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RESEARCH ARTICLE

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Being good or being known: International reputation of high-speed railway enterprises

Abstract With fierce competition in the global high-speed railway (HSR) market, international reputation has become essential for enterprises to venture into overseas markets. However, few studies have been performed on the international reputation of HSR enterprises. This study aims to reveal the formation mechanism of HSR enterprises' international reputation by developing a theoretical framework. The researchers identified five factors and proposed a hypothetical path model based on a comprehensive literature review. After the pilot study, questionnaires were distributed to practitioners in the international HSR industry for data collection. The path model was validated based on partial least-squares structural equation modeling. Eight of the nine paths are statistically supported. Researchers have structured a theoretical framework for the international reputation of HSR enterprises from two perspectives: Being good and being known. Subsequently, a strategic framework was developed to provide targeted promotion strategies for HSR enterprises. The findings of this study contribute to existing international reputation theories using the theoretical model and provide beneficial guidance for HSR enterprises to improve their international reputation through a strategic framework.

Keywords high-speed railway, international reputation, being good, being known, structural equation modeling

1 Introduction

High-speed railways (HSRs) are becoming popular worldwide owing to their security, convenience, and environmental friendliness. Many countries have launched long or short-term HSR projects plans. According to Union Internationale des Chemins de fer (UIC), as of June 2021, the global HSR mileage is 56129 km in operation, 22562 km in construction, and 51786 km in planning. Meanwhile, fierce competition is accompanied by growing HSR demand in the international market. A prominent example is the Early Train Operator project for HSR in California, which attracted 35 bidders (Zhang et al., 2020). Therefore, facing growing demand and fierce competition, HSR enterprises need to pay more attention to international reputation and better understand its formation mechanism.

An enterprise's international reputation may not match its capabilities. The capabilities of some HSR enterprises have not been perceived by their international peers (Niu et al., 2020). In particular, these enterprises may have advanced capability, but their performance in the global market has not been recognized nor have they established an excellent international reputation (Niu et al., 2021). This mismatch leads to the failure of HSR enterprises to bid. Given that bidding for international HSR projects is often carried out by scoring or voting, international reputation is an important factor in deciding whether to win a bid (Watt et al., 2009). Furthermore, international reputation can value or devalue enterprises' bid proposals when bidding on an HSR project or expanding a new market (Zhang et al., 2019). Therefore, international reputation has become an urgent issue for HSR enterprises.

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However, existing studies have failed to reveal the relationships among the influencing factors of international reputation, especially for HSR enterprises. Thus, this study explores the formation mechanism of the international reputation of HSR enterprises from the two perspectives of being good and being known. The findings of this study can enrich the knowledge framework of international reputation, particularly in the international HSR industry. The findings will also enable HSR practitioners to better understand how international reputation is formed and select effective promotion strategies. This study was conducted according to the following structure. The second section is the literature review. The overall research framework is presented in the third section. The fourth section describes the results of measurement evaluation and path analysis. In the fifth section, we discuss the proposed theoretical model and provide recommendations for HSR enterprises. The final section summarizes the conclusions, limitations, and future research directions of this study.

2 Literature review

2.1 Corporate reputation

Reputation has been defined as a characterization of enterprises' past behaviors and future actions (Fombrun, 2005). Reputation plays an increasingly central role in different theories. Thus, scholars in various fields have researched corporate reputation from different theoretical perspectives.

Scholars have investigated reputation from economic and institutional perspectives. From the economic perspective, reputation has been defined as stakeholders' expectations or estimates of an attribute of enterprises (Weigelt and Camerer, 1988). Scholars in this field thought that reputation reveals the actual attribute of enterprises as a signal and reduces information asymmetry, thus prompting stakeholders to pay a price premium for their products (Rao, 1994). From the institutional perspective, reputation is described as how stakeholders view an enterprise (Hall, 1992). Scholars who draw on institutional theory have suggested that the degree to which an enterprise is widely recognized in its industry and how well it performs compared with its competitive enterprises can be another aspect of reputation. Based on this view, scholars embracing the institutional perspective believe that the exchange of information and social influence from the interaction of various stakeholders jointly participate in forming a reputation (Rindova and Fombrun, 1999). Moreover, Rao (1994) pointed out that enterprises with high status in the market have more advantages in reputation formation.

The differences in how scholars view reputation from different perspectives indicate that the study of reputation can be further improved by integrating the conceptualization of definition. Thus, combined with economics and institutional perspectives, an empirical examination was performed to discuss the dimensions, antecedents, and consequences of reputation from two dimensions: Being good and being known (Rindova et al., 2005). By dividing reputation into these two dimensions, this integrating perspective overcame the shortcomings that inferred the unobservable outcomes of reputation and provided a basis for measuring reputation directly (Rao, 1994).

