Current innovation literature provides a very limited understanding of the potential impacts of innovative culture on employees. Building on resource-based view theory, the authors investigate theoretically and empirically how a perceived innovative culture can be a building block for a firm’s competitive resource and advantage by creating superior employee-level outcomes and how a market information-sharing process may moderate these effects. The authors identify three distinct types of individual-level outcomes stemming from an innovative culture. The three outcome variables—job satisfaction, organizational dynamism perception, and firm performance perception—reflect employees’ psychological and cognitive reactions to the process of creating organizational innovation and innovative culture. The authors collect survey data from 3960 individual employees in China. Their findings first show that a perceived innovative culture significantly and positively affects employees’ job satisfaction and perceptions of organizational dynamism and firm performance. Moreover, organizational dynamism perception plays an important mediating role among three employee-level outcomes by converting job satisfaction into firm performance perception. The authors also find support for the direct, positive effect of a perceived market information-sharing process on job satisfaction but not on perceptions of organizational dynamism and firm performance. Most importantly, their findings on the significant moderating role of a market information-sharing system contribute to innovation theory by emphasizing the importance of the innovation/marketing interface: bundling market information sharing and innovative culture together enhances employees’ positive attitudes and perceptions. This result also suggests that examining only the direct effects of innovative culture and market information sharing may lead to incorrect conclusions as to how to manage the cultural infusion process: the market information-sharing process shows only a weak effect on job satisfaction and no effect on perceptions of organizational dynamism or firm performance. Organizational designs should ensure simultaneous consideration of both variables in the cultural transformation process to enhance employees’ derived benefits in the process of creating an innovative culture. We offer a new insight: a perceived market information-sharing process may strengthen the effect of an innovative culture on employees’ job satisfaction and organizational dynamism perception, while it may weaken the effect of an innovative culture on firm performance perception. This more nuanced view of market information sharing in the cultural infusion process presents new wisdom and calls for further studies in entrepreneurial innovation.

Introduction

A significant amount of the literature’s scholarly attention has been paid to the role of entrepreneurship and innovation (for reviews, see Hauser, Tellis, and Griffin, 2006; Shane and Ulrich, 2004). This research stream shows that a culture that embraces entrepreneurship and innovation provides an organization with a superior competitive advantage (Drucker, 2002; Morris and Sexton, 1996). Entrepreneurial organizations use innovative breakthroughs to stay competitive in the market (Schumpeter, 1934). A firm with an innovative culture places great value on seeking opportunities to experiment with new ideas or create new products to improve its performance (e.g., Ireland, Kuratko, and Morris, 2006). Substantial organizational literature posits that an organization’s culture influences the thoughts, feelings, and actions of its members (Pettigrew, 1979); helps individuals understand the organization’s focus; and provides them with norms for their behavior (De Brentani and Kleinschmidt, 2004; Deshpandé and Webster, 1989). However, current innovation literature provides a very limited understanding of the potential impacts of innovative culture on employees. It could be interesting and important to provide a theoretical framework and empirical evidence on such impacts as that may help firms understand how to use employee-level outcomes to create a firm-level competitive advantage.
The authors theoretically and empirically contribute to and extend the literature in several ways. First, they attempt to fill the significant research gap by providing the first theoretical framework and empirical evidence on how an innovative culture impacts employees. Researchers argue that an innovative culture places high importance on empowering people in ways that allow them to act creatively and fulfill their potential (Ireland et al., 2006). The results of this study may enable managers to understand the potential benefits of an innovative culture to its employees and the firm, which is important because such knowledge can help them focus their efforts and allocate suitable resources to build the firm’s competitive advantage.

Second, the authors contribute to the literature by exploring the underrepresented area of individual-level research on innovation and entrepreneurship. They delineate the distinct types of individual outcomes relevant to an innovative culture and advance the idea that a strong innovative culture may make a difference to the firm’s performance through its employees. A firm’s success depends largely on the efforts of its employees as they implement its strategic actions (Schneider, Brief, and Guzzo, 1996; Wright and McMahan, 1992). Thus, it is important to measure effects at the individual employee level before aggregating them to the firm level. However, extant research pays little attention to the relationship between innovative culture and individual employee-level responses (Dess, Lumpkin, and Covin, 1997; Shane and Ulrich, 2004). The authors attempt to fill this research gap by arguing that the impact of innovative culture can be observed in employees’ attitudes and perceptions—as measured by their job satisfaction—as well as their perceptions of organizational dynamism and of firm performance. The link between culture and individual-level outcomes underscores the importance of employees’ roles in organizations, which is highlighted in the work of Schneider et al. (1996).

Third, the authors aim to contribute to the limited understanding in the literature of the relationship between innovative culture and organizational structure design (such as interfacing with marketing systems) (Hauser et al., 2006). Cultural transformation is considered a difficult process (Schneider, Gunnarson, and Niles-Jolly, 1994). Culture is embedded in an organization’s people and routines (Pettigrew, 1979). Although it is widely acknowledged that cultural transformation can improve an organization’s effectiveness, an understanding of how an innovative culture can effectively permeate a firm and make a significant impact (on employees) remains limited (e.g., Ireland, Hitt, and Sirmon, 2003). Peters and Brush (1996) argue the importance of market information for entrepreneurship/innovation. Specifically, the authors posit that a perceived market information-sharing process can help employees make a sense of the value of an innovative culture. In this study, the authors define market information sharing as a process by which information from customers and competitors in the marketplace is distributed to and among employees across different departments or across firms, thereby leading to a common understanding (Sinkula, 1994). A perceived market information-sharing process enhances the impact of an innovative culture on employees’ attitudes and cognitive

**BIOGRAPHICAL SKETCHES**

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perceptions. The authors’ findings will advance the current level of understanding of how an appropriate marketing/innovation interface can best leverage employee-level outcomes.

