

Entertainment Spending and Capturing Value from Innovation in Chinese Firms

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ABSTRACT This study examines how Chinese firms capture value from their innovations. We propose that relationship-building through business entertainment may be helpful. In particular, winning and dining key stakeholders, including clients, suppliers, distributors, and government officials, can help firms gain access to complementary resources necessary for commercializing their innovations, facilitating capturing value from innovations. However, business entertainment is less effective in regions with relatively developed market-supporting institutions, including factor markets and legal institutions. The analysis results of archival data and data from a World Bank survey of Chinese firms support all the above arguments.

KEYWORDS China, entertainment spending, factor markets, innovation, legal institutions

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INTRODUCTION

Theory and practice suggest that innovation can generate economic value because innovation resources are usually valuable, rare, and difficult to imitate or substitute, contributing to a firm's sustained competitive advantages (Barney, 1991; Schumpeter, 1934). However, firms' ability to capture value from their innovation resources may vary (He & Wang, 2009; Qian, Wang, Geng, & Yu, 2017; Teece, 1986). One stream of research emphasizes that firms must maintain access to complementary resources, such as specialized manufacturing capability, access to distribution channels, service networks, and complementary technologies, if they are to capture maximum value from their innovations (King, Covin, & Hegarty, 2003; Teece, 1986, 2006). In developed economies, firms can access such resources by dealing with market transactions and contracting resource holders through acquisitions or in-house development. However, emerging economies tend to have institutional voids – weak or absent market-supporting institutions, such as factor markets

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for firms to obtain technology, labor, and capital, and legal institutions to support legal enforcement of contracts (Khanna & Palepu, 1997, 1999; Li & Qian, 2013). In turn, firms in emerging economies may have difficulty obtaining access to the complementary resources they need. Thus, filling institutional voids is crucial for firms seeking complementary resources to capture value from innovation.

The institution-based view suggests that when market-supporting institutions are not well-developed, firms tend to depend on social relationships and connections with different stakeholders to secure their access to resources (Marquis & Raynard, 2015; Meyer, Estrin, Bhaumik, & Peng, 2009; Peng, 2002; Peng & Luo, 2000; Song, Ai, & Li, 2015; Zhang, Marquis, & Qjao, 2016). These relationships are often personal connections of firm managers with other firms or government officials that can bring competitive corporate advantages (Luo & Chen, 1997; Park & Luo, 2001; Peng & Luo, 2000). Studies in China show that high-quality customer relationship management (Yan, Li, & Zhang, 2021), close relationships with suppliers (Jean, Sinkovics, & Hiebaum, 2014), and good relationships with distributors (Wang & Kess, 2006) facilitate knowledge acquisition and exchange, promoting product innovations. Moreover, political connections affect firms' research and development (R&D) investment (Zhou, Gao, & Zhao, 2016), innovation outputs (Chung, Yen, & Wang, 2020; Li, Xia, & Zajac, 2018; Zhang, Qi, Wang, Zhao, & Pawar, 2019; Zhou et al., 2016), and the efficiency of their innovation efforts (Song et al., 2015). However, how such relationships help firms capture value from their innovations has received only limited scholarly attention.

As firms typically need to invest before obtaining valuable resources (Barney, 1986), they may also need to cultivate relationships before exploiting them (Park & Luo, 2001). In the current study, we show how firms' investments in relationships influence the value they can capture from innovation. We focus on one of the most prevalent relationship-building practices in China: business entertainment. Spending on business entertainment generally takes in drinking, dining, and gift-giving. Accordingly, we assume that such entertainment practices build relationships between firms and their key business partners and government officials (Cai, Fang, & Xu, 2011; Fung, Xu, & Zhang, 2007; Zhang & Fung, 2006). The resulting relationships provide access to complementary resources, helping firms commercialize and capture value from their innovations. A CEO from a high-tech firm stated in the interview that 'the contract law cannot guarantee that suppliers supply materials with premium quality as promised in the contract. If not, then final innovating products lead to failure and thus bring great loss to us. Nothing but good relationships can guarantee a premium material supply offered in time as indicated in the contract'.

The institutional environment can vary among regions, especially in a vast economy, such as China. Some of them inevitably have weaker market-supporting institutions than others. The institution-based view of business predicts less reliance on social relationships and connections where market-supporting institutions are well-developed (Peng, 2003). Consequently, entertainment spending should be less effective in such regions (Khanna & Palepu, 1997; North, 1990) as firms

depend on the institutions for maintaining their access to complementary resources (Mair, Marti, & Ventresca, 2012). When factor markets that provide labor, capital, and technology are well-developed, firms can conveniently obtain and develop the complementary resources they need. Well-developed legal institutions, which guarantee contract enforcement, can also help ensure contract fulfillment. Accordingly, the positive moderating effect of entertainment spending on the relationship between innovation and firm performance should be weak in regions with well-developed factor markets and legal institutions.

We examine the above assumptions using data from China, where firms have devoted substantial effort to innovation in recent years (Ang, Cheng, & Wu, 2014; Song et al., 2015; Xie & Li, 2013, 2015). At the same time, relationship-building is rooted in the Chinese culture and remains a pervasive business practice (Chen, Chen, & Huang, 2013; Marquis & Raynard, 2015). Given that institutional development is unequal among regions in China (Fan & Wang, 2006; Yiu, Xu, & Wan, 2014), it is a good context for evaluating the utility of relationship-building. We use a dataset of Chinese publicly listed firms and a complementary dataset of responses to a World Bank survey to examine our hypotheses and test some intermediate mechanisms. The results empirically support our arguments.

Through this study, we aim to contribute to the conversation about how firms capture value from their innovations, particularly in emerging economies. Scholars generally discussed value appropriation in developed economies (e.g., Cohen, Nelson, & Walsh, 2000; Czarnitzki & Toole, 2011), paying limited attention to the emerging economy situation (Zhang, Li, Hitt, & Cui, 2007) and not fully considering the role of relationships. Our study responds to a call from prior research (James, Leiblein, & Lu, 2013) for further exploration of the value-appropriation mechanisms involved in exploiting innovations in different institutional contexts. We contribute to their effort by exploring how entertainment spending helps Chinese firms capture value from innovation.

In summary, existing studies examined how inter-department social relationships within a firm foster the success of R&D projects (Perks, Kahn, & Zhang, 2009) or how relationships with external stakeholders affect firms' R&D investment decisions, innovation performance, and innovation efficiency (Chung et al., 2020; Li et al., 2018; Song et al., 2015; Zhou et al., 2016). Using a new perspective, we determine how relationships help firms capture value from their innovations.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Institutional Difficulties Experienced by Chinese Firms in Capturing Value from Innovation

Chinese firms have substantially increased their R&D investment since China joined the World Trade Organization in 2001 (Huang & Li, 2019). They have become more

aware of the significance of innovation than before due to increased competition from foreign firms (Serger & Bredine, 2007). China's National Bureau of Statistics reported that the R&D spending of Chinese firms in 2014 was approximately nine times that in 2004 – the first time that the R&D spending of Chinese firms surpassed the mean of the Organization for Economic Co-operation and Development countries. Moreover, the number of Chinese patent applications through the Patent Cooperation Treaty burgeoned to the third-largest worldwide in 2014.

Innovation can generate competitive advantage and economic value for firms because innovation resources are valuable, rare, and difficult to imitate or substitute (Barney, 1991; Schumpeter, 1934). However, firms' lack of access to complementary resources often prohibits them from capturing value from innovations (King et al., 2003; Teece, 1986, 2006). The problem of access to complementary resources is especially salient in China due to the economy's institutional voids and its weak institutions (Acemoglu & Johnson, 2005; Khanna & Palepu, 1999; Li, 2013; Li & Xie, 2011). For example, innovating firms often face unfair evaluations from financial institutions, constricting their access to credit and impeding their late-stage commercialization efforts, such as in-house manufacturing and the acquisition of requisite complementary resources (Maine & Garnsey, 2006; Meyer et al., 2009). The weak contract enforcement in China also leads to ineffective contracts and high transaction costs for innovating firms (Li & Xie, 2016; Peng, Lee, & Wang, 2005; Taussig & Delios, 2015; Zhou, Poppo, & Yang, 2008). In the current study, the CEO of a high-tech firm confirmed in the interview that cheating on contracts is quite common. Thus, if a firm wants to internalize the complementary resources it needs (e.g., by acquiring a firm), such transactions need legal protection to deal with any conflicts and disputes.