2.2 International reputation of HSR enterprises

Many scholars have switched their attention to topics regarding HSR. To date, the literature on HSR involves competitive advantage (Zhou et al., 2019), coopetition in international joint ventures (IJVs) (Niu et al., 2021), political risk (Chang et al., 2018), sustainable development (Azzouz and Jack, 2020), and impact on the regional economy (Vickerman, 2018). Unfortunately, few studies have focused on the international reputation of HSR enterprises.

The international reputation of HSR enterprises has been defined as recognition by peers in the international HSR industry (Niu et al., 2021). HSR projects are always evaluated by experts' scores or votes in the global market, and international reputation as a stubborn subjective impression in experts is an essential invisible factor in deciding whether to win bids (Zhang et al., 2019). In addition, a favorable international reputation was associated with an increased possibility as cooperative partners (Dollinger et al., 1997), sustainability of good financial performance (Roberts and Dowling, 2002), and the capability of maintaining competitive advantages (Shamsie, 2003). In contrast, if the international reputation of HSR enterprises is damaged, the available resources will be degraded, and the trust of stakeholders will also be negatively affected (Doni, 2006). Thus, international reputation was mentioned as the primary development target and strategic plan for HSR enterprises to achieve their international competitive advantage (Niu et al., 2022).

3 Research methods

3.1 Overall research framework

We used the combination method of a questionnaire survey and a partial least squares structural equation model (PLS-SEM). Potential variables and corresponding factors were identified through a comprehensive literature review. A pilot study was conducted before the full-scale questionnaire survey. Based on the collected data, we conducted statistical analysis to verify the proposed hypothetical path model using SmartPLS version 3.0 (Orozco et al., 2014; Liu et al., 2017a; Zhai et al., 2020).

3.2 Factor identification

Researchers conducted a comprehensive literature review through the Web of Science retrieval system. The topic of "reputation", "prestige", "image", or "international reputation" was searched, the type was restricted to "article" or "review", and the language was limited to "English". The titles, abstracts, and keywords were further screened to determine critical papers on HSR enterprises. We also browsed their references to confirm the completeness and credibility of the identified variables. Finally, 22 variables influencing the international reputation of HSR enterprises were settled based on a comprehensive review.

Furthermore, to explore the formation mechanism, the 22 variables have been classified into five factors: International reputation (IR), enterprise capability (EC), capability demonstration (CD), perception of capability (PC), and macro factors (MF). Enterprise capability is directly related to the international reputation of HSR enterprises, and scholars tend to think the correlation is positive (Fombrun and Shanley, 1990; Zhang et al., 2019). Prior studies have found that engaging in international reputation-building activities, such as lobbying and media exposure, is effective for HSR enterprises to demonstrate their capability and improve their international reputation (Niu et al., 2021). Moreover, stakeholders can perceive the capability of HSR enterprises through demonstration and assessment of their international reputation (Fombrun, 2005). Finally, macro factors should be considered because of the internationalization of the HSR industry (Fombrun, 2005). Table 1 shows the results of factor identification.

3.3 Proposing the hypothetical path model

Enterprise capability provides the basis for the perception of capability through demonstration, which may affect the attention and expectations of stakeholders (Mishina et al., 2008). For HSR enterprises, bidding is essential to demonstrate capability and form perception. When exploring the international competitive advantage paths of HSR contractors, Niu et al. (2021) hypothesized that technology could directly influence international reputation, and might influence international reputation through technology perception. Although this hypothesis is common sense, it was not tested. Thus, we propose the following hypotheses.

Hypothesis 1: Enterprise capability strengthens capability demonstration.

Hypothesis 2: Enterprise capability positively affects the perception of capability.

Enterprise capability has been argued to offer the potential to either enhance or reduce their reputation, which is the product of capability (Pinto et al., 2009). Strong capability in the international HSR market means that an enterprise can provide high-quality products and show better performance, thus establishing an excellent international reputation (Deephouse and Carter, 2005). Thus, we propose the following hypothesis.

Hypothesis 3: Enterprise capability has a positive impact on international reputation.

In addition to enterprise capability, capability demonstration is equally important, especially because it can generate the perception of capability (Hall, 1992). For the capability to be better perceived and develop an excellent international reputation in the competition, HSR enterprises need to demonstrate their actual capability in the bidding process constantly. Thus, we propose the following hypotheses.

Hypothesis 4: Capability demonstration positively affects the perception of capability.

