Enforcement against Contract Violation in Chinese Construction Projects: Impacts of Trust and Perceived Intentionality

Yuting Chen¹; Yongqiang Chen²; Hedley Smyth ³; Yongcheng Fu⁴

Abstract: Violations happen frequently in construction project due to opportunistic intentions and/or the lack of awareness of obligations and/or honest attempts to react to unforeseen circumstances. Dealing with contract violation plays an important role in managing projects. The aim of the research is to investigate the impact of trust, analyzed in terms of goodwill-based and competence-based trust, on both contract and social enforcement after contract violation. Questionnaire survey, partially based on semi-structured interviews, was used for data collection. All the data is from Chinese construction industry since it provides a fertile context to explore the research questions. The results show that: 1) reputation is used as social enforcement in practice and the severity of it is reflected by the scope of disclosure, 2) the two dimensions of trust have opposite influences on severity of contract and social enforcement via different mediating effects of perceived intentionality. Specifically, goodwill-based trust reduces severity of enforcement via decreasing perceived intentionality, while competence-based trust increases severity of enforcement by increasing perceived intentionality. A comprehensive and nuanced understanding for managing contract violation is generated in this research, which will help project managers to manage the contract violation and the interfirm relationships more effectively.

¹ Lecturer, School of the Built Environment and Architecture, London South Bank University, 103 Borough Road, London, SE1, 0AA, UK. Email: cyt111@foxmail.com
² Professor, College of Management and Economics, Tianjin University, Tianjin 300072, P.R. China. Email: symbolpmc@vip.sina.com
³ Professor, The Bartlett School of Construction & Project Management, University College London, London, WC1E 7HB, London, UK. Email: h.smyth@ucl.ac.uk
⁴ Lecturer, College of Management and Economics, Tianjin University, Tianjin 300072, P.R. China. (corresponding author). Email: yongcheng_fu@126.com
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Introduction

It is of great importance to design construction contracts efficiently and effectively (Wang et al., 2018) since contracts can not only motivate and regulate behaviors in construction projects, but also play a crucial part in managing interfirm relationships. However, contracts can never play their designed roles without fulfillment by contracting parties. Based on two fundamental behavioral assumptions in transaction cost economics (TCE), including opportunism and bounded rationality (Williamson, 1985), contracts, no matter how well designed, can potentially be violated. Since “some individuals are opportunistic some of the time” (Williamson 1985, p.64), one party may breach the contract intentionally if its benefit exceeds the estimated cost. Because of bounded rationality, contract parties have limited processing capacity and cognitive biases. They also have a tendency towards cognitively economizing (Foss and Werber, 2016). Thus, apart from opportunism, contractual violations may also happen due to a lack of awareness of obligations and honest attempts to react to unforeseen circumstances (Antia and Frazier, 2001). In another word, potential contract violations exist from the day contracts are created, no matter how well they are designed. What is real is rational. Thus, it is important to discuss how to deal with contract violation.

The violated party’s response towards contract violations will influence transaction outcomes, such as satisfaction with problem resolution (Mooi and Gilliland, 2013), then influence the relationship between transaction parties and potential cooperation opportunities in the future. Thus, how to deal with contract violations needs to be clarified in order to manage the relationships and performance effectively. However, researchers pay more attention to contracts as governance mechanism, structure and renegotiation compared to contract breach enforcement (Johnson and Sohi, 2016). Among the four research interests in contracting theory, contract breach enforcement is the one has been discussed the least. Thus, more endeavors are needed to explore contract enforcement after violation, especially its mechanism.
Among the limited studies related to enforcement after violation, some focus only on contract enforcement (Antia and Frazier, 2001, Antia and Fisher, 2006, Chen et al., 2018), which refers to the severity of the violated party’s response to the other party’s violation of contractual obligation. Some focus only on social enforcement (Johnson and Sohi, 2016), which refers to the resolution of contractual violations by using approaches outside the contract. Only a few studies take both contract enforcement and social enforcement into consideration at the same time (Mooi and Gilliland, 2013, Iacobucci, 2014). However, it is crucial to consider both contract and social enforcement since contract violations, which occur in different transactions, should also be aligned with contract and social enforcement in a discriminating way to reduce the unnecessary transaction cost.

Considering the important impacts of enforcement on transaction outcomes, it’s vital to find out the antecedents of the severity of enforcement. Perceived intentionality plays an important role when people make decisions related to the severity of social response or punishment towards negative behaviors (Ohtsubo, 2007). In this research, perceived intentionality refers to the violated party’s perception of how planned, foreseeable, and desirable action aligns with the violating party’s violation behavior. It is noteworthy to clarify that the perception might be right or wrong. But that’s not within this research interests since transaction costs will be occurred anyway.