Consequently, Chinese firms may fail to capture value from their innovations, and the relationship between their innovation and performance may not be positive. Thus, they should overcome the problem of weak supporting institutions to capture value from innovation. Entertainment may provide a solution.

Entertainment and *Guanxi*

Entertainment activities, such as wining and dining, remain prevalent relationship-building practices in China (Cai et al., 2011; Marquis & Raynard, 2015). Li (2003: 88) has explained that '[to] be invited to sing karaoke [sic] is a sign of acceptance; it means that the Chinese are willing to reveal more of themselves to you, and it is an excellent way to establish close relations'. Mutual disclosure facilitates personal bonding and perhaps even emotional attachment (Li, 2003; Nguyen & Rose, 2009; Nguyen, Weinstein, & Meyer, 2005). Good personal relationships, *guanxi*, are gradually formed by investing in entertainment activities (Collins, 2014). This tradition is a typical dynamic in emerging economies (Cai et al., 2011; Ferrary, 2003; Nguyen & Rose, 2009).

Vietnamese firm managers develop inter-firm relationships with their partners by putting great effort into personal interactions, such as attending partners'

family events, drinking, and information sharing (Nguyen et al., 2005; Nguyen & Rose, 2009). In China, business entertainment predominates (Cai et al., 2011; Fung et al., 2007; Zhang & Fung, 2006). For example, Cai et al. (2011) estimated that a firm's investment in entertainment could be as high as 3% of its profits. Tung and Worm (1997) asked Chinese managers to rank the importance of relationship-building techniques. The responses were inviting executives on an all-expense-paid trip, entertaining executives by throwing parties, and giving modest gifts. The general manager of a high-technology firm in Shanghai observed that 'in China, dining is a common method to make friends, understand business partners, and establish interpersonal relationships. Dinner banquets also allow for effective communication, as well as the exchange of feelings and ideas. Through dining together, two people can close the distance between themselves by understanding each other's personality, preferences, business background, needs, strengths, reputation, and other important [facts] pertinent to business. The Chinese people's tradition of emotional exchanges over a meal will continue to be preserved and maintained'. The general manager of an arts and crafts firm maintained that '[in accordance with] the ancient folk customs of the Chinese people, only close relatives and friends would sit together at the table to share a delicious meal. [In] business, [when] one is dining with clients, suppliers, or local officials, it is natural to want to build and strengthen relationships. When two people [can] act as friends, treating each other with honesty and respect, it is much easier to achieve effective connections and communications. As the saying goes, "if two people cannot even eat a single meal together, how will they be able to converse as like-minded fellows?" Thus, the traditional significance of the word "eat" in Chinese often indicates relationships between several people. In China, if two parties must remain unrelated, even over a dinner table, it will be impossible to develop a deeper relationship'.^[1]

Thus, the personal relationship between a firm's managers and key individuals in other organizations, such as firms and governments, *guanxi*, formed through business entertainment can affect organizational outcomes. In particular, *guanxi* as a source of social capital is a strategic tool that helps organizations build trust, acquire useful resources, and generally facilitate business operations (Hoskisson, Eden, Lau, & Wright, 2000; Park & Luo, 2001; Peng & Heath, 1996; Xin & Pearce, 1996). Peng and Luo (2000) categorized *guanxi* into two domains: personal ties between a firm's managers and those of business partner firms, such as suppliers, buyers, and competitors, and personal ties between a firm's managers and government officials, often in relevant regulatory agencies. In the following section, we illustrate how *guanxi* can help firms capture value from innovations.

***Guanxi* and Capturing Value from Innovation**

Innovation can contribute substantially to firm performance, but such a contribution usually depends on access to the complementary resources needed to

commercialize the innovations (Teece, 1986, 2006; Wang & Chen, 2010; Wang, He, & Mahoney, 2009; Zhang et al., 2007). When effective economic and legal institutions are inadequate, which is common in China, good relationships with external stakeholders can be crucial in exploiting a firm's innovations for better performance. Good relationships with business partners can best ensure access to necessary complementary resources to some extent. For example, manufacturing partners can provide the required manufacturing technology, and distributors can pave the way into target markets. Strong relationships with them can reduce the risk of being extorted or cheated by such partners and the cost of drafting, negotiating, and monitoring contracts with them (Adler, 2001; Dyer & Singh, 1998; Reuer & Arino, 2007).

Strong relationships with business partners can sometimes yield timely access to accurate and useful market information generally unavailable (Heide & John, 1992). Such access can improve forecasting and timing (e.g., of a new product launch). Timely and reliable information can guide firms in selecting the best target markets and improving product quality (Poppo & Zenger, 2002). Overall, good relationships facilitate resource and knowledge inflows (Rindfleisch & Moorman, 2001; Saxenian, 1996; Uzzi, 1997), leading to efficient commercialization of innovations and high innovation profitability.

In China, government relationships are particularly vital. Government relationships can provide a firm with protection and access to valuable resources (Peng & Luo, 2000; Xin & Pearce, 1996; Zhang et al., 2016). For example, firms sometimes need government approval before internalizing complementary resources (Yan & Chang, 2018). Financing can also be crucial for commercializing innovations as firms need to invest in complementary resources, such as manufacturing capability and distribution channels. Likewise, good government relationships can be useful, as evident in China. Specifically, bank loans can be supported by a government guarantee or mandated by government fiat (Allen, Qian, & Qian, 2005; Haveman, Jia, Shi, & Wang, 2017; Zheng, Singh, & Chung, 2015). Although the law cannot fully protect firms in contracting, friendly government agencies may serve as powerful mediators to enforce formal contracts (Taussig & Delios, 2015). When partners have disputes, firms often turn to their government contacts to resolve the conflict in their favor as costly lawsuits are best avoided in emerging economies. Therefore, good relationships with the government are essential for innovative firms to capture value from innovation.

All of these effects make entertainment spending necessary for innovative firms. Following Andersson, Cuervo-Cazurra, and Nielsen's (2014) suggestions on delineating interaction effects, we try to rule out the alternative argument that innovation may moderate the relationship between entertainment spending and firm performance. Entertainment spending builds social capital and may enhance access to resources and/or information, fostering improved performance (Luo & Chen, 1997; Park & Luo, 2001). Yet, arguing that innovative firms benefit more from such social capital than less innovative ones is unreasonable. Firms can

reduce their costs independently, improving their performance by exploiting resources and information obtained from social capital without innovating.

Following prior literature on value capture or appropriation from innovation (Qian et al., 2017; Wang & Chen, 2010), we use the increase in firm performance to reflect its value captured from innovation. Thus, we propose the following hypothesis:

Hypothesis 1: Business entertainment spending positively moderates the relationship between innovation and economic performance, which becomes stronger at higher levels of entertainment spending.

Influence of Market-Supporting Institutions

The institution-based view of business suggests that entertainment spending will be effective depending on developing market-supporting institutions and existing institutional voids (Marquis & Raynard, 2015; Meyer et al., 2009; Peng, 2002, 2003). Such voids and weaknesses are common in emerging markets. The term ‘market-supporting institutions’ takes a wide range of elements, such as the labor market, the capital market, product markets, and legal institutions (Khanna & Palepu, 1997, 1999). However, even in an emerging market, institutional development varies across regions. In China, institutions in Shanghai and Guangdong Province are well-developed compared with those in the west (Fan & Wang, 2006; Li & Qian, 2013). Strong market-supporting institutions ‘support the voluntary exchange underpinning an effective market mechanism’, whereas weak ones ‘fail to ensure effective markets or even undermine markets’ (Meyer et al., 2009: 63). Such regional differences affect the extent to which firms must rely on relationships to obtain access to complementary resources helpful for capturing value from their innovations.

First, we tackle the development of regional market-supporting institutions, including factor markets (e.g., financial market) and legal institutions (e.g., legal enforcement of contract). Then, we propose arguments on how they manage the effects of entertainment spending on the relationship between innovation and firm performance as follows.

Development of Factor Markets

In regions where factor markets are well-developed, firms can conveniently access the complementary resources they need. When the market for technology resources is well-developed, firms’ transaction costs caused by information asymmetry regarding a technology’s value are low. Thus, they can conveniently obtain such complementary technology resources (Lichtenthaler, 2013; Nell & Lichtenthaler, 2011). When the financial market is well-developed and places fewer constraints on external financing, firms can reliably obtain any financing

they need to acquire or build complementary resources, such as distribution and service networks (Rahaman, 2011). When the equity market is well-developed, innovative firms with intangible assets of little value as collateral can still have equity financing with little collateral required (Hsu, Tian, & Xu, 2014).