Hypothesis 5: Capability demonstration exerts a positive influence on international reputation.

International reputation is seen as an accumulation of the perception of capability over time (Niu et al., 2020). Stakeholders' entire perception of the capabilities of HSR enterprises will lead to high recognition, which will directly affect the subjective impression of international reputation (Sillars and Kangari, 2004). Thus, we propose the following hypothesis.

Hypothesis 6: Perception of capability exerts a positive influence on international reputation.

HSR enterprises in the international market also rely on macro factors because of the characteristics of the international HSR market (Chang et al., 2019). Variables associated with the macro level, such as industrial reputation, support from the state, and diplomatic relations, can influence HSR enterprises' capability demonstration, thus strengthening the perception of capability (Akintoye, 2000; Hwang et al., 2015; Deng et al., 2018). For instance, the diplomatic relationship between host and home countries is essential for HSR enterprises to demonstrate their capabilities. Support from the state is also important in the formation mechanism as demonstrated in Niu et al. (2021). Thus, researchers propose the following hypotheses.

Hypothesis 7: Macro factors strengthen capability demonstration.

Hypothesis 8: Macro factors have a positive impact on international reputation.

Hypothesis 9: Macro factors have a positive impact on the perception of capability.

On the basis of factor identification and hypothetical path proposal, the initial path model combined with those five factors was proposed (see Fig. 1).

3.4 Questionnaire survey

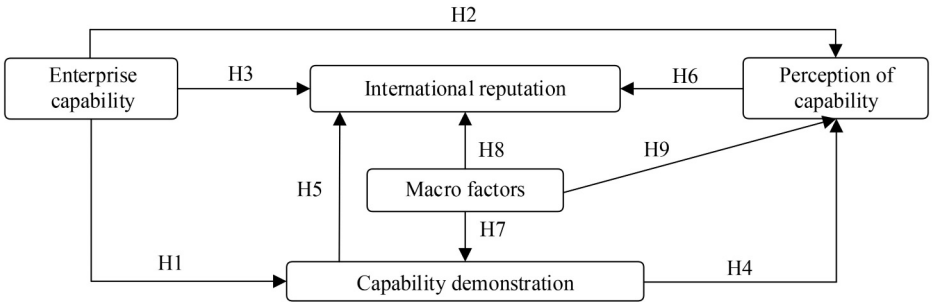
Before the formal questionnaire, a pilot study was performed by five experts to verify 1) the comprehensiveness and rationality of variables, 2) whether the classification of variables is reasonable, 3) whether the

Table 1 Summary of variables along with respective factors

Factor	Variable	Reference	Key points
International reputation	IR1: Peer appreciation	Fombrun et al. (2000); Petkova et al. (2008)	Peer appreciation refers to the degree to which an HSR enterprise is liked, admired, and respected by peers in the industry
	IR2: Owners recognize the projects' quality	Fombrun et al. (2000); Walsh et al. (2009)	Owners' recognition of the project's quality refers to the innovation, value, and reliability of an HSR enterprise's constructed and delivered projects
	IR3: Good leadership	Fombrun et al. (2000); Melo and Garrido-Morgado (2012)	Good leadership refers to the demonstrated leadership and future vision of HSR enterprises
	IR4: Peer-recognized working environment	Fombrun et al. (2000); Petkova et al. (2008)	Peer-recognized working environment refers to the views on the working environment of an HSR enterprise
	IR5: Social responsibility performance	Fombrun et al. (2000); Melo and Garrido-Morgado (2012)	Social responsibility performance refers to the perceptions of an HSR enterprise when dealing with different stakeholders
	IR6: Financial performance	Fombrun et al. (2000); Roberts and Dowling (2002)	Financial performance refers to the views on an HSR enterprise's profitability, development prospects, and market risks
Enterprise capability	EC1: Technical capability	Zhang et al. (2011); Liu et al. (2019)	Favorable technical capability helps HSR enterprises to complete projects within the time limit and cost specified in the contracts
	EC2: Management capability	Schwaiger (2004)	Excellent management capability can help HSR enterprises solve disputes in project implementation
	EC3: Financial capability	Lin et al. (2018))	Financial capability is one of the important indicators of HSR enterprises' capability
	EC4: Relationship capability	Lin et al. (2018)	Enterprises have difficulty standing out in the international HSR market because it involves complex relationships with stakeholders; thus, relationship capability is of great significance for HSR enterprises
Capability demonstration	CD1: Fully and accurately understand the owner's demands	Williamson (1991)	HSR enterprises need to distinguish the various needs of owners and demonstrate their capability according to different demands
	CD2: Capability demonstration in the bidding	Lu et al. (2016); Zhang et al. (2020)	Capability demonstration in the bidding is one of the most direct and effective means of building a perception of stakeholders
	CD3: Brand influence	Ghodeswar (2008); Tournois (2015)	Brand influence can enhance the recognition of stakeholders and distinguish an HSR enterprise from its competitors
	CD4: Excellent performance relative to competitors	Niu et al. (2021)	Showing an excellent performance compared to competitors is a vital way to demonstrate the capability of HSR enterprises
	CD5: Standard performance of contracts	Yin et al. (2020)	The standard performance of contracts affects the judgment of stakeholders on the prospect of HSR enterprises
Perception of capability	PC1: Perception of capability through bidding	Niu et al. (2022)	Perception of capability through bidding is beneficial for HSR enterprises to win contracts and obtain recognition from the stakeholders
	PC2: Perception of capability through delivered projects	Yin et al. (2020)	Delivering high-quality HSR projects is the most intuitive way to make enterprises' capability perceived by the stakeholders
	PC3: Positive comments from stakeholders	Yang et al. (2020)	Positive comments from stakeholders refer to the basis of the perception of capability
Macro factors	MF1: Industrial reputation	Chen and Mei (2018)	The good reputation of the international HSR industry can promote the recognition of enterprises in this industry
	MF2: National reputation	Wang (2006)	National reputation refers to the centralized judgment of national image and characteristics
	MF3: Support from the state	Chang et al. (2018)	The state support provides sufficient guarantees for HSR enterprises to expand overseas markets
	MF4: Diplomatic relations	Mishina et al. (2008)	Friendly diplomatic relations between the host and home countries can be seen as a differentiating asset for HSR enterprises