Conceptual Framework and Hypotheses

Managing Culture as a Competitive Resource

The resource-based view (Barney, 1986) suggests that a firm’s culture can provide sustained competitive advantages if three conditions can be met: (1) the culture should be valuable, enabling the firm to do things that lead to economic value, (2) the culture should be rare or unique, and (3) the culture should be imperfectly imitable so that competing firms cannot easily change their cultures to include the desired characteristics. Barney proposes that culture can easily meet the first two conditions, although the third may be more difficult; Fiol (1991), however, argues that the third condition can also be met because the cultural transformation process is a cognitive one that represents the interface between underlying beliefs and behavior. It requires making sense of what employees do, which is difficult to imitate. Therefore, culture can create competitive advantage.

Based on these theoretical discussions, the authors argue that because innovative culture is a valuable, rare, and unique resource for both firms and employees in the firms, those who can perceive a highly innovative culture in their working environment may be more likely to experience job satisfaction, feel the dynamism in the firm, and expect positive firm performance. During the innovative culture’s transformation process, if employees also have a chance to be exposed to a high market information-sharing process, they may make better sense of what is going on in the culture and facilitate the development of a shared language, interpretation, and understanding toward innovation emphasis in the culture. Such sense-making and facilitation may enhance employees’ positive attitudes and perceptions generated from the innovative culture, which is difficult to imitate. Therefore, the authors argue that employees’ innovative culture perceptions can benefit them with three different types of outcome: high experienced job satisfaction, high perceived organizational dynamism, and positive firm performance expectation, which are the foundation of a firm’s performance and competitive advantage. Furthermore, a perceived market information-sharing process can best leverage the impact of innovative culture on employees. Figure 1 presents the conceptual model.

Innovative Culture

An organizational culture is a cohesive force that leads its members to share values, social ideals, and beliefs (Pettigrew, 1979). Through these values and ideals, the firm shapes how its employees evaluate various organizational events and also guides employees’ attitudes and behaviors (Deshpandé and Webster, 1989). Innovative culture is a firm’s orientation toward experimenting with new alternatives or approaches by exploring new resources, breaking through existing norms, and creating new products to improve its performance (e.g., Ireland et al., 2006). Such an orientation toward innovation may create a schema with which employees can manage uncertainty and reduce unfavorable consequences (Covin and Slevin, 1989; Peng, 2001; Zahra, Ireland, Gutierrez, and Hitt, 2000). Cultivating employees’ interest in and commitment to innovation may lead them to feel that the firm is full of vitality and is keeping pace with changes in the environment, which can effectively reduce any anxiety caused by environmental uncertainty (Lau, Tse, and Zhou, 2002). For example, Zhou, Gao, Yang, and Zhou (2005) find that employees in highly innovation-oriented firms experience high job satisfaction.

A firm’s cultural orientation influences employees’ assessments of organizational dynamism. We conceptualize organizational dynamism as the perceived changes in organizational actions (Sinkula, Baker, and Noordewier, 1997), such as the development of new products and innovation in production and product/service quality (Zhou, Tse, and Li, 2006) as well as in business relationships with other firms. It reflects the level of variability in and predictability of the firm’s strategic decisions or positions in the areas of technological innovation, product development, and product quality over time. In particular, an innovative culture encourages experimentation with new alternatives for better product
management and development (Ireland et al., 2006). Thus, in a firm with a highly innovative culture, greater possibilities exist for research on and implementation of new technologies, new procedures for product development, new organizational structures and routines, and so on, which make employees feel that their firms are full of vitality (Zhou et al., 2005); they are more likely to perceive high levels of organizational dynamism.

An innovative culture facilitates experimentation with new alternatives. Innovations in materials, technologies, services, resources, skills, procedures, and other practices increase the likelihood of positive employee perceptions of firm performance. Zhou et al. (2005) find that a high innovation orientation increases employees’ confidence in their firm’s future. Hence, an innovative culture can be expected to positively affect employees’ assessments of firm performance.

**H1: The higher the perception by employees of an innovative culture, the greater their perceptions of job satisfaction, organizational dynamism, and firm performance.**

**Market Information Sharing**

Information, or knowledge, is a critical source of competitive advantage (e.g., Grant, 1991; Raju and Roy, 2000). Market information sharing provides opportunities for employees to interact with one another and to share ideas, knowledge, and perceptions related to market situations and organizational marketing events. Through concurrent interactions, employees develop mutual trust, commitment, and a sense of obligation (Jaworski and Kohli, 1993; Siguaw, Brown, and Widing, 1994). When employees perceive that they are well informed by their colleagues and managers, they develop an in-group feeling (e.g., Tsai, 2001). Employees’ satisfaction with the amount of information they receive may help them develop a sense of belonging and identification with the values and objectives of the organization (Puttii, Aryee, and Phua, 1990). Some researchers argue that regardless of the means of market information sharing, increased coordination and communication among individuals and across departments provide employees with opportunities to interact more frequently, which enhances their job satisfaction (e.g., Jaworski and Kohli, 1993). Pincus (1986, p. 414) finds that “the perceptions of communication (including informational dimensions such as information flow) are positively and significantly associated with job satisfaction.” Thus, perceptions of increasing market information sharing can be argued to increase employees’ job satisfaction.

Furthermore, information-processing activities can accelerate organizational change (Day, 1994). When firms with an efficient market information-sharing process encourage interactions among employees and across departments, knowledge concerning organizational movement can be disseminated promptly, which enables employees to develop an enhanced understanding of changes in their customers, competitors, and the product market. Putti et al. (1990) find that the amount of information available to employees may enhance their commitment to the firm. Thus, a market information-sharing process perceived by employees should positively enhance their perceptions of organizational changes (Lau and Woodman, 1995).