When factor markets are poorly developed, firms may have difficulty accessing complementary resources through conventional channels. When the market for complementary technology is underdeveloped, information asymmetry tends to increase a firm's transaction costs in battling it. Similarly, in regions where the financial markets are less developed, firms may face unfair evaluations. In such circumstances, they may instead rely on business partners or a government agency to help them obtain loans (Peng, 2002; Peng & Luo, 2000). On the basis of the above discussion, we propose that the effects of relationships on the innovation–performance relationship may be weakened as a region's factor markets develop.

Hypothesis 2: The positive moderating effect of entertainment spending on the relationship between innovation and firm performance will be weaker in regions where factor markets are well developed.

Development of Legal Institutions

Legal institutions establish an order to which business activities in an economy must conform (North, 1990). They set constraints designed to avoid dysfunctional competition and other harmful practices (Acemoglu & Johnson, 2005; Acemoglu, Johnson, & Robinson, 2005; Khanna & Palepu, 1997; Liu & Li, 2019). In China, legal institutions are unevenly distributed across regions (Fan & Wang, 2006; Yiu et al., 2014). In regions where legal institutions are well-developed, such institutions can protect the contracts between innovative firms and business partners (Beim & Calomiris, 2003; Peng & Heath, 1996; Williamson, 1992). Thus, innovative firms can count on receiving the complementary technology and services as they expect. When innovative firms establish a contractual relationship with their partners in their value chains, a well-developed legal enforcement system can guarantee contract fulfillment. In such a situation, good relationships with government officials are less necessary for resolving contractual disputes.

Well-developed legal institutions should provide comprehensive intellectual property rights (IPR) protection for innovative firms (Guo, Zou, Zhang, Bo, & Li, 2020; Yan et al., 2021; Zhao, 2006). Firms do not rely on relationships with government functionaries to protect them if their IPRs are violated. Well-developed IPR protection can also facilitate technology transactions (Arora, 1995; Arora & Gambardella, 2010). Through them, firms can conveniently obtain complementary technology resources and capture value from innovation. Thus, well-developed legal institutions should weaken the need for relationships to ensure access to complementary resources (Marquis & Raynard, 2015; Peng & Luo,

2000; Song et al., 2015). In turn, the effects of entertainment spending on the innovation–performance relationship will be weakened by developing legal institutions.

In regions where legal institutions are poorly developed, relationships still have ample room to play a role. Therefore, they remain crucial for firms to build relationships with stakeholders through business entertainment. For such cases in which enforcing the contract between a firm and its distributors is difficult through the legal system, good government relations become extremely helpful. In turn, the effects of entertainment spending on the innovation–performance relationship can be strong.

Hypothesis 3: The positive moderating effect of entertainment spending on the relationship between innovation and firm performance will be weaker in regions with well-developed legal institutions.

METHODS

Sample and Data

We tested our hypotheses using data covering all manufacturing firms listed publicly on China’s stock exchanges from 2009 to 2017 (cf. Zhou et al., 2016). We lagged the independent variables by one year in the analyses. Thus, the values of the independent variables were from 2008 to 2016. We selected and analyzed this period because data describing vital moderators, such as the development of factor markets and legal institutions, were only available for that period.^[2] The firms considered were all those in the following two-digit sub-sectors of the standard industrial classification system of China’s Securities Regulatory Commission: textiles and garments, food and beverages, wood and furniture, paper and printing, metals and metalloids, petrochemicals and plastics, electronics, machinery, pharmaceuticals, and others.

We obtained patenting and financial information from the China Stock Market and Accounting Research (CSMAR) database. The CSMAR is a commonly used database in many empirical studies of Chinese businesses (e.g., Li & Qian, 2013; Xia, Ma, Lu, & Yiu, 2014). We collected information on the development of factor market and legal institutions by region from publications of the National Economic Research Institute (NERI; Wang, Fan, & Hu, 2018). Chinese publicly listed firms disclose business entertainment and travel expenses in their annual reports (Cai et al., 2011; Xu, Zhou, & Du, 2019). They usually disclose this information as part of ‘Other cash flows related to operating activities’ but sometimes detailed it under ‘Management expenses’. In the current study, we compared the two sections, if available, for consistency and omitted conflicting reports.^[3] After combining these data and removing records with missing values, we obtained an unbalanced panel of 1,748 firms with 9,214 firm-year observations.^[4]

Dependent Variables

The dependent variable was *return on assets* (ROA) computed as net profit divided by total assets at the end of the fiscal year (Wang, Choi, & Li, 2008).

Independent Variables

The primary independent predictor was *innovation* quantified as the natural logarithm of the total number of valid invention patents owned by a firm plus one. We assumed successful patenting to capture each firm's innovation effort productivity irrespective of commercialization (Ahuja & Katila, 2001; Zhou et al., 2016). Given that our focus was value capture from innovation, valid patents owned by a firm confer potentially valuable property rights, so we took their number as a close proxy (Kamien & Schwartz, 1982; Scherer & Ross, 1990).

Moderating Variables

The *entertainment spending* variable included entertainment and travel expenses scaled by total firm assets. It was the principal moderating variable. We assumed the reported spending to include networking expenditures related to clients and suppliers and any managerial excesses and bribery (Cai et al., 2011; Xu et al., 2019). Following the lead of Xu et al. (2019), we partialled out irrelevant components, such as managerial perks, bribery, and employee expenditure, by regressing each firm's entertainment spending against an indicator of regional corruption, the number of a firm's employees, and the total compensation of its three highest-paid managers. We retained the residual as the moderator for hypothesis testing.^[5] Finally, we quantified regional corruption as the number of individuals involved in prosecuted cases of corruption, bribe-taking, or breach of duty as a percentage of the region's total population.

We quantified the *development of factor markets* variable using the average of three NERI regional indices: marketization of the financial industry, technical achievements, and the supply of human capital. The NERI publishes such indices for 31 provinces, municipalities, and autonomous regions annually. The financial industry index's marketization reflects the level of market competition in the financial industry and the extent to which credit is allocated on the basis of regional market principles. The supply of human capital index refers to technicians, managers, and skilled labor in a region. The technical achievements index's marketization is based on the value of regional technology transactions (Wang et al., 2018). The details can be found in Supplementary Appendix I.

Finally, we quantified the *development of legal institutions* variable using the average of two NERI legal protection indices: legal protection for market transactions and protection of IPR in a region (Wang et al., 2018). The NERI also publishes them annually. The higher the index, the more protection the legal system

provides to contract enforcement and IPR. The details can be found in Supplementary Appendix II.

Control Variables

Governance structure can control the agency behavior of top managers to some extent. In turn, it can influence firm performance (Eisenhardt, 1989; Fama, 1980; Jensen & Meckling, 1976). Accordingly, we included *CEO duality* in the analyses, represented by a dummy variable equal to one when a firm's CEO also chaired the board; otherwise, it was zero (Dowell, Shackell, & Stuart, 2011; Finkelstein, 1992). We calculated the *blockholder ownership* variable as the percentage of shares held by shareholders who each owned more than 5% of a company's shares (Thomsen, Pedersen, & Kvist, 2006).

We quantified *firm size* as the natural logarithm of a firm's total assets at the end of its fiscal year, given that size might affect firm performance through economies of scale or scope (Roberts & Dowling, 2002). *Firm age* was the natural logarithm of the number of years since a firm's birth. Older firms tend to have greater inertia, affecting their performance (Barnett & Salomon, 2006). We computed the *financial leverage* variable as total debt as a fraction of total assets (Barnett & Salomon, 2006; Seifert, Morris, & Bartkus, 2004). We quantified the *financial slack* variable as a firm's total cash flow from operations, investments, and financing activities divided by its total assets (Seifert et al., 2004). Slack resources also influence firm performance (Tan & Peng, 2003; Voss, Sirdeshmukh, & Voss, 2008). We defined the *R&D intensity* variable as a firm's R&D spending divided by its total sales in a particular year. This variable reflects a firm's investment in innovation, which they hope will eventually affect the firm value (Qian et al., 2017). We quantified the *internationalization* variable as a firm's foreign sales divided by its total sales in a particular year (Denis, Denis, & Yost, 2002). International sales help a firm pursue and maintain sustainable competitive advantages, affecting firm performance (Hitt, Bierman, Uhlenbruck, & Shimizu, 2006; Nachum & Zaheer, 2005). We set *state ownership* as a dummy variable, equal to one if a firm described itself in the database as state-owned; otherwise, it was zero. State-owned firms often have more resources than private firms in China (Xia et al., 2014), influencing their performance. Finally, we included year industry indicator variables^[6] in all of the regression models.