hypothetical path model has sufficient theoretical support and practical significance, and 4) whether the questionnaire was expressed without ambiguity. Feedback from the pilot study showed that the classification of five factors was reasonable, and all the identified variables and hypothetical paths were applicable in international HSR enterprises. An expert pointed out that the questionnaire defines international reputation as the recognition of enterprises by international professional peers, but the listed questions cannot reflect these recognition peers. In response, we modified the questions to make them more consistent with the definition. In addition, some explanations of the variables were added to prevent ambiguity. For example, "relationship capability" refers to the capability to maintain a good relationship with cooperative enterprises and suppliers, and "good leadership" means that the enterprise has a clear plan for the future and can fully use opportunities in the international market.

Based on the feedback from the pilot study and the revision of the previous questionnaire draft, a refined questionnaire with two parts was put forward: The basic information of respondents was listed in part I; part II included the respondents' cognition of the listed 22 questions. The questionnaire distribution and collection lasted from November 2021 to January 2022. Enterprises undertaking international HSR projects were first selected from



Path	Reference	Path	Reference
H1	Zhang et al. (2019)	H5	Yang et al. (2020)
H2	Mishina et al. (2008); Zhang et al. (2019)	H6	Safa et al. (2015); Niu et al. (2021)
H3	Ghodeswar (2008); Mishina et al. (2008)	H7	Tse et al. (1997)
H4	Mishina et al. (2008)	H8	Kang and Yang (2010); Jain and Winner (2013)
		H9	Tse et al. (1997)

Fig. 1 Hypothetical path model of the international reputation of HSR enterprises.

members of the China Association of Railway Engineering Construction. The sample was then expanded by involving partners of these enterprises. A total of 395 enterprises were recruited as the sample, covering all types of enterprises in the HSR industry supply chain. Questionnaires were distributed to employees with more than three years of experience in each enterprise. A total of 395 questionnaires were distributed. After eliminating incomplete or incorrectly completed questionnaires, 118 questionnaires were considered valid from the same number of different HSR enterprises. The rate of response was 29.87%, which is within the reasonable range of 20%–30% in questionnaire surveys of engineering-related fields (Liu et al., 2017b; Zhao et al., 2018). According to the characteristics of questionnaire distribution and research purpose, descriptive statistical analysis was conducted on the basic information at the enterprise level. Moreover, given that questionnaires relied on respondents to complete, the experience of respondents was the main criterion for evaluating the questionnaire's rationality. Table 2 shows the background information of enterprises and respondents.

3.5 Structural equation modeling (SEM)

Given that Herman Wold developed the structural equation model (SEM) in 1975 (Wold, 1975), this approach has been extensively used in the engineering-related field of hypothesis testing (Molenaar et al., 2009; Orozco et al., 2014; Liu et al., 2017a; Zeng et al., 2021). According to different internal algorithms, SEM is divided into two types: Covariance-based structural equation modeling (CB-SEM) and PLS-SEM (Fornell and Bookstein, 1982). PLS-SEM has certain advantages over CB-SEM. For example, PLS-SEM has no strict requirements on the data size and processes data without a normal distribution. Given the aforementioned superiority, we chose PLS-SEM to test the hypothesis path model using SmartPLS version 3.0.