Scholars argue that a rich information exchange can lead to greater cooperation and joint problem-solving activities between exchange parties, which may translate into concrete performance benefits (McEvily and Marcus, 2005). Information exchange in the market information-sharing process can help to create a common understanding of the work that needs to be done and reduce task conflicts (Moye and Langfred, 2004). In contrast, “the problem of information deficiency is considered to be an obstacle to the enhancement of a firm’s capabilities” (Wu, 2008, p. 131). Employees can be expected to have more favorable perceptions and beliefs concerning firm performance when they perceive high rather than low levels of market information-sharing activities in the firm.

**H2: The more the employees perceive their firm’s market information sharing, the greater are their perceptions of job satisfaction, organizational dynamism, and firm performance.**

In order to make a difference, the organizational culture must permeate every corner of the firm (De Bren-tani and Kleinschmidt, 2004). Employees’ sharing of their interpretations of events is what creates and transmits culture (Schneider et al., 1994). Although an innovative culture may be associated positively with job satisfaction, organizational dynamism, and firm performance, market information sharing can further strengthen these relationships because it enhances cultural diffusion.

**Interaction between Innovative Culture and Market Information Sharing**

In this study, a high level of market information sharing is proposed to enhance the positive effect of an innovative culture on employees’ job satisfaction. Coordination and communication among individuals and across depart-
ments are more efficient in a firm with high rather than low market information sharing. In a high market information-sharing situation, employees are more likely to experience the firm’s vitality and commitment to organizational movement, which in turn may help them reduce anxiety and increase job satisfaction. Thus, the link between an innovative culture and job satisfaction may be stronger in the high rather than low market information-sharing situation.

The market information-sharing process encourages open discussion and information exchange among individuals and across departments, which then helps employees perceive the high level of innovative organizational activity and experimentation. Market information sharing may thus strengthen the positive effect of an innovative culture on perceived organizational dynamism and foster the relationship between them.

Market information sharing may also enhance the positive effect of an innovative culture on perceived firm performance. Such an information exchange can help employees develop a better understanding of organizational objectives and activities. If an innovative culture can result in experimentation and innovation across the firm to solve problems and improve product/service performance, it is highly likely that employees will have stronger favorable perceptions of and belief in firm performance with a high rather than low market information-sharing process.

**H3**: The effects of an innovative culture on employees’ perceptions of job satisfaction, organizational dynamism, and firm performance are stronger for the employees with a market information-sharing experience than for those in firms without such experience.

**The Interplay of Attitude and Perception Schemata: Job Satisfaction, Organizational Dynamism, and Performance**

Job satisfaction is an individual-level factor that reflects the psychological state of an employee (Christen, Iyer, and Soberman, 2006) and the employee’s attitude toward his or her job. Job satisfaction helps employees maintain positive attitudes toward their work (Lau et al., 2002; Ouchi, 1979). From an organizational perspective, a positive psychological state can create a more positive perception of organizational dynamism and its associated behavioral outcomes (Kohli and Jaworski, 1990; Siguaw et al., 1994). Nevertheless, previous findings on the impact of job satisfaction on performance are inconclusive. Some researchers argue that job satisfaction leads to positive performance outcomes, but other researchers find no support for this assertion (e.g., Christen et al., 2006).

The difficulty in finding support for a job satisfaction–performance relationship may be due to an unspecified link between job satisfaction and performance outcomes. An employee’s assessment of organizational renewal, reflected in perceptions of organizational dynamism, could link job satisfaction and performance. Literature suggests that satisfied employees feel empowered and develop positive attitudes toward organizational dynamism, which may help them commit and devote themselves to improving firm performance (Fulmer, Gerhart, and Scott, 2003). In the absence of perceptions of organizational dynamism, employees feel less positive about their firms’ renewal or reforms. Even though employees are satisfied with their current positions, such positive psychological states may not translate into positive behavioral outcomes (i.e., firm performance). In the absence of perceived organizational dynamism, it is less likely that job satisfaction has a positive impact on perceived firm performance.

**H4**: Job satisfaction is positively related to (a) organizational dynamism and (b) firm performance.

**H5**: Organizational dynamism is positively associated with firm performance.

**H6**: Organizational dynamism mediates the effect of job satisfaction on firm performance.

**Methods**

**Sample and Data Collection**

China was selected as the research context for hypothesis testing. Because entrepreneurship is increasingly the driving force of growth in the Chinese economy (Peng, 2001), it is an appropriate setting. Firms in transitional economies have undergone significant changes in their competitive landscape, and many have switched their organizational cultures from production- to entrepreneurial-oriented models (e.g., Lau et al., 2002). Thus, this context provides a useful arena for understanding how firms in transitional economies build an innovative culture (Peng, 2001).

This study comprises a large-scale survey of employees in 180 firms in China. Nine cities were selected to represent various levels of economic development across China: high (Beijing, Shanghai, and Guangzhou—all major cities in the coastal region), medium (Nanjing, Wuhan, and Chengdu in the central region), and low (Xian, Changchun, and Guiyang in the northwestern
In each city, 20 firms were randomly selected from the manufacturing sector using the China Statistical Bureau’s National Industrial Statistical Data Bank.

The questionnaire was first developed in English; then independent translators translated it into Chinese and back-translated twice to ensure conceptual equivalence. The researchers and translators discussed any conflicts or ambiguities until agreement was reached. Five in-depth interviews were conducted with senior marketing managers, asking them to verify the relevance and completeness of the questionnaire items in order to ensure the content and face validity of the measures. Some questionnaire items were revised based on the managers’ feedback. A pilot study was then conducted with 20 middle managers, asking them to answer the questionnaire and comment on its design and wording. In the end, the questionnaire was finalized based on the pilot study.