Estimation Method

Given that a firm's innovation may be affected by factors affecting its performance, we evaluated a two-stage least squares fixed effects estimator with instrument variables to handle the endogeneity issue (Mayer, Stadler, & Hautz, 2015; Wooldridge, 2001). The first-stage model was to handle the endogeneity related to innovation and its interaction terms, and the second-stage model was for hypothesis testing.

We employed the `xtivreg2` command in the Stata software suite version 15.0 to execute the two-stage regression (Mayer et al., 2015; Schaffer, 2015).

We set *regional innovation* as an instrumental variable in the first-stage regressions predicting the number of valid patents owned by a firm because regional innovation practices might sometimes constitute an institutional context affecting a firm's innovation efforts (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Xie & Li, 2018). We evaluated the number of valid patents owned by the publicly listed firms in a province before a fiscal year separately for each Chinese province where a firm had its headquarters. Previous research on the relationship between innovation and performance in China also employed regional innovation as an instrument for firm innovation (Qian et al., 2017).

We also instrumented several endogenous interaction terms associated with firm innovation in the models. One was an interaction between firm innovation and entertainment spending. The interactions between firm innovation and factor market development and legal institution development were another two. We also created terms referring to interaction among firm innovation, entertainment spending, and factor market development and legal institution development. We instrumented them by the interaction between regional innovation and entertainment spending, between regional innovation and factor market development, and between regional innovation and legal institution development. The interaction among regional innovation, entertainment spending, and factor market development was another predictor, as was the interactions among regional innovation, entertainment spending, and legal institution development (Wooldridge, 2001). Finally, we included other control variables in both stages.

RESULTS

Table 1 presents a correlation matrix along with the means and the standard deviations of all variables. Firm innovation had a mean of 1.55 and a standard deviation of 1.41, and the residual value of entertainment spending had a mean of 0 and a standard deviation of 0.01. Although some significant correlations existed among the variables, all of the variance inflation factors were less than 2.00, and the mean was 1.34, suggesting that multicollinearity was not a serious issue (O'Brien, 2007).

Table 2 reports some key coefficients of the first-stage regressions. M1 includes all of the predictors of firm innovation. The key variables were mean-centered before generating interaction terms as recommended by Aiken and West (1991). The coefficient of the instrument, the regional innovation term, was positive and significant (coefficient = 0.162, $p = 0.000$, standard error [s.e.] = 0.028). Holding the other variables constant, a one standard deviation increase in regional innovation predicts a 0.946 increase in firm innovation indicated by the number of valid invention patents owned by a firm. M2 includes all the predictors and the interaction between firm innovation and entertainment spending. The coefficient of the instrument, the term representing an interaction between regional

Table 1. Summary statistics and correlations describing the variables

| | | <i>Mean</i> | <i>SD</i> | <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>5</i> | <i>6</i> | <i>7</i> | <i>8</i> | <i>9</i> | <i>10</i> | <i>11</i> | <i>12</i> | <i>13</i> | <i>14</i> |
|----|-----------------------------------|-------------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| 1 | ROA | 0.036 | 0.066 | | | | | | | | | | | | | | |
| 2 | Entertainment spending | 0.000 | 0.006 | 0.11 | | | | | | | | | | | | | |
| 3 | Firm innovation | 1.545 | 1.405 | 0.06 | 0.03 | | | | | | | | | | | | |
| 4 | Development of factor markets | 5.909 | 2.403 | 0.06 | -0.08 | 0.24 | | | | | | | | | | | |
| 5 | Development of legal institutions | 9.382 | 5.987 | 0.09 | -0.05 | 0.23 | 0.65 | | | | | | | | | | |
| 6 | Regional innovation | 2.490 | 1.058 | 0.05 | -0.10 | 0.35 | 0.57 | 0.43 | | | | | | | | | |
| 7 | Firm size | 21.680 | 1.189 | 0.00 | -0.18 | 0.34 | 0.06 | 0.00 | 0.09 | | | | | | | | |
| 8 | Firm age | 2.656 | 0.390 | -0.08 | -0.03 | 0.09 | 0.07 | 0.01 | 0.18 | 0.16 | | | | | | | |
| 9 | Financial leverage | 0.424 | 0.233 | -0.29 | -0.01 | -0.05 | -0.15 | -0.20 | -0.16 | 0.29 | 0.20 | | | | | | |
| 10 | Financial slack | 0.023 | 0.129 | 0.12 | 0.00 | -0.06 | -0.02 | -0.02 | -0.03 | -0.05 | -0.09 | -0.12 | | | | | |
| 11 | CEO duality | 0.273 | 0.445 | 0.05 | 0.05 | 0.03 | 0.08 | 0.15 | 0.13 | -0.15 | -0.09 | -0.14 | 0.05 | | | | |
| 12 | Blockholder ownership | 0.473 | 0.166 | 0.16 | -0.04 | -0.01 | 0.08 | 0.11 | 0.03 | 0.09 | -0.27 | -0.20 | 0.08 | 0.03 | | | |
| 13 | Internationalization | 0.155 | 0.221 | 0.00 | -0.13 | 0.09 | 0.08 | 0.18 | 0.11 | -0.04 | -0.07 | -0.08 | 0.00 | 0.09 | 0.03 | | |
| 14 | R&D intensity | 0.031 | 0.032 | 0.08 | 0.05 | 0.31 | 0.29 | 0.24 | 0.33 | -0.12 | -0.11 | -0.36 | 0.01 | 0.15 | 0.07 | 0.08 | |
| 15 | State ownership | 0.362 | 0.481 | -0.14 | -0.04 | -0.01 | -0.11 | -0.29 | -0.18 | 0.30 | 0.19 | 0.32 | -0.05 | -0.28 | -0.07 | -0.13 | -0.22 |

Notes: *N*= 9,214. Correlations with an absolute value of 0.03 or greater are significant at the $p \leq 0.05$ confidence level.

ROA, return on assets; SD, standard deviation.

Table 2. Key coefficients of first-stage firm fixed effects models predicting firm innovation and its interaction terms

| | <i>M1</i> | <i>M2</i> | <i>M3</i> | <i>M4</i> |
|--|---|---|---|---|
| | <i>Firm innovation</i> | <i>Firm innovation * Entertainment spending</i> | <i>Firm innovation * Entertainment spending * Development of factor markets</i> | <i>Firm innovation * Entertainment spending * Development of legal institutions</i> |
| Regional innovation | 0.162*** (0.028) [<i>p</i> = 0.000] | −0.001 [†] (0.000) | 0.001 (0.001) | 0.002 (0.002) |
| Regional innovation * Entertainment spending | | 0.633*** (0.015) [<i>p</i> = 0.000] | −0.118* (0.051) | 0.265* (0.117) |
| Regional innovation * Entertainment spending * Development of factor markets | | | 0.855*** (0.016) [<i>p</i> = 0.000] | |
| Regional innovation * Entertainment spending * Development of legal institutions | | | | 0.813*** (0.019) [<i>p</i> = 0.000] |
| Regional innovation * Development of factor markets | | | 0.001*** (0.000) | |
| Entertainment spending * Development of factor markets | | | −1.399*** (0.049) | |
| Regional innovation * Development of legal institutions | | | | 0.000*** (0.000) |
| Entertainment spending * Development of legal institutions | | | | −1.448*** (0.051) |
| Firm size | 0.065*** (0.015) | 0.001*** (0.000) | −0.001 [†] (0.000) | −0.002 (0.001) |
| Firm age | 1.435*** (0.105) | −0.001 (0.001) | −0.000 (0.003) | 0.015 [†] (0.008) |
| Financial leverage | 0.369*** (0.047) | 0.001 (0.001) | −0.001 (0.001) | −0.002 (0.004) |
| Financial slack | −0.158*** (0.046) | 0.000 (0.001) | 0.002 (0.001) | −0.001 (0.004) |
| CEO duality | −0.044* (0.020) | −0.001* (0.000) | −0.000 (0.001) | 0.002 (0.002) |
| Blockholder ownership | −0.442*** (0.077) | 0.002* (0.001) | −0.004 [†] (0.002) | −0.012 [†] (0.006) |
| Internationalization | 0.301*** (0.061) | −0.001 (0.001) | −0.002 (0.002) | −0.003 (0.005) |
| R&D intensity | 0.281 (0.323) | −0.001 (0.004) | 0.000 (0.010) | 0.060* (0.026) |
| State ownership | 0.002 (0.038) | 0.000 (0.000) | −0.002 (0.001) | −0.007* (0.003) |