Table 2 General information of enterprises and respondents

General information	Category	Number	Percentage (%)
Sample statistics of the enterprises			
Types	Civil engineering enterprise	45	38.14
	Operation enterprise	26	22.03
	Design and consulting enterprise	13	11.02
	Manufacturing enterprise	27	22.88
	Other	7	5.93
Sample statistics of the respondents			
Position	Ordinary employee	27	22.88
	Junior management	39	33.05
	Middle management	31	26.27
	Senior management	21	17.80
Years of experience	3–6	11	9.32
	6–11	22	18.64
	11–16	36	30.51
	16–20	30	25.43
	> 20	19	16.10
Project location	China	46	38.98
	Asia (excluding China)	15	12.71
	Africa	27	22.88
	Europe	12	10.17
	North America	14	11.87
	South America	4	3.39

4 Results

4.1 Results of measurement model evaluation

We first conducted confirmatory factor analysis (CFA). Table 3 shows that reliability and validity meet the

Table 3 Results of CFA

Factor	Variable	Mean score	Loading	CR	AVE	alpha
International reputation	IR1	3.885	0.838	0.910	0.628	0.881
	IR2	4.107	0.770			
	IR3	3.934	0.829			
	IR4	4.033	0.778			
	IR5	4.156	0.740			
	IR6	4.107	0.797			
Enterprise capability	EC1	4.197	0.728	0.865	0.616	0.791
	EC2	4.090	0.799			
	EC3	3.861	0.759			
	EC4	4.090	0.848			
Capability demonstration	CD1	4.107	0.717	0.860	0.552	0.797
	CD2	4.041	0.773			
	CD3	3.902	0.729			
	CD4	3.934	0.775			
	CD5	4.270	0.718			
Perception of capability	PC1	4.016	0.832	0.903	0.756	0.838
	PC2	4.156	0.907			
	PC3	4.098	0.869			
Macro factors	MF1	4.156	0.785	0.905	0.705	0.860
	MF2	4.107	0.864			
	MF3	4.041	0.873			
	MF4	3.902	0.833			

requirements. The factor loadings that range from 0.717 to 0.907 are higher than the threshold of 0.6 (Hair et al., 1998). The construct reliability (CR) scores that range from 0.860 to 0.910 are above the threshold of 0.7 (Hair et al., 1998). The average variance extracted (AVE) scores that range from 0.552 to 0.756 are higher than the threshold of 0.5 (Hair et al., 2012).

Furthermore, all the square roots of AVE are higher than the correlation between any two factors (Doloi et al., 2011), proving that the discriminant validity of this model meets the requirement (see Table 4). Gold et al. (2001) proposed to evaluate discriminant validity further with the Heterotrait Monotrait (HTMT) Ratio of Correlations. Henseler et al. (2015) proposed that an HTMT higher than 0.900 represented poor discriminant validity of factors. The results in Table 5 show that all five factors have good satisfactory validity. Therefore, the hypothetical path model can be used for path analysis.

4.2 Results of path analysis

Bias-corrected and accelerated (BCa) bootstrapping was chosen as the method for estimating nonparametric confidence intervals to test the hypothetical path model (Putra, 2022). In the two-tailed test, the critical *t*-value shows the criterion to distinguish paths with different levels of significance: 2.58 is the threshold supported by the 0.01 level (***), 1.96 is the threshold supported by the 0.05 level (**), and 1.65 is the threshold supported by the 0.1 level (*) (Awang et al., 2015). As shown in Table 6, eight of the nine hypothetical paths were supported at different significance levels, and one was not supported.

5 Discussion and recommendations

According to the results of the measurement model test and path analysis, Hypothesis 5 "capability demonstration has a positive impact on international reputation" was not statistically significant at any level of confidence. Thus, the theoretical framework was constructed based on the eight statistically significant paths from two perspectives: Being good and being known (see Fig. 2).