A two-stage stratified random sampling approach was used to select our sample. An equal number of firm ownership types were first sampled—state-owned enterprises, joint ventures, collectives, and joint stock companies—in each city. To control for firm size and industry type, manufacturing firms with more than 100 employees were chosen. Within each selected firm, 22 employees were randomly chosen as potential respondents. The respondents included 2 senior executives (directors or managers of the human resource and marketing departments), 10 mid-level managers, and 10 frontline employees. When a potential respondent declined to participate, a replacement was picked randomly from the corresponding stratum. There were a total of 3960 respondents from 180 firms. The range of employee ranks enabled this study to model the change as a multilevel process, consistent with recent research on organizational reforms in transitional economies (e.g., Zhou et al., 2006).

The survey was conducted through face-to-face interviews by a large research firm. The administered-on-site method was used to overcome the difficulties of low response rate, which has been found to be effective and reliable in China (e.g., Li and Atuahene-Gima, 2002). All respondents received cash incentives and were informed of the confidentiality of their responses. In addition to the research firm’s fieldwork quality controls, an experienced research assistant was hired independently to telephone more than 60% of respondents to confirm their participation. No dishonesty was found.

Statistical Analysis of Multiple Levels

The data have a hierarchical structure, which is critical in determining the appropriate level of analysis (Ireland, Reutzel, and Webb, 2005). An acceptable level of heterogeneity depends on the theoretical context of the research effort (Jones and James, 1979). As the unique theoretical perspective here is individual-level perceptions and reactions toward innovative cultures, employees are the appropriate unit for the study. Because of the nested nature of the data, the variance structure is analyzed at both the individual and firm levels. Hierarchical linear models (HLMs) were chosen to separate individual-level effects from firm-level effects. This approach presumes an employee-level (i.e., individual) effect, a firm-level effect, and a combined effect.

\[
\text{Level 1 Employee Model: } Y_{ij} = \beta_{0i} + r_{ij} \\
\text{(i: employee, j: firm)}
\]

\[
\text{Level 2 Firm Model: } \beta_{0i} = \gamma_{00} + \mu_{0j}
\]

\[
\text{Combined Model: } Y_{ij} = \gamma_{00} + \mu_{0j} + r_{ij}
\]

Assumptions:

\[
\mu_{0j} \sim N(0, \sigma^2_{\mu})
\]

\[
\text{cov}(\tau_{00}, \sigma^2) = 0
\]

The preceding combined model provides information on the variability at each of the two (employee and firm) levels (Raudenbush and Bryk, 2002). The intraclass correlation coefficient is observed, as is the proportion of variance in the variables between the two levels. The HLM results are shown in Appendix A. The intrafirm correlation of coefficient shows that the proportion of firm-level variance in perceptions of market information sharing, innovative culture, job satisfaction, and organizational change are 12.27%, 19.01%, 8.16%, and 26.08%, respectively. In comparison, the proportions of the variance at the individual level are 87.73%, 80.99%, 91.84%, and 73.92%, which shows that individual-level responses explain the majority of the variance in the constructs. In this situation, because individual employees in a given firm experience phenomena differently, the variables in the data reflect individuals’ perceptions of organizational process and the psychological meanings of processes as each respondent interprets them. Thus, it is appropriate to analyze the data at the individual level.

Measures

With the exception of employees’ ages and education, all constructs are measured with multiple items on a 5-point
Likert scale where 1 = “strongly disagree” and 5 = “strongly agree.” The measures are briefly outlined in subsequent sections. The final item sets, response scales, and reliability coefficients are exhibited in Appendix B. Cronbach’s alpha for all constructs is greater than .8, which indicates good construct reliability.

**Firm performance perception (α = .85).** A new scale was created with two perceptual items to measure individual employees’ assessments of firm performance. Respondents were asked to assess their firm’s current performance and their expectations of performance in the following year using a 5-point bipolar scale with anchors of “very good” and “very bad.”

**Innovative culture perception (α = .89).** Perceived innovative culture was assessed using a 4-item scale capturing the firm’s search for new resources, its innovation, and its lack of reliance on bureaucratic rules and regulations. A similar scale is used by Zhou et al. (2005).

**Perceived market information sharing (α = .81).** Market information sharing was assessed with an established scale developed by Kohli, Jaworski, and Kumar (1993). Respondents were asked to assess the degree to which the statements describe practices in their firms on a 5-point Likert scale with anchors of “strongly disagree” and “strongly agree.”

**Job satisfaction perception (α = .81).** The Zhou, Li, Zhou, and Su (2008) scale was used to measure job satisfaction. The items addressed the extent to which respondents agree or disagree that they are satisfied with their supervisors, procedural fairness, promotion opportunities, and job accomplishments.

**Organizational dynamism perception (α = .80).** Based on Zhou et al. (2006), four items were adopted to measure respondents’ assessments with respect to their firms’ levels of change in new market developments, new production technologies, product and/or service quality, and business relationships with other firms.

To control for the possible impact of individual characteristics on job satisfaction, employee age and education level were included in our model (e.g., Gilsson and Durick, 1988; Kalleberg and Loscocco, 1983). Employee age is measured in years and education on an ordinal scale where primary school is 1, high school is 2, post-secondary is 3, and university and higher is 4.

**Common Method Variance**

Common method variance problems occur when independent and dependent measures are collected from the same individuals (Rousseau, 1978). Thus, a test was conducted to assess the potential of other common method bias among independent variables. According to Lindell and Whitney (2001), the partial correlation technique may be used to control for common method variance. In the questionnaire, respondents were asked whether family was the most important thing to them. This item, theoretically unrelated to other variables included in the study, served as a marker variable. All significant zero-order correlations remained significant after partial correlation adjustments were made. The pattern of estimated coefficients in the structural equation model (SEM) remained the same with the addition of the marker variable. Thus, common method variance bias is not a serious problem in this study (Lindell and Whitney, 2001).