Table 2. Continued

| | <i>M1</i> <i>Firm innovation</i> | <i>M2</i> <i>Firm innovation *</i> <i>Entertainment spending</i> | <i>M3</i> <i>Firm innovation *</i> <i>Entertainment spending *</i> <i>Development of factor markets</i> | <i>M4</i> <i>Firm innovation *</i> <i>Entertainment spending *</i> <i>Development of legal institutions</i> |
|-----------------------------------|-------------------------------------|--|--|--|
| Development of factor markets | 0.019** (0.007) | 0.000 (0.000) | -0.001** (0.000) | 0.000 (0.001) |
| Development of legal institutions | 0.007* (0.003) | 0.000 [†] (0.000) | -0.000 (0.000) | -0.000 (0.000) |
| Entertainment spending | 1.056 (1.584) | -1.337*** (0.041) | 0.281 [†] (0.147) | -0.823* (0.337) |
| Year dummies | Yes | Yes | Yes | Yes |
| Industry dummies | Yes | Yes | Yes | Yes |
| R^2 | 0.922 | 0.706 | 0.722 | 0.679 |
| Cragg–Donald Wald F | 33.94 | 17.39 | 8.243 | 15.00 |

Notes: $N = 9,214$. Standard errors are reported in parentheses and p -values in brackets.

A coefficient significant at the * $p \leq 0.05$ ([†] $p \leq 0.1$, ** $p \leq 0.01$, *** $p \leq 0.001$) confidence level.

innovation and entertainment spending, was positive and significant (coefficient = 0.633, $p = 0.000$, s.e. = 0.015). Holding the other variables constant, a one standard deviation increase in *regional innovation * entertainment spending* predicted a 0.01 increase in *firm innovation * entertainment spending*. M3 includes all the predictors and a term representing an interaction among firm innovation, entertainment spending, and factor market development. The coefficient of the instrument, the term representing an interaction among regional innovation, entertainment spending, and factor market development, was positive and significant (coefficient = 0.855, $p = 0.000$, s.e. = 0.016). Holding the other variables constant, a one standard deviation increase in *regional innovation * entertainment spending * development of factor markets* predicted a 0.03 increase in *firm innovation * entertainment spending * development of factor markets*. M4 includes all the predictors and the interaction among firm innovation, entertainment spending, and legal institutions development. The coefficient of the instrument, the term representing interaction among regional innovation, entertainment spending, and legal institution development, was positive and significant (coefficient = 0.813, $p = 0.000$, s.e. = 0.019). Holding the other variables constant, a one standard deviation increase in *regional innovation * entertainment spending * development of legal institutions* predicted a 0.067 increase in *firm innovation * entertainment spending * development of legal institutions*. The validity of instrumental variables comprised two aspects: relevance and exogeneity (Kennedy, 2008). The Cragg–Donald Wald F statistics for most models were larger than 10, indicating strong and relevant instrumental variables (Semadeni, Withers, & Trevis Certo, 2014). However, we could not examine exogeneity of the instrumental variables because the test requires multiple instruments (Kennedy, 2008). In particular, the number of instruments needs to be larger than the number of endogenous variables. Accordingly, we employed regional education investment as an additional instrument in the robust test (Qian et al., 2017) and obtained similar empirical results.

M1 did not show any significant predictive power for a firm's innovation of R&D intensity, state ownership, or entertainment spending. Because the dependent variable is a firm's total number of valid patents, R&D intensity in any one year may not significantly affect such a patent stock. In addition, prior research has demonstrated a double-edged relationship between state ownership and innovation (Zhou et al., 2016). On the one hand, state-owned firms have abundant resources to invest in R&D and other innovation. On the other hand, they may misallocate the resources, resulting in inefficient innovation efforts. So, the overall relationship between state ownership and firm innovation is unclear. Similarly, entertainment spending may help a firm obtain resources and thus facilitate innovation, but on the other hand, it may nurture a relationship-oriented culture in which a firm focuses unduly on relationship-building and puts less emphasis on innovation. Such contradictory tendencies may lead to a relationship between entertainment spending and firm innovation which is not very significant overall. In models 2–4, the interaction terms were instrumented for econometric

reasons (Wooldridge, 2001), so it is reasonable to observe coefficients that are not significant.

Table 3 shows the second-stage empirical results, and the key variables were mean-centered before generating interaction terms as recommended by Aiken and West (1991). Model A1 includes the control variables and firm innovation. The results suggested that the number of a firm's valid patents did not solely significantly predict ROA in Chinese firms. Model A2 adds one interaction term. The term coefficient representing an interaction between innovation and entertainment spending was 0.670, positive and significant ($p = 0.003$, *s.e.* = 0.225). When entertainment spending was one standard deviation above the mean, holding the other variables constant, a one standard deviation increase in patents predicted a 190.17% increase in ROA (from 0.004 to 0.012). When entertainment spending was one standard deviation below the mean, holding the other variables constant, a one standard deviation increase in innovation predicted a 67.20% decrease in ROA (from -0.004 to -0.007). Such a decrease in ROA was aligned with Teece's (1986) arguments that innovators may lose if they cannot appropriate the value of their innovations. For example, if they do not possess complementary assets, imitators who have them will capture the value of innovations. Given that the cost of R&D is not trivial, the firm performance of the innovators may suffer. We could apply such logic in China, where the legal protection for innovations may not be that perfect. Figure 1 illustrates this situation, where 'high' and 'low' are defined as one standard deviation above and below the mean of entertainment spending, respectively. When the level of entertainment spending was high, the number of patents was positively related to ROA, supporting H1.

Model A3 adds the three-way moderating effect of factor market development, and its coefficient was negative and significant (coefficient = -0.183, $p = 0.048$, *s.e.* = 0.093), supporting H2. When the level of development of factor markets in a region was one standard deviation below the mean, a one standard deviation increase in patents predicted a 27.99% (from -0.005 to -0.004) and a 431.06% (from 0.003 to 0.018) increase in ROA. The former and the latter were observed when the level of entertainment spending was one standard deviation below and above the mean. Accordingly, the effectiveness of drinking and dining was salient in regions with underdeveloped factor markets.

When the level of development of factor markets in a region was one standard deviation above the mean, a one standard deviation increase in patents predicted a 158.94% (from -0.007 to 0.004) and a 168.56% (from 0.008 to 0.018) increase in ROA. The former and the latter were observed when the level of entertainment spending was one standard deviation below and above the mean. On the basis of this result, Figure 2 plots the effect size.

Model A4 adds the three-way moderating effect of the development of regional legal institutions. The coefficient of the three-way interaction term was negative and significant (coefficient = -0.072, $p = 0.035$, *s.e.* = 0.034), supporting H3. When the level of development of a region's legal institutions was one standard