Table 4 Discriminant validity of the five factors

Factor	Capability demonstration	Enterprise capability	International reputation	Macro factors	Perception of capability
Capability demonstration	0.743				
Enterprise capability	0.620	0.785			
International reputation	0.564	0.675	0.793		
Macro factors	0.634	0.637	0.780	0.839	
Perception of capability	0.722	0.625	0.646	0.625	0.870

Table 5 Results of HTMT

Factor	Capability demonstration	Enterprise capability	International reputation	Macro factors	Perception of capability
Capability demonstration					
Enterprise capability	0.773				
International reputation	0.665	0.800			
Macro factors	0.756	0.766	0.894		
Perception of capability	0.883	0.765	0.748	0.729	

Table 6 Results of path analysis

Path	Coefficient	Std.	*t*-value	95% confidence interval	Interpretation
H1	0.365***	0.117	3.115	0.545	Supported
H2	0.251***	0.087	2.900	0.359	Supported
H3	0.212***	0.080	2.664	0.412	Supported
H4	0.468***	0.078	5.986	0.599	Supported
H5	−0.091	0.100	0.910	0.102	Not supported
H6	0.216**	0.095	2.263	0.380	Supported
H7	0.401***	0.139	2.887	0.588	Supported
H8	0.543***	0.098	5.542	0.681	Supported
H9	0.193**	0.090	2.144	0.321	Supported

5.1 Being good

The direct impact of enterprise capability on international reputation is reflected in making HSR enterprises good. Enterprise capability may show a positive bias, that is, the higher the capability of an enterprise, the more likely it is to make it better. Enterprise capability mainly includes "technical capability", "relationship capability", "management capability", and "financial capability". We conducted the discussion following the four aspects from the perspective of being good.

First, technical capability is the most intuitive embodiment of enterprise capability. The owners will judge whether the technology capability of an HSR enterprise meets its requirements when choosing partners. HSR enterprises with advanced technology are often believed to reduce project construction and operation costs and ensure construction quality. Furthermore, completing contracts on time and within cost requirements, which is a sign of technical capability, can help HSR enterprises establish good images and enhance their position in the international market (Liao et al., 2007). Enterprises need to address the relations with different stakeholders in HSR projects. In particular, forming an IJV with mature partners is a key manifestation of relationship capability to make HSR enterprises good. Furthermore, HSR enterprises also need to develop cooperative relationships with government departments and financial institutions (Chang et al., 2019). Given that management capability can minimize risks and make enterprises good, management capability is essential during project implementation (Kotha et al., 2001). In the complex international HSR market, enterprises should fully manage the political, economic, and cultural conditions throughout the project. Moreover, a strong financing capability can ensure that enterprises can raise funds for the project. In addition, price competition is common when enterprises bid for international HSR projects. The capability to provide a bid proposal with tempting financial terms often influences the attitude toward this enterprise and whether it wins the bid (Zhang et al., 2020). For instance, Japanese bidders provided a loan of 880 billion rupees with an interest of 0.1% to win the first HSR project in India.

Nonetheless, given the characteristics of the international HSR market, the formation mechanism of international reputation is by no means limited to the enterprise-level while relying more on macro factors to be good. The influence of macro factors on international reputation from the perspective of being good is mainly reflected in two aspects: Industrial reputation and policy support. Industrial reputation is one of the essential invisible determinants in global competition; that is, the industry will have a certain expansion advantage when the international industrial reputation is improved (Mahon, 2002). The "free-rider effect" means that lower performance may be perceived better than it deserves and may exist in reputable industries. Moreover, support from the home country provides a sufficient guarantee for enterprises expanding overseas markets. For example, with the Belt and Road Initiative put forward, the image of Chinese HSR enterprises in the international market is becoming more positive.

5.2 Being known

Another perspective on reputation is being known (Rindova et al., 2005). The discussion will be conducted at the enterprise and macro levels. At the enterprise level, enterprise capability plays a fundamental role in making enterprises known, but the actual capability of an enterprise may not be perceived. Therefore, HSR enterprises must truly and completely demonstrate their real capability in bidding to form a perception of capability among

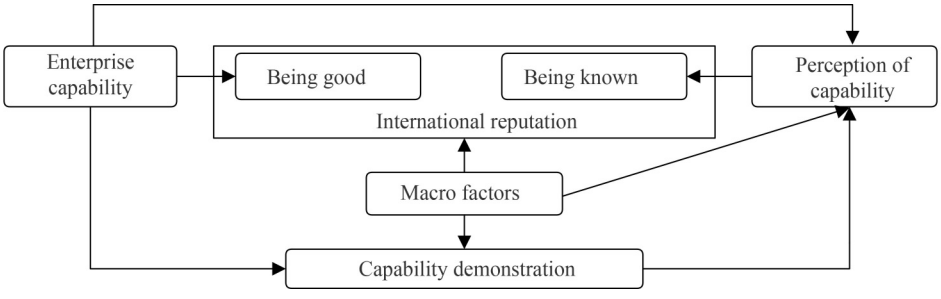


Fig. 2 Theoretical framework for the international reputation of HSR enterprises.