**Construct Validity and Reliability**

Confirmatory factor analysis (CFA) was used to assess the measurement properties of the constructs. The estimation method for the CFA is maximum likelihood. As Appendix B shows, the fit indices indicate satisfactory outcomes: chi square/degrees of freedom ($\chi^2$/df) = 390.80/125 = 3.13, normed fit index (NFI) = .99, incremental fit index (IFI) = .99, comparative fit index (CFI) = .99, Tucker–Lewis index (TLI) = .99, and root mean square error of approximation (RMSEA) = .02 (see Table 3). Correlations among measurement errors were not allowed for. All factor loadings are significant at the .001 level.

Table 1 presents the correlation matrix and descriptive statistics. The square root of the average variance extracted (AVE) for each of the constructs is greater than the highest correlation between latent variables involving the focal construct (shown above the diagonal in Table 1). In addition, the AVE of each construct is much higher than its highest shared variance with other constructs. Both tests satisfy the criterion of discriminant validity suggested by Fornell and Larcker (1981). Finally, the coefficient alphas and the composite reliabilities of the constructs are all greater than .80, which indicates good construct reliability (Churchill, 1979).

**Analysis and Results**

The hypothesized relationships were tested in a single, full-information SEM. To control for any potential confounding effects, variables such as employee age and education level were included in the models. Results are shown in Table 2. Overall, fit indices show that the model fit well to the data ($\chi^2$/df = 573.71/164 = 3.50, CFI = .99,
The results lend support to H1. Innovative culture is positively related to job satisfaction ($b = .37$, $p < .001$), organizational dynamism ($b = .46$, $p < .001$), and firm performance ($b = .28$, $p < .001$). With respect to H2, as expected, market information sharing is positively associated with job satisfaction ($b = .05$, $p < .1$). However, market information sharing does not influence organizational dynamism ($b = .04$, $p > .1$) or firm performance ($b = -.01$, $p > .10$). H3, which posits the moderating role of market information sharing, is found to moderate the positive impact of innovative culture on job satisfaction ($b = .05$, $p < .05$) and organizational dynamism ($b = .07$, $p < .001$). Unexpectedly, the results indicate that market information sharing moderates the effect of innovative culture on firm performance in an opposite direction ($b = -.06$, $p < .01$). H4 proposes a positive influence of job satisfaction on organizational dynamism and firm performance. As shown in Table 2, job satisfaction is found to be positively associated with organizational dynamism of market information sharing, is found to moderate the positive impact of innovative culture on job satisfaction ($b = .05$, $p < .05$) and organizational dynamism ($b = .07$, $p < .001$). Unexpectedly, the results indicate that market information sharing moderates the effect of innovative culture on firm performance in an opposite direction ($b = -.06$, $p < .01$). H4 proposes a positive influence of job satisfaction on organizational dynamism and firm performance. As shown in Table 2, job satisfaction is found to be positively associated with organizational dynamism

Table 1. Descriptive Statistics and Correlations of the Study Constructs

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Firm performance perception</td>
<td>.86</td>
<td>.50</td>
<td>.30</td>
<td>.29</td>
<td>.54</td>
<td>—</td>
<td>—</td>
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<tr>
<td>2. Perceived innovative culture</td>
<td>.44*</td>
<td>.81</td>
<td>.60</td>
<td>.39</td>
<td>.55</td>
<td>—</td>
<td>—</td>
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<tr>
<td>3. Perceived market information sharing</td>
<td>.26*</td>
<td>.54*</td>
<td>.74</td>
<td>.26</td>
<td>.34</td>
<td>—</td>
<td>—</td>
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<tr>
<td>4. Job satisfaction</td>
<td>.25*</td>
<td>.34*</td>
<td>.20*</td>
<td>.73</td>
<td>.42</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. Organizational dynamism perception</td>
<td>.46*</td>
<td>.46*</td>
<td>.28*</td>
<td>.35*</td>
<td>.72</td>
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<tr>
<td>6. Age</td>
<td>-.14*</td>
<td>.00</td>
<td>.04**</td>
<td>.07*</td>
<td>.12*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7. Education</td>
<td>.03**</td>
<td>-.12*</td>
<td>-.04**</td>
<td>-.00</td>
<td>.03**</td>
<td>-.24*</td>
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<td>3.03</td>
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<tr>
<td>Standard deviation</td>
<td>.83</td>
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<td>.83</td>
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<tr>
<td>Composite reliability</td>
<td>.85</td>
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<td>.82</td>
<td>.82</td>
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<td>Average variance extracted</td>
<td>.74</td>
<td>.66</td>
<td>.54</td>
<td>.53</td>
<td>.52</td>
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<td>—</td>
</tr>
<tr>
<td>Highest shared variance</td>
<td>.29</td>
<td>.36</td>
<td>.36</td>
<td>.15</td>
<td>.30</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Notes: Square roots of the average variance extracted are shown on the diagonal. The upper right triangle elements are correlations among the latent variables (phi). The lower left triangle elements are correlations among composite measures (unweighted mean of the items for each construct). * Correlation is significant at $p < .01$ (two-tailed); ** Correlation is significant at $p < .05$ (two-tailed).

