizational commitment, while boundaryless mindset, which refers the tendency to work across the organizational boundaries, was not found to reduce organizational commitment (Briscoe, Finkelstein, 2009; Çakmak-Otluoğlu, Acar Bolat, 2020). Because intrapreneurship requires continuous efforts, lack of organizational commitment reduces engagement in IPB, even under the coverage of HPWS. On the other hand, such effect may not be linked with boundaryless mindset. In addition, when there are adequate development opportunities, employees with boundaryless mindset may be more committed with their organizations (Çakmak-Otluoğlu, 2012).

The theoretical implications

The current study adds to current knowledge on HPWS and intrapreneurship by exploring the mechanisms through which HPWS influences IPB. While previous research draws on social exchange
theory to explain the relationship, this study provides evidence to support the human capital framework. HPWS enhances the knowledge, skills, and attitudes needed for people to successfully perform intrapreneurial maneuvers by enhancing self-efficacy. In addition, the confirmation of relational psychological contract as a mediator acts in support of the positive psychology view of HPWS (Seligman, Csikszentmihalyi, 2000). HPWS implementation is viewed by the employees as a long-term investment in human resource, they ignite a trust-based development-oriented contract with the organizations. These long-standing commitment enables them to engage in risk-taking and initiative behaviors.

Second, while recent works emphasize the role of domain-specific self-efficacy such as entrepreneurial self-efficacy on intrapreneurial activities (Newman, Obschonka, Schwarz, Cohen, Nielsen, 2019), the results of this paper suggest that general self-efficacy also influences intrapreneurial behaviors. HPWS is not always directed at entrepreneurial skills and attitudes, it enhances employee’s strategy-relevant abilities, and thus general self-efficacy. Employees with a high level of general self-efficacy and a strategy-relevant skill set can utilize their strengths in intra-organizational activities such as IPB.

Third, this study considers boundaryless career orientation as a moderator of the HPWS-IPB linkage. While the relationship between individual traits such as personality and intrapreneurship has been widely examined (Williamson, Lounsbury, Han, 2013; Woo, 2018; Alam et al., 2020), few research explores the link between career orientation and IPB. The current paper contributes to the literature by linking intrapreneurship and career orientation.

Practical implications

The present study highlights the predictors of individual level intrapreneurship activities, an important driver of sustainable competitive advantage in the current dynamic economy. Its findings provide management with a few suggestions to develop intrapreneurship within organizations. First, to encourage IPB among employees, intrapreneurship direction should be clearly announced in the firm’s strategy. Human resource function will therefore pay more attention in recruiting employees with intrapreneurial skills and attitudes and developing them with subsequent training investment. Second, genuine intentions to develop a truthful long-term employment relationship with the employees should be made explicit to reduce risk and certainty associated with the intrapreneurship process. Finally, it is necessary to explore career orientations of organizational members to provide appropriate career coaching and mentoring regarding intrapreneurial activities.

Limitations and future research directions

This study is not without limitations. First, cross-sectional research design undermines the robustness of the link between HPWS and IPB, which can be addressed by subsequent research. Second, HPWS is operationalized as a single dimension in this paper, but other research found interesting finding when HPWS is conceptualized as a combination of Ability, Motivation and Opportunity enhancing bundles (Appelbaum et al., 2000). Future research may investigate the impact of each bundle on IPB. Lastly, only boundaryless career orientation has been hypothesized as a moderator of the relationship between HPWS and IPB. Forthcoming research may also investigate the possible moderating impact of other career orientations such as protean career attitude and other individual difference variables such as personality traits.
Conclusions

Fostering intra-organization entrepreneurship activities is becoming an important task of management. The adoption and implementation of HPWS can have a positive impact on such behaviors. The roles of self-efficacy and relational psychological contract confirmed in this paper provide support for the positive psychology perspective and human capital views of HPWS interference. Finally, career orientation can moderate the association between HPWS and IPB. The findings of this work can provide useful insights into enhancing intrapreneurial competencies through effective use of management practices such as HPWS.

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**Appendix 1**

**High Performance Work System Scale**

1. My company strives to select the right employees.
2. Long-term employee potential is emphasized.
3. My company applies a rigorous staffing process.
4. Extensive training programs are provided to employees.
5. Promotional training programs are offered to employees.
6. Performance is evaluated based on objective quantifiable results.
7. Individuals receive bonuses based on the profit of the organization.
8. Compensation is linked to individual/group performance.
9. Employees are allowed to participate in performance management process.
10. My company fosters employee’s involvement in decision-making.
11. Employees of this firm are given lots of opportunities to decide how to do their work.
12. My company provides employees with challenging and fulfilling jobs.
13. My company provides a lot of support for the employees.
Система высокопроизводительной работы и внутрипредпринимательское поведение

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Аннотация. Цель. В текущем исследовании изучается влияние системы высокопроизводительной работы (high-performance work system, HPWS) на внутрипредпринимательское поведение (intrapreneurial behavior, IPB), опосредуемое самоэффективностью и психологическим контрактом в отношениях (relational psychological contract). Кроме того, ожидается, что безграничная карьерная ориентация смягчит отношения между системой высокопроизводительной работы и внутрипредпринимательским поведением. Дизайн. К первичным данным, собранным на выборке 283 сотрудников был применён количественный анализ с использованием моделирования структурными уравнениями с частичными наименьшими квадратами (PLS-SEM). Результаты. Результаты подтвердили прямое влияние системы высокопроизводительной работы на внутрипредпринимательское поведение, а также косвенное влияние как психологического контракта в отношениях, так и самоэффективности. Предпочтение мобильности (mobility preference) смягчало вышеупомянутые отношения, в то время как безграничное мышление (boundaryless mindset) — нет. Это исследование подтверждает взаимосвязь между системой высокопроизводительной работы и внутрипредпринимательским поведением, а также механизмы, посредством которых система высокопроизводительной работы влияет на внутрипредпринимательское поведение. Практические последствия. Построение долгосрочных доверительных отношений между сотрудниками и компанией имеет жизненно важное значение для развития внутрипредпринимательского поведения. Ценность результатов. В этом исследовании исследуется роль общей самоэффективности и психологического контракта в отношениях как посредников связи между системой высокопроизводительной работы и внутрипредпринимательским поведением. Кроме того, оно вводит безграничную ориентацию на карьеру (boundaryless career orientation) в качестве модератора связи между системой высокопроизводительной работы и внутрипредпринимательским поведением.

Ключевые слова: система высокопроизводительной работы; внутрипредпринимательское поведение; реляционный психологический контракт; самоэффективность; безграничное мышление.