Table 3. Coefficients of second-stage firm fixed effects models predicting return on assets (ROA)

| | <i>A1</i> | <i>A2</i> | <i>A3</i> | <i>A4</i> |
|---|-------------------|--|--|--|
| Firm size | −0.010*** (0.002) | −0.011*** (0.002) | −0.011*** (0.002) | −0.011*** (0.002) |
| Firm age | −0.012 (0.032) | −0.016 (0.031) | −0.025 (0.032) | −0.022 (0.025) |
| Financial leverage | 0.002 (0.009) | 0.002 (0.009) | −0.001 (0.009) | 0.001 (0.008) |
| Financial slack | 0.024*** (0.006) | 0.025*** (0.006) | 0.026*** (0.006) | 0.026*** (0.006) |
| CEO duality | −0.001 (0.002) | −0.000 (0.002) | −0.001 (0.002) | −0.000 (0.002) |
| Blockholder ownership | 0.065*** (0.012) | 0.065*** (0.013) | 0.068*** (0.013) | 0.068*** (0.011) |
| Internationalization | −0.008 (0.010) | −0.008 (0.010) | −0.011 (0.010) | −0.010 (0.009) |
| R&D intensity | −0.107** (0.038) | −0.111** (0.038) | −0.111** (0.038) | −0.107** (0.038) |
| State ownership | −0.009* (0.004) | −0.009* (0.004) | −0.009* (0.004) | −0.009* (0.004) |
| Development of factor markets | 0.000 (0.001) | 0.000 (0.001) | −0.000 (0.001) | −0.000 (0.001) |
| Development of legal institutions | −0.000 (0.000) | −0.000 (0.000) | −0.000 (0.000) | −0.000 (0.000) |
| Entertainment spending | 0.829*** (0.186) | 0.731*** (0.189) | 0.983*** (0.267) | 0.851*** (0.217) |
| Firm innovation | −0.001 (0.020) | 0.002 (0.020) | 0.006 (0.020) | 0.005 (0.015) |
| Firm innovation * Entertainment spending (H1) | | 0.670** (0.225) [<i>p</i> = 0.003] | 0.437 (0.429) | 0.555* (0.265) |
| Firm innovation * Entertainment spending * Development of factor markets (H2) | | | −0.183* (0.093) [<i>p</i> = 0.048] | |
| Entertainment spending * Development of factor markets | | | 0.095 (0.147) | |
| Firm innovation * Development of factor markets | | | 0.001 (0.001) | |
| Firm innovation * Entertainment spending * Development of legal institutions (H3) | | | | −0.072* (0.034) [<i>p</i> = 0.035] |
| Entertainment spending * Development of legal institutions | | | | 0.018 (0.036) |
| Firm innovation * Development of legal institutions | | | | 0.000 (0.000) |
| Year dummies | Yes | Yes | Yes | Yes |
| Industry dummies | Yes | Yes | Yes | Yes |
| <i>R</i> ² | 0.5175 | 0.5181 | 0.5185 | 0.5184 |

Notes: *N* = 9,214. Standard errors are reported in parentheses and *p*-values in brackets. A coefficient significant at the **p* ≤ 0.05 (***p* ≤ 0.01, ****p* ≤ 0.001) confidence level.

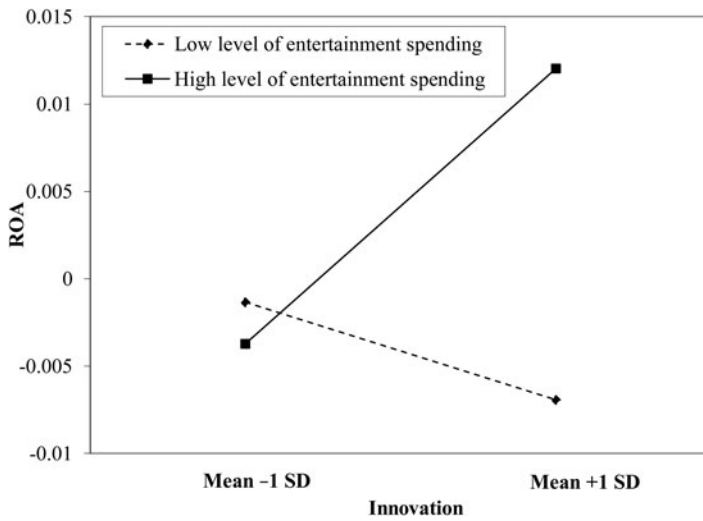


Figure 1. The moderating role of entertainment spending on the relationship between patents and return on assets (ROA)

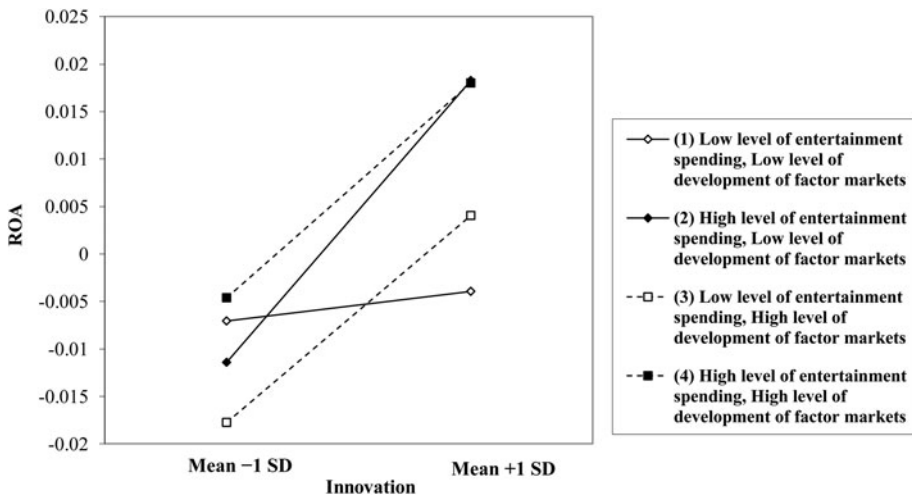


Figure 2. The three-way interaction of the level of development of factor markets with entertainment spending and return on assets (ROA)

deviation below the mean, a one standard deviation increase in patents predicted a 38.57% (from -0.005 to -0.003) and a 284.62% (from 0.005 to 0.018) increase in ROA. The former and the latter were observed when the level of entertainment spending was one standard deviation below and above the mean. Thus, the effectiveness of drinking and dining was also salient in regions with underdeveloped legal institutions.

However, when the level of development of a province’s legal institutions was one standard deviation above the mean, a one standard deviation increase in

patents predicted a 91.82% (from -0.005 to -0.000) and a 225.30% (from 0.005 to 0.016) increase in ROA. The former and the latter were observed when the level of entertainment spending was one standard deviation above the mean. [Figure 3](#) plots these effects. In addition, these relationships have been graphed in Supplementary Appendices III–VI. In each case, the y -axis is ROA (firm performance) and the x -axis is the firm innovation measure. Supplementary Appendix III depicts the full sample with all of the observations. Supplementary Appendix IV splits the sample into two sub-samples based on the level of entertainment spending. Supplementary Appendices Va and Vb split the sample into four sub-samples based on the level of entertainment spending and the level of development of factor markets. Supplementary Appendices VIa and VIb split the sample into four sub-samples based on the level of entertainment spending and the development of legal institutions in a region. The graphs were generally consistent with the hypotheses.

In [Table 3](#), neither firm age, financial leverage, CEO duality, internationalization, development of factor markets, development of legal institutions, nor firm innovation significantly predicts firm performance. While older firms often have more slack resources which may contribute to better performance (Sharfman, Wolf, Chase, & Tansik, 1988), they also tend to have greater inertia which may dampen their performance (Hannan & Freeman, 1984; Ranger-Moore, 1997). That may to some extent explain the lack of any significant relationship between firm age and firm performance. More financial leverage exposes a firm to closer monitoring, which might tend to improve performance (Jensen, 1986), but high leverage entails significant financial limitations which may dampen performance (Berger & Di Patti, 2006). That may explain the lack of any significant relationship of financial leverage with performance. Academics tend to condemn CEO duality because it weakens monitoring, potentially threatening performance (Rediker & Seth, 1995). But on the other hand, one-man decision-making can have speed and decisiveness benefits in an uncertain environment (Boyd, 1995; Dowell et al., 2011). So CEO duality may not affect firm performance in any consistent way. Internationalization too would be expected to entail both benefits and costs, so it too showed no consistent predictive power for firm performance. Multinationals can normally benefit from economies of scale and scope, better access to resources, and perhaps superior technology (Hennart, 2007) but those advantages only counteract the serious liabilities of newness and foreignness with which they must deal (Hymer, 1976; Lu & Beamish, 2004). So internationalization too is not a consistent predictor. The state of development of a region's factor markets and legal institutions are certainly important as they provide abundant resources and good legal environment for firms (Khanna & Palepu, 1997, 1999), but again their relationships with ROA are not significant. Note too that with a firm fixed effects model specification the variances of the two regional development indexes can be too small to explain the within-firm variance of ROA. For the insignificant effect of innovation variable on ROA, as we analyzed above, innovative