Table 2. Results from Structural Equation Model

<table>
<thead>
<tr>
<th>Simple effects</th>
<th>Coefficient</th>
<th>$t$-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative culture $\rightarrow$ Job satisfaction</td>
<td>.37****</td>
<td>14.71</td>
</tr>
<tr>
<td>Innovative culture $\rightarrow$ Organizational dynamism perception</td>
<td>.46****</td>
<td>19.18</td>
</tr>
<tr>
<td>Innovative culture $\rightarrow$ Firm performance perception</td>
<td>.28****</td>
<td>10.56</td>
</tr>
<tr>
<td>Market information sharing $\rightarrow$ Job satisfaction</td>
<td>.05*</td>
<td>1.90</td>
</tr>
<tr>
<td>Market information sharing $\rightarrow$ Organizational dynamism perception</td>
<td>.04</td>
<td>1.51</td>
</tr>
<tr>
<td>Market information sharing $\rightarrow$ Firm performance perception</td>
<td>-.01</td>
<td>-.55</td>
</tr>
<tr>
<td>Job satisfaction $\rightarrow$ Organizational dynamism perception</td>
<td>.25****</td>
<td>13.27</td>
</tr>
<tr>
<td>Job satisfaction $\rightarrow$ Firm performance perception</td>
<td>.04**</td>
<td>1.96</td>
</tr>
<tr>
<td>Organizational dynamism $\rightarrow$ Firm performance perception</td>
<td>.36****</td>
<td>15.87</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Moderating effects</th>
<th>Coefficient</th>
<th>$t$-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative culture $\times$ Market information sharing $\rightarrow$ Job satisfaction</td>
<td>.05**</td>
<td>2.32</td>
</tr>
<tr>
<td>Innovative culture $\times$ Marketing information sharing $\rightarrow$ Organizational dynamism perception</td>
<td>.07****</td>
<td>3.79</td>
</tr>
<tr>
<td>Innovative culture $\times$ Marketing information sharing $\rightarrow$ Firm performance perception</td>
<td>-.06****</td>
<td>-3.17</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Control variables</th>
<th>Coefficient</th>
<th>$t$-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee’s age $\rightarrow$ Job satisfaction</td>
<td>.07****</td>
<td>4.27</td>
</tr>
<tr>
<td>Employee’s age $\rightarrow$ Organizational dynamism perception</td>
<td>-.14****</td>
<td>-9.43</td>
</tr>
<tr>
<td>Employee’s age $\rightarrow$ Firm performance perception</td>
<td>-.09****</td>
<td>-5.88</td>
</tr>
<tr>
<td>Employee’s education $\rightarrow$ Job satisfaction</td>
<td>.06****</td>
<td>3.59</td>
</tr>
<tr>
<td>Employee’s education $\rightarrow$ Organizational dynamism perception</td>
<td>.04**</td>
<td>2.37</td>
</tr>
<tr>
<td>Employee’s education $\rightarrow$ Firm performance perception</td>
<td>.04***</td>
<td>2.63</td>
</tr>
</tbody>
</table>

Model fit: $\chi^2$(df) = 573.71 (164); NFI = .98; IFI = .99; TLI = .98; CFI = .99; RMSEA = .025. * $p < .1; ** p < .05; *** p < .01; **** p < .001.
To establish whether organizational dynamism mediates the relationship between job satisfaction and firm performance, the established procedures suggested by Aiken and West (1991) were followed to test the mediating effect. As displayed in Table 3, the drop rates of the regression coefficients of job satisfaction and organizational dynamism are .82 and .08, respectively. On the basis of these drop rates, organizational dynamism is a strong mediator of the direct effect of job satisfaction on firm performance, in support of H6.

Discussions

The goal of this study is to advance the innovation literature by examining how an innovative culture impacts employees and how a complementary resource may strengthen these impacts. The results deepen the extant understanding of ways in which bundling an innovative culture and the market information-sharing process together may positively influence employees’ attitudes and perceptions toward the firm’s innovation efforts, which then help sustain a firm’s competitive advantage.

Previous literature has not considered the notion that an innovative culture creates positive attitudes and perceptions for employees. These findings show, however, that a perceived innovative culture significantly and positively affects employees’ job satisfaction and perceptions of organizational dynamism and firm performance. This important finding suggests that an innovative culture also creates positive outcomes at the individual employee level, an interesting new empirical addition to current innovation literature.

Support is found for the direct, positive effect of a perceived market information-sharing process on job satisfaction, which is consistent with the findings of Jaworski and Kohli (1993). However, no support is found for the direct, positive effect of market information sharing on perceptions of organizational dynamism and firm performance. Although market information sharing increases communication with employees, it is not a direct driver of employees’ perceptions and cognitions. This interaction is more complex because the effect of market information sharing on perceptions of organizational dynamism, and firm performance is contingent on another factor—innovative culture.

Most importantly, three significant interactions were found between innovative culture and the market information-sharing process with respect to three individual outcome variables. Previous marketing literature has not considered that the level of market information sharing may change the strength of the relationship between innovative culture and employees’ attitudes and perceptions. Here it is shown that the positive effects of an innovative culture on employees’ reactions may be stronger to employees who perceive a high rather than a low level of market information-sharing process in the firm. To facilitate the interpretation of the results, three interactions were plotted, as shown in Figure 2.