stakeholders; thus, international reputations will be affected. In the preparation stage, enterprises need to allocate existing resources properly to present a competitive bid proposal (Das and Teng, 2002). In the negotiation and confirmation stage, positive past performance can strengthen the enterprise's capability demonstration. Once an enterprise shows sustained and stable performance in the international market, stakeholders will generate positive attitudes, such as recognition, appreciation, and satisfaction (Doni, 2006). However, the coefficient of "H5: capability demonstration → international reputation" is −0.091 in the path analysis, indicating statistical insignificance. Capability demonstration has no positive effect on international reputation. In contrast, international reputation may promote capability demonstration. Stakeholders will pay attention to the process by which enterprises demonstrate their capabilities in bidding. However, the degree of perception is more important. This hypothetical path has not been supported, but capability demonstration, which serves as an intermediary, can reduce information asymmetry and make the perception of capability more comprehensive. In contrast, the absence or ineffectiveness of demonstration may lead to this phenomenon: The enterprise has a strong capability but does not obtain a full perception of the capability.

Macro factors have both direct and indirect influences on international reputation. On the one hand, macro factors will influence enterprises' international reputation directly. The national reputation, which is mainly reflected in making an enterprise known, is also a key factor influencing the international reputation of HSR enterprises (Zhang et al., 2019). Significantly, national reputation in specific fields may influence enterprises' publicity in that country and decide whether to choose them as partners (Lopes et al., 2016). Moreover, as Herbig and Milewicz (1996) pointed out, a good diplomatic relationship between host and home countries can improve international reputation by increasing mutual understanding and promoting win–win cooperation. The example of Chinese HSR enterprises venturing the African market illustrates this view. On the other hand, the perception of capability reinforces the relationship between macro factors and international reputation. For example, Swiss watches, French perfume, and Japanese or German cars are highly recognized worldwide, which can be named the "country-of-origin effect" (Wang, 2006). National reputation can help build up the perception of capability among stakeholders through this effect. Furthermore, a diplomatic relationship between two countries can be seen as the differentiating asset for an enterprise to make the perception more intuitive and effective (Mishina et al., 2008).

5.3 Recommendations

According to the identified factors and verified paths, HSR enterprises can find multiple strategies to improve their international reputation at the macro and enterprise levels (Fig. 3).

At the enterprise level, HSR enterprises can enhance their international reputation by improving their management capability and cooperating with reputable enterprises. International reputation can be enhanced through brand-building activities and fulfilling social responsibilities.

(1) It is one of the effective strategies for HSR enterprises to improve their international reputation by paying attention to their actual capability. The host government and stakeholders prefer enterprises with better capabilities. For HSR enterprises, the cultivation of capability is a long process (Chang et al., 2018). Forming IJVs with mature partners can make up for their weaknesses and improve their capability.

(2) Improving bidding presentation capability is a

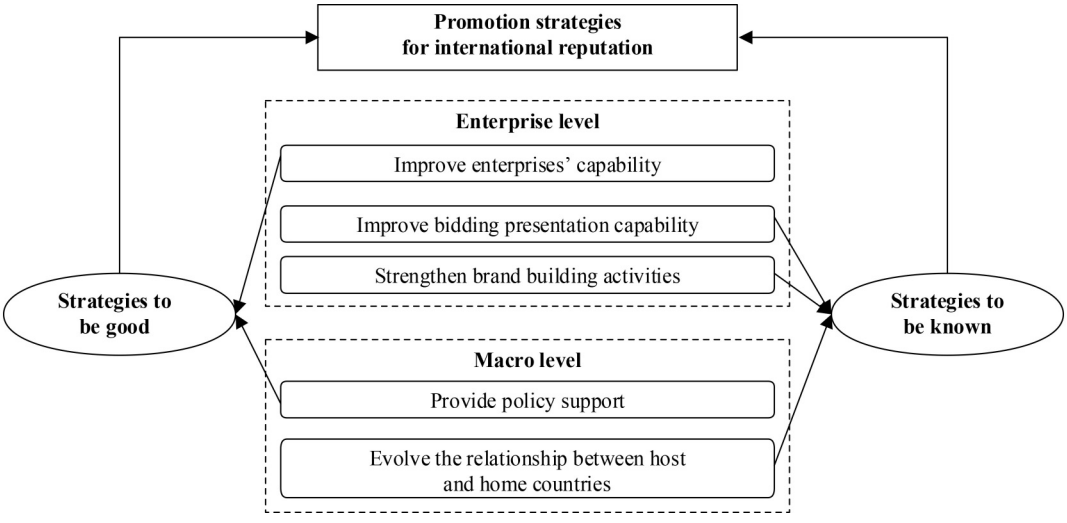


Fig. 3 The strategic framework for international reputation promotion.

direct strategy to build an excellent international reputation. When preparing for bidding, multiple strategies aimed at different targets should be proposed, which will provide the basis of the presentation. In bidding, applying proper strategies to participate in the bidding of international HSR projects is beneficial for enterprises to win contracts, which represents the approval of owners and helps to improve the reputation from the perspective of long-term development (Lu et al., 2008).