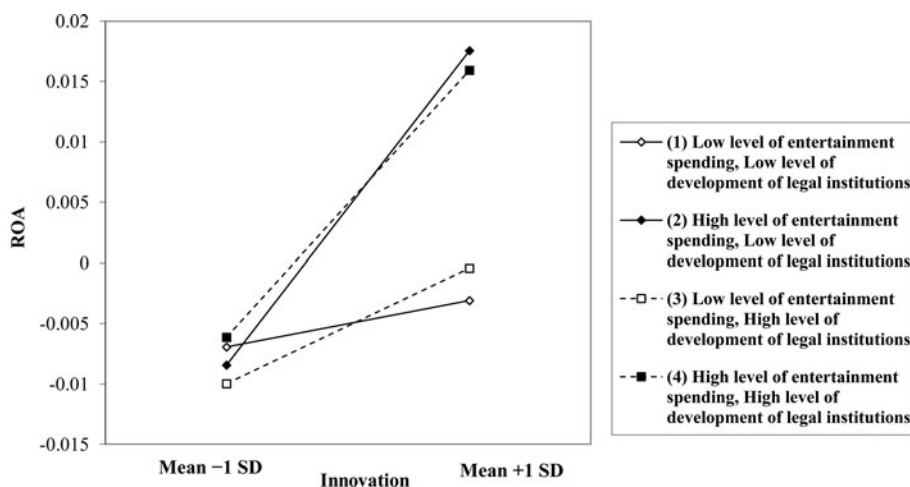


Figure 3. Three-way interaction of the level of development of legal institutions with entertainment spending and return on assets (ROA)

firms may face institutional difficulties in capturing value from their innovations in China, so innovation output may in many cases not be a predictor of good firm performance.

In addition, the unexplained variance (48%) in Table 3 suggests that there may be other processes acting which account for some of the unexplained variances. A larger market share may increase a firm's profitability by increasing its economies of scale and market power (Buzzell, Gale, & Sultan, 1975; Gale, 1972). In addition, location may affect firm performance in China, as regional differences can influence the resources a firm can obtain and the cost of a firm's business activities (Chan, Makino, & Isobe, 2010; Choi, Jiang, & Shenkar, 2015). Market share (a firm's sales as a percentage of total industry sales) and region dummies were therefore added to the models. This led to an increase of 0.008 in R^2 . The details are reported in Supplementary Appendix VII. The 47% unexplained variance in firm performance is consistent with the findings of prior research (Misangyi, Elms, Greckhamer, & Lepine, 2006; Rumelt, 1991).

To test the robustness of the above results, we computed an alternative measure of firm innovation using the total number of invention patents granted to a firm in the most recent three years. The results using the alternative measures also supported Hypothesis 1 (H1), Hypothesis 2 (H2), and Hypothesis 3 (H3). Next, we tested entertainment spending scaled by total sales as an alternative measure of entertainment spending, and the results were similar. Then, we employed the NERI's general market development index encompassing all market dimensions as an alternative in predicting the effect of entertainment spending, and the results were again similar. Finally, we employed regional education investment as an additional instrument (Qian et al., 2017), and the empirical results generally remained.

SUPPLEMENTARY STUDY

Relationships with stakeholders may contribute to a firm's innovation (Zhang & Li, 2010) without necessarily contributing to commercialization. Accordingly, we performed a *post hoc* empirical analysis to test this effect to determine how relationship-building might help Chinese firms gain access to complementary resources. In this analysis, we used data from a World Bank Enterprise Survey. The survey was published in 2005 and has been frequently used in academic research (Cull & Xu, 2005; Iriyama, Kishore, & Talukdar, 2016). The survey's initial sample size was 12,400 Chinese firms. After removing observations with missing values, we obtained a sample with 9,214 observations.

Here, *long-term collaboration with clients* was a dependent variable, measured by the tenures of the relationships. The original survey asked, '...[the] number of years of cooperation between your company and your wholesalers and retailers'. We measured the *long-term collaboration with suppliers* variable similarly. We set *access to financial resources* as a dummy variable, equal to one if a firm said it received favorable treatment from financial institutions; otherwise, it was zero. In particular, they answered the survey question, 'does your company enjoy favorable terms on overdraft[s] or have loan quotas'? *Access to legal contract/property protection* was another dependent variable describing the extent to which firms said they enjoyed legal protection for their contracts or property. The original survey asked, 'in commercial or other legal disputes, [in] what percent of cases were your company's legal contracts or properties protected (a favorable verdict was passed and enforced)?' We assumed a high value to indicate good access to legal protection. The four variables indicated firms' ability to obtain access to resources complementary to innovation. For example, if a firm has long-term collaborations with large wholesalers or suppliers, it may easily access market channels or technology for commercializing its innovations. If a firm has 'favorable terms on overdraft[s] or...loan quotas', it may easily obtain access to financing for promoting its innovations. Fair verdicts passed and enforced in a firm's legal disputes may also help a firm acquire complementary resources (such as distribution channels) for its innovative products.

We also used *entertainment spending* as the independent variable of interest. However, it was the natural logarithm of entertainment expenses because no total assets data were available from the survey. In this part of the study, the control variables were *financial performance* (measured by return on total fixed assets), *firm size* (the natural logarithm of the total number of employees), *firm age*, and *state ownership*.^[7]

Tables 4 and 5 present the results. Table 4 shows the summary statistics and correlations. All of the variance inflation factors were below 2, indicating that multicollinearity was again not a serious concern (O'Brien, 2007).

Table 5 reports the regression results. The models with *long-term collaboration with clients* or *suppliers* as the dependent variable were OLS models, the model with *access to financial resources* as the dependent variable was a logit model, and

Table 4. Summary statistics and correlations describing the World Bank data

| | | <i>Mean</i> | <i>SD</i> | <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>5</i> | <i>6</i> | <i>7</i> | <i>8</i> |
|---|--|-------------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1 | Long-term collaboration with clients | 5.021 | 1.577 | | | | | | | | |
| 2 | Long-term collaboration with suppliers | 4.924 | 1.542 | 0.67 | | | | | | | |
| 3 | Access to financial resources | 0.283 | 0.451 | 0.09 | 0.11 | | | | | | |
| 4 | Access to legal contract/property protection | 61.950 | 38.930 | 0.03 | 0.05 | 0.12 | | | | | |
| 5 | Entertainment spending | 4.695 | 1.892 | 0.26 | 0.27 | 0.28 | 0.11 | | | | |
| 6 | Financial performance | -0.016 | 0.967 | -0.01 | 0.01 | 0.04 | 0.05 | 0.07 | | | |
| 7 | Firm age | 12.570 | 12.870 | 0.29 | 0.26 | -0.01 | -0.01 | 0.20 | -0.06 | | |
| 8 | Firm size | 5.615 | 1.459 | 0.28 | 0.29 | 0.24 | 0.13 | 0.67 | 0.04 | 0.28 | |
| 9 | State ownership | 0.091 | 0.287 | 0.11 | 0.10 | -0.05 | -0.03 | 0.11 | -0.07 | 0.48 | 0.16 |

Notes: $N=9,456$. Correlations with an absolute value of 0.02 or greater are significant at the $p \leq 0.05$ confidence level.

Table 5. Coefficients of models with the World Bank data testing for mechanisms

| | <i>Long-term collaboration with clients</i> | <i>Long-term collaboration with suppliers</i> | <i>Access to financial resources</i> | <i>Access to legal protections for contracts/properties</i> |
|------------------------|---|---|--------------------------------------|---|
| Entertainment spending | 0.106*** (0.010) [$p = 0.000$] | 0.116*** (0.009) [$p = 0.000$] | 0.279*** (0.017) [$p = 0.000$] | 0.994** (0.373) [$p = 0.008$] |
| Financial performance | -0.024 [†] (0.014) | 0.001 (0.014) | 0.043* (0.021) | 1.785** (0.580) |
| Firm age | 0.030*** (0.001) | 0.026*** (0.001) | -0.009*** (0.002) | -0.094* (0.042) |
| Firm size | 0.143*** (0.012) | 0.149*** (0.012) | 0.197*** (0.020) | 4.285*** (0.487) |
| State ownership | -0.255*** (0.056) | -0.216*** (0.056) | -0.654*** (0.089) | -7.001*** (1.908) |
| Constant | 3.361*** (0.054) | 3.237*** (0.053) | -3.282*** (0.092) | 29.251*** (2.164) |
| | 0.136 (R^2) | 0.132 (R^2) | 0.082 (pseudo- R^2) | -41,292 (Log pseudo-likelihood) |
| Model | OLS | OLS | Logit | Tobit |

Notes: $N = 9,456$. Standard errors are reported in parentheses and p -values in brackets.