The first two interaction effects of innovative culture and market information sharing on job satisfaction and perceived organizational dynamism are noteworthy. The findings suggest that high levels of a perceived market information-sharing process enhance the relationship between innovative culture and employees’ positive attitudes toward and perceptions of organizational dynamism. A reinforced excitement, or a sense of pride and empowerment, seems to exist that derives from enriched information and open discussions. These results offer new insights into the innovation and marketing literature by identifying the market information-sharing process as

<table>
<thead>
<tr>
<th></th>
<th>Hypothesis 6</th>
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<tbody>
<tr>
<td></td>
<td>Firm Performance Perception</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>.50*</td>
</tr>
<tr>
<td>Organizational dynamism perception</td>
<td>—</td>
</tr>
<tr>
<td>R²</td>
<td>.30</td>
</tr>
<tr>
<td>χ²/df</td>
<td>72.64/16</td>
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<tr>
<td>IFI</td>
<td>.99</td>
</tr>
<tr>
<td>TLI</td>
<td>.99</td>
</tr>
<tr>
<td>RMSEA</td>
<td>.03</td>
</tr>
</tbody>
</table>

Notes: dr = c; * p < .001.

dr, drop rate of a coefficient.
an important factor and a valuable complementary resource in the process of infusing an innovative culture. Although the interaction effect of an innovative culture and market information sharing on firm performance perception is significant, the sign is the opposite of initial expectations. The negative interaction suggests that the effect of an innovative culture on firm performance perception is stronger to employees who perceive a low rather than high level of market information-sharing process. This result indicates the more complex role of market information sharing in the process of infusing an innovative culture. Thus, further research is required to understand what is really going on with the impact of market information sharing on performance perception.

Figure 2. Interaction Effects of Perceived Innovative Culture and Perceived Market Information Sharing. (A) Job Satisfaction. (B) Organizational Dynamism Perception. (C) Firm Performance Perception
Regarding the relationship among the three individual outcome variables, job satisfaction is found to positively affect firm performance perception via organizational dynamism perception. Previous research has argued that job satisfaction may or may not affect firm performance (e.g., Christen et al., 2006). These findings of mediation enhance insights into this debate by identifying a critical link—organizational dynamism perception—between job satisfaction and performance perception. When satisfied employees become positively disposed to the level of organizational dynamism, improved performance follows. Thus, this research offers a new insight for the marketing literature: perceptions of organizational dynamism make employees’ job satisfaction a more valuable resource in firm performance perception.

**Theoretical Contributions**

Building on resource-based view theory (Barney, 1986; Fiol, 1991), this research examined how an innovative culture can be a building block for a firm’s competitive resource and advantage by creating superior employee-level outcomes. The research contributes to the innovation and business management literature in five main respects. First, the direct effect of an innovative culture demonstrates the importance that innovation theory should place on the role of employees’ attitudes, perceptions, and cognitions. Without this evidence, innovation theory is unlikely to unearth new insights into how innovative culture adds value to employee contributions with respect to firm performance and competitive advantage.

Second, three distinct types of individual-level outcomes stemming from an innovative culture were identified. The three outcome variables—job satisfaction, organizational dynamism perception, and firm performance perception—reflect employees’ psychological and cognitive reactions to the process of creating organizational innovation and innovative culture. These explicit individual outcome variables provide a more nuanced understanding of the benefits employees derive from an innovative culture.

More importantly, organizational dynamism perception is shown to convert job satisfaction into firm performance perception. The mediating role of organizational dynamism perception is considered, and previous research is extended by identifying the role of cognition in firm performance perception. The picture of the relationship between job satisfaction and perception of firm performance is thereby completed.

Fourth, the findings on this mediation effect suggest that job satisfaction is a necessary but not a sufficient condition for firm performance perception, of which perceptions of innovative force are the key drivers. This study shows that organizational dynamism perception plays an important role in firm performance perception. In other words, job satisfaction may not be intrinsically valuable and its value may be fully realized only through employees’ perceptions of organizational dynamism.

Fifth, the findings on the significant moderating role of a market information-sharing system contribute to innovation theory by emphasizing the importance of the innovation/marketing interface: bundling market information sharing and innovative culture together enhances employees’ positive attitudes and perceptions. This result also suggests that examining only the direct effects of innovative culture and market information sharing may lead to incorrect conclusions as to how to manage the cultural infusion process, because the market information-sharing process shows only a weak effect on job satisfaction and no effect on perceptions of organizational dynamism or firm performance. Organizational designs should ensure simultaneous consideration of both variables in the cultural transformation process to enhance employees’ derived benefits in the process of creating an innovative culture. A new insight is offered: a perceived market information-sharing process may strengthen the effect of an innovative culture on employees’ job satisfaction and organizational dynamism perception, while it may weaken the effect of an innovative culture on firm performance perception. This more nuanced view of market information sharing in the cultural infusion process presents new wisdom and calls for further studies in entrepreneurial innovation.

**Managerial Implications**

Practitioners have widely accepted the idea that the concept of an innovative culture is important and valuable to a firm’s competitive advantage (Barney, 1986; Fiol, 1991; Ireland et al., 2005). Empirical support is provided here to this acceptance along with several new insights for managers to have a deeper understanding of how to achieve competitive advantage at the individual employee level. First, the study calls on managers to consider the consequences for employees of an innovative culture. Practitioners fervently adhere to entrepreneurship and innovation tenets at the firm level. However, these findings indicate that they should consider that an innovative culture may also foster different employee-level benefits. If managers can communicate the value of innovation to employees and create a strong employee perception toward the firm’s innovative culture, such value and
culture may improve employee satisfaction, improve the perception of organizational dynamism, and engender great confidence in the firm. Thus, it is important for managers to make sure that employees are well attuned to the mission, goals, and systems of the company toward innovation.

Second, the three employee-level outcomes (job satisfaction, organizational dynamism perception, and firm performance perception) generated from a highly innovative culture may provide managers some new insights: the performance benefits of an innovative culture pivot on happy employees. Happy employees may be more likely to perceive the positive changes happening in an innovative culture, which may then lead employees to gain great confidence in the firm’s performance and future. Managers often measure these three different effects of innovative culture in order to gain a good understanding of how well it has been infused into their employees, which may then guide managers’ further decision making. Furthermore, the managers should know that job satisfaction does not directly lead to high firm performance perception. Instead, organizational dynamism perception helps to convert employee’s job satisfaction into a better firm performance perception. This means that managers who only pay attention to employees’ job satisfaction as an end in itself but neglect helping employees see positive changes generated by an innovative culture may not achieve their intended objectives. Only those employees who experience the positive changes will be likely to commit and devote themselves to make the innovation and improvement happen, which then leads them to higher expectations and confidence in the firm’s performance.