(3) HSR enterprises can strengthen their brand building to establish and maintain a favorable international reputation (Porter and Kramer, 2006; Melo and Garrido-Morgado, 2012). Facing fierce competition, brand characteristics and recognition can help distinguish an enterprise from its competitors (He et al., 2021). For example, Shinkansen is the leading safety brand that tries to show the non-accident rate in international competition to obtain market recognition of its brand. Likewise, the low construction cost of Chinese HSR has attracted global attention compared with other international competitors. Moreover, participating in local social responsibility activities can help enterprises gain recognition and support from the local society; thus, international reputation will be enhanced.

In addition to enterprise activities, the international reputation enhancement strategies of HSR enterprises are more dependent on government actions.

(1) Obtaining policy support from the home country before the HSR enterprises enter a new country is necessary (Chang et al., 2018). On the one hand, countries that provide policy support may support the development of the HSR industry and approve more projects. On the other hand, along with policy support, HSR enterprises can be more proactive in seeking opportunities to create situations conducive to international reputation. In addition, obtaining corresponding policy support is useful for dealing with adverse events in international competition.

(2) The international reputation of HSR enterprises is directly affected by the relationship between the host and home countries (Zhang et al., 2019). The long-term friendly diplomatic relations between the two countries, which can be seen as strategic capital, can deepen the understanding between the enterprises of both countries, thus facilitating the establishment of a favorable international reputation in the local market. HSR enterprises find it easier to enter countries having good diplomatic relations with the home country. For example, the Chinese government has provided policy support to the Chinese joint venture by signing a memorandum with the Indonesian government to facilitate the Jakarta-Bandung HSR project.

6 Conclusions

Through a comprehensive literature review and targeted pilot study, five factors, including international reputation, enterprise capability, capability demonstration, perception of capability, and macro factors, were identified. Based on the identified factors, we proposed nine hypothetical paths and structured a path model. The results of the path analysis showed that eight of nine paths are significant at different levels. Moreover, a theoretical framework was proposed to discuss the formation mechanism of international reputation from two perspectives, namely, being good and being known. Finally, this study proposes several recommendations for HSR enterprises to improve their international reputation.

6.1 Theoretical significance

(1) Most past studies failed to consider the interrelationships among the influencing factors of international reputation. In contrast, a hypothetical path model was established to indicate the interrelationships among the identified factors influencing the international reputation of HSR enterprises. Thus, this study expands the existing research on international reputation and provides the foundation for future studies.

(2) Rindova et al. (2005) divided reputation into two correlative and distinguishing conceptualized dimensions: Being good and being known. We proposed a theoretical framework that enriches existing reputation theory to discuss the formation mechanism of HSR enterprises' international reputation based on this view.

6.2 Practical implication

(1) Even though international reputation has been mentioned in various fields, existing research has difficulty guiding HSR enterprises to understand international reputation directly. Thus, we analyzed how the HSR enterprises' international reputation was formed from the perspectives of being good and being known. Furthermore, the verified path model can help HSR enterprises better comprehend the influencing factors and formation mechanism of international reputation.

(2) Based on the identified factors and the verified path model, a strategic framework was proposed for HSR enterprises to improve their international reputation at the enterprise and macro levels. This framework can provide practical bases for HSR practitioners' decision-making in international competition.

6.3 Limitations and future direction

The main limitation of this study is that most respondents work for HSR enterprises in Asia, particularly in China. Given that all of these respondents have participated in international HSR projects and are aware of their international reputation, the collected data are acceptable. Another limitation may be the subjectivity that is

inescapable because of the characteristics of the questionnaire survey. For further analysis, we conducted tests to verify the reliability and validity of the collected data.

Despite these limitations, this study makes theoretical contributions to the schematic knowledge of international reputation and provides a basis for HSR enterprises to adopt effective strategies to improve their international reputation. We can investigate the promotion strategies of international reputation for HSR enterprises and explore the interrelationships among these strategies in the future.

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