A coefficient significant at the * $p \leq 0.05$ ($^{\dagger}p \leq 0.1$, ** $p \leq 0.01$, *** $p \leq 0.001$) confidence level.

the last model was a Tobit model. The results indicated that relationship-building was positively and significantly associated with long-term collaboration with clients (coefficient = 0.106, $p = 0.000$, s.e. = 0.010), long-term collaboration with suppliers (coefficient = 0.116, $p = 0.000$, s.e. = 0.009), access to financial resources (coefficient = 0.279, $p = 0.000$, s.e. = 0.017), and access to legal protection for contracts or property (coefficient = 0.994, $p = 0.008$, s.e. = 0.373). In M1, holding the other variables constant, a one standard deviation increase in entertainment spending predicted a 0.20 increase in long-term collaboration with clients. In M2, holding the other variables constant, a one standard deviation increase in entertainment spending predicted a 0.22 increase in long-term collaboration with suppliers. In M3, again holding the other variables constant, a one standard deviation increase from the mean in entertainment spending predicted an increase in the odds ratio from 0.35 (probability = 0.26) to 0.60 (probability = 0.37). In other words, the probability of obtaining financial resources has increased by about 50% with more lavish entertainment spending. The marginal effects were also tested in the Tobit model (M4).^[8] Holding the other variables constant, a one standard deviation increase from the mean in entertainment spending predicted a 1.65 increase in cases in which a company's legal contractual rights or property were protected as a percentage of total cases.

There is a substantial unexplained variance in the models of Table 5. That is probably due to a lack of industry information, but there can be other alternative explanations. When CEO tenure, CEO tenure squared, and a customized products variable were added to M1, CEO tenure displayed an inverted U-shaped relationship with the relationship between the firm and its customers (Luo, Kanuri, & Andrews, 2014). The explanation could be that in the early stages of a new CEO's tenure he or she is actively learning about customer needs, and in that process, firm-customer relationships gradually improve. In the late stages of a CEO's tenure, a CEO may become more and more inclined to stick to certain learned paradigms. If so, the firm has difficulty keeping up with changing customer demands, resulting in firm-customer relationships less warm than they might be. Customized products encourage customer loyalty (Dewan, Jing, & Seidmann, 2003; Murthi & Sarkar, 2003) and a long-term relationship between a firm and its customer. So, customized products as a percentage of all products were also tested as a predictor. Including these explanatory variables increased the M1's R^2 from 0.136 to 0.165. CEO tenure and CEO tenure squared were also added to M2, tenure again showed an inverted U-shaped relationship with firm-supplier relationship quality, leading to an increase in R^2 from 0.132 to 0.165. The *post hoc* analysis is reported in Supplementary Appendix VIII.

DISCUSSION

Our results generally support the argument that relationship-building through entertainment helps Chinese firms capture value from their innovations. In line

with our expectations, relationship-building is less effective in regions with well-developed factor markets and legal institutions. These findings offer new insights into value capture from innovation, a crucial matter for scholars and firm managers. They demonstrate the enduring relevance of wining and dining in contexts where profiting from innovation can be difficult with weak institutions.

To sum up, this study contributes to business scholarship as follows. First, our findings contribute to the literature, which can be dated back to the early Yale studies (Levin, Klevorick, Nelson, Winter, Gilbert, & Griliches, 1987) and business scholars at Carnegie Mellon University (Cohen et al., 2000), who focused on the appropriability of firm innovation. However, their large-sample surveys were performed in the US and Japan, both developed economies. Following the efforts of Zhang et al. (2007), we extend such work to a different context with underdeveloped factor markets and legal institutions and illuminate a channel for value capture from innovation in an emerging economy. Consistent with previous findings, we highlight the critical role of complementary resources in innovation success (Alvarez & Barney, 2001; King et al., 2003). Moreover, we emphasize that relationship-building, which results from business entertainment spending, remains a vital channel for Chinese firms to obtain complementary resources.

Scholars examined different types of resource bundles and their effects on firm performance (Brush & Artz, 1999; Sirmon & Hitt, 2009) but ignored the bundle of innovation supplemented by relational resources, especially in emerging markets. Thus, in the present study, we demonstrate the joint effects of innovation and relationships in terms of economic benefit. Previous research suggested that social capital is a necessary component of a firm's dynamic capability to acquire complementary resources (Blyler & Coff, 2003). Through our findings, we further demonstrate how social capital provides access to resources needed to complement innovation, helping firms improve their value capture from innovation.

We also extend the scholarly understanding of entertainment spending (Marquis & Raynard, 2015; Nguyen & Rose, 2009). Although eating, drinking, singing karaoke, and gift-giving sometimes are considered helpful tactics in China (Fung et al., 2007; Zhang & Fung, 2006), our findings demonstrate that their effectiveness varies depending on the institutional environment. Some scholars suggested that relationship-building can be a double-edged sword for firms (Adler, 2001; Dyer & Singh, 1998; Marquis & Raynard, 2015; Opper, Nee, & Holm, 2017; Poppo & Zenger, 2002). However, in the innovation context, the risks may be worth taking specifically as a complement to a firm's primary activities.

Limitations and Future Research Implications

This study may have suffered from certain limitations that suggest avenues for future research. First, the substantial unexplained variances in the regression models suggest scope for alternative, competing theories. We have tested some

explanatory variables such as market share, region dummies, CEO tenure, and customized products in the supplementary study, but there certainly may be others. Future studies might fruitfully explore other important factors in the Chinese context. For example, the current literature has not paid enough attention to the effect of Chinese culture on a firm's value capture from innovation. As important elements of Chinese culture, Buddhist teachings emphasize a long-term orientation (Du, 2013; Liu, Xu, Zhou, & Li, 2019). Therefore, firms under strong Buddhist influence may be engaged in innovations with long-term impacts which may generate value for firms continuously. Also, entertainment may help Chinese firms capture value from internationalization (Li & Wan, 2016; Li, Tian, & Wan, 2015).

Then, the information on total entertainment spending offered does not offer a lot of detail. Detailed spending on different stakeholder domains would offer a clearer picture of the relationships explored in this study. For example, some firms may spend primarily on entertaining their customers, while others may spend a lot on building relationships with government officials or suppliers. Probing the detailed expenses may help elucidate the mechanisms involved. To date, no published research has attempted such detailed analysis. So this is a promising area for future research. Moreover, other than monetary expense, relationship-building requires significant time and effort. Future research may expand relationship-building with more comprehensive measures to strengthen these findings.

These findings have established that relationship-building helps a firm capture value from its innovations in China, entertainment spending *per se* can only be viewed as a lubricant. Excessive entertainment spending will leave fewer resources for other investments. Also, emphasis on relationship-building may direct a firm's attention away from innovation, because relationship-building can directly enhance firm performance in general (Luo & Chen, 1997). Thus, although this study did not explore such possible drawbacks of entertainment spending, any firm should strike a balance between entertainment spending and other productive uses of its limited resources. Future studies might consider investigating that balance and the trade-offs in greater detail.

Finally, the three-way moderators were evaluated using a higher regional level than the other firm-level variables, so some cross-level issues may intrude (Andersson et al., 2014). However, integrating two-stage least squares with cross-level techniques is difficult. Scholars can explore this possibility too in the future.

In conclusion, the results generally support the argument that entertainment spending helps a firm capture more value from its innovations. But it is less effective in regions with well-developed factor markets and legal institutions.

Supplementary Material

The supplementary material for this article can be found at <https://doi.org/10.1017/mor.2021.65>

DATA AVAILABILITY STATEMENT

Replication code for this article has been published in Open Science Framework at: <https://osf.io/bsxd6/>

NOTES

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- [1] <https://chinaculturecorner.com/2013/08/01/dining-etiquette-in-china/>
- [2] The indices before 2008 were of different statistical specifications from those after, so we only used the post-2008 indices.
- [3] We omitted less than 1% of observations for this reason.
- [4] Replication data and code for this study are available at Open Science Framework at: <https://osf.io/bsxd6/>
- [5] We also tested the original measure of entertainment spending as a moderator, and the empirical results were similar. These results are available on request.
- [6] Some firms changed industry affiliation during the sampling period.
- [7] No industry information was available from the survey, so we did not include industry effects.
- [8] <https://www.stata.com/manuals/rtobit.pdf>

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