Third, these findings suggest that an innovative culture alone may not be able to produce a competitive advantage. Its successful permeation requires complementary resources such as market information sharing. Because of the difficulty involved in a new culture transformation, an effective information sharing mechanism is necessary to provide ongoing opportunities and a systematic procedure for individual employees to receive, experience, and understand the information regarding the firm’s innovation value and movement. Managers need to adopt a dual perspective of innovative culture and market information sharing to ensure an effective cultural transformation process for entrepreneurship. Managers can use the results reported herein to justify increased attention to market information sharing as a necessary step in creating an innovative culture. Failure to include such information is likely to decrease employees’ understanding of the innovative actions and lessen the potential positive psychological and cognitive influences on them. Managers should consider creating effective communication systems as an important routine in innovative activities.

Limitations and Directions for Further Research

Although this study provides some meaningful results for research and practice, it has several limitations that offer fertile avenues for further research. First, it measured short-term individual effects, but cultural transformation is a long-term activity. Longitudinal data can help disentangle causal relationships and long-term impacts. The measures of individual effects are subjective. Further research should collect objective data on employees’ productivity and link innovative culture with objective individual performance. Also, the processes involved in transformation require more direct, in-depth fieldwork, whereas this analysis is based on survey data. Further research might employ different data collection approaches such as ethnographic research to observe employees’ behaviors related to innovative culture. In addition, the context of the study, China, may limit the extent to which the results apply to firms in other countries and in other cultural contexts. Thus, further studies should replicate this study with other samples in other countries in order to create more confidence in the results. Only one moderator was examined (a market information-sharing system) in the relationship between perceptions of an innovative culture and employee-level outcomes. It would be interesting for future research to explore other potential moderators such as ownership structures and industry types.

Finally, consistent with theories concerning the institutionalization of market-based firms (Johnson, Smith, and Codling, 2000), these results suggest that firm performance is embedded in social and cognitive phenomena. Further research should investigate other individual-level outcome variables that go beyond job satisfaction and organizational dynamism perception such as organizational commitment and organizational climate perception. Further research should also describe and assess a more nuanced process of creating human capital. For example, what kind of work climate will culture shifts (e.g., from a production-oriented to an innovative culture) create for the employees—positive or negative, innovative or uncertain, supportive or resistant? Questions concerning the specific actions firms and their managers should take to create satisfied employees and to build positive perceptions of change were not addressed. The answers to these questions most likely lie in styles of decision making, implementation, and learning, and these
issues certainly warrant further research attention (Floyd and Lane, 2000).

References


Based on your current job, please carefully consider how satisfied you are with each of the following aspects. If you are very satisfied, please encircle 5; if you are very dissatisfied, please encircle 1; if you are indifferent toward that aspect, please encircle 3.

1. Firm performance perception (new scale; Cronbach’s α = .85)
The following questions are about your feelings toward the situation. If you think that it has been “very good,” please encircle 5; if you think that it has been “fair,” please encircle 3; if you think that it has been “very bad,” please encircle 1.

- At present, how well is your company doing? .83
- After one year, how well will your company doing? .89

2. Perceived innovative culture (Zhou et al., 2005; Cronbach’s α = .89)
Please read the following statements carefully and rate how would you agree with each statement based on what you know about your company. If you totally agree with the statement, please encircle 5; if you totally disagree with the statement, please encircle 1.

- Our company pays close attention to innovation. .85
- Our company strictly follows rules and regulations in its operation (R). .75
- Our company emphasizes the need for innovation in our strive for development. .83
- Our company pays close attention to the development and utilization of new resources. .82

3. Perceived market information sharing (Kohli et al., 1993; Cronbach’s α = .81)
Our marketing staff regularly discusses customers’ needs with other departments. .76
Customers’ suggestions and comments are regularly distributed to all departments. .81
We frequently hold cross-departmental meetings to discuss market trends. .79
In our company, if a certain department gets to know where our competitors are going, other departments will be notified promptly. .54

4. Job satisfaction (Zhou et al., 2008; Cronbach’s α = .81)
Based on your current job, please carefully consider how satisfied you are with each of the following aspects. If you are very satisfied, please encircle 5; if you are very dissatisfied, please encircle 1; if you are indifferent toward that aspect, please encircle 3.

- How valuable my boss thinks I am .79
- Opportunities for promotion .68
- The degree of fairness with which my boss treats me .82
- Sense of job accomplishment .60

Appendix B. *Continued*

5. Organizational dynamism perception (Zhou et al., 2006; Cronbach’s α = .80)

The following questions are about your feelings toward the changes in your company. Compared with the same period last year, if you think that there have been “major changes,” please encircle 5; if you think that there have been “some changes,” please encircle 3; if you think that there has been no change at all, please encircle 1.

<table>
<thead>
<tr>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing new products</td>
<td>.72</td>
</tr>
<tr>
<td>Technological innovation on production</td>
<td>.83</td>
</tr>
<tr>
<td>Product or service quality</td>
<td>.79</td>
</tr>
<tr>
<td>Cooperation with other companies</td>
<td>.51</td>
</tr>
</tbody>
</table>

Notes: Model fit is as follows: $\chi^2$/df = 390.80/125 = 3.13, NFI = .99, IFI = .99, TLI = .99, CFI = .99, and RMSEA = .02. All items are significant at $p < .001$. 