Trust plays an important role in determining perceived intentionality (Harmon et al., 2015). Apart from the influence on perceived intentionality, trust also influences the severity of enforcement (Chen et al., 2018) and contractor’s relational behaviors (Fu et al., 2015) directly. However, extant studies related to trust pay more attention on how trust improves positive aspects, for example better performance and relationship (Wicks and Jones, 1999, Cai et al., 2010, Chiocchio et al., 2011, Guo et al., 2013). Apart from discussing how trust improves positive results in transactions, how trust influences the dark side in transactions, which is
severe enforcement in this study, should also be explored.

Thus, the authors respond to the call for more studies after contract violations by exploring the following research questions: 1) how different dimensions of trust influence contract and social enforcement; and 2) how perceived intentionality mediates these influences. The theoretical framework is shown in Fig. 1. The relationships among trust, perceived intentionality and enforcement are explored mainly by quantitative data from questionnaire survey, partially supported by qualitative data from semi-structured interviews.

The aim of the research is to investigate the impact of trust, analyzed in terms of goodwill-based and competence-based trust, on both contract and social enforcement after contract violation.

This research contributes to the current body of knowledge related to contracting theory and trust, and provides insightful recommendations for project managers practically.

**Background and Hypotheses**

**Contract enforcement after violations**

Johnson and Sohi (2016) classify the current literature on contracts into four areas: contracts as governance mechanisms, contract structure, contract breach enforcement, and contract renegotiation. Compared with the rich amount of studies in the other three areas, studies related to contract breach enforcement are limited.

Extant studies related to contract enforcement could be classified into two areas: a) how to prevent contract violations before they happen (Radygin and Entov, 2003, Guo and Jolly, 2008, Weber, 2015), and b) the response to one party’s violation of contractual obligation (Antia and Frazier, 2001, Antia and Fisher, 2006, Stoyanova, 2009, Suzor, 2012, Mooi and Gilliland, 2013). This research focuses on violated party’s reactions after contractual breaches.

In this body of work, researchers identified the antecedents of contract enforcement (Gilliland and Bello, 2002, Antia and Fisher, 2006, Jin et al., 2013), the different types of contract
enforcement (Noorderhaven, 1992, Stoyanova, 2009, Suzor, 2012, Weber, 2015, Johnson and Sohi, 2016), and the consequences of contract enforcement (Mooi and Gilliland, 2013). Only a few studies explore the mechanisms of how antecedents influence enforcement. Antia and Frazier (2001) explore how the severity of contract enforcement is influenced by the delivery channel and network factors from the perspective of agency theory. Malhotra and Lumineau (2011b) address how contract structure influences the likelihood of dispute and determine the following cooperation. Harmon et al. (2015) explore how people interpret contract violation and how trust and relationships would be affected by these interpretations. Chen et al. (2018) also examine how prior ties influence severity of contract enforcement via trust.

Among these studies related to contract violation, only Mooi and Gilliland (2013) consider contract enforcement and social enforcement at the same time. They find out that both of these two enforcement types would reduce satisfaction. However, misaligned enforcement would induce worse problems. As one part of governance, enforcement, with different costs and competences (Williamson, 1996), should also be aligned with various contractual violations. Thus, studies related to enforcement after contract violation should take both contract and social enforcement into consideration at the same time.

**Social enforcement after violations**

Apart from contract enforcement, social enforcement also provides a corrective action for remedying violations. Contract enforcement is an expected way to deal with the breach since it is available through the signed contract. However, this legal enforcement may not be a practicable option sometimes, especially under the circumstance in emerging markets such as China with more difficulties to verify information, and weaker legal systems for protecting and enforcing contracts (Luo, 2006). Things would be even worse when the violation happens in the violating party’s country and they happen to be powerful in local area (Griffin and Husted, 2015). Macaulay (1963) also find out that transactions could operate successfully with
relatively little legal sanctions.

Problems still exist even if contract enforcement is a viable option since it could be costly and lead to zero-sum outcomes (Krasa and Villamil, 2000). Costs are incurred in time, effort and expenditure. Significant relational patterns exist in all legal and economic transactions (Macneil, 1978). Contract enforcement may also destroy the established relationship between contracting parties, which is an erosion of social capital as a corporate asset that could facilitate exchange and influence the development of intellectual capital (Nahapiet and Ghoshal, 1998).

After all, contracts only address the need for sanctions if relational behavior departs from the social norms and legal requirements (Macneil, 1974). All of the above studies are based in western context. This damage might lead to worse results in Chinese context since relationship in China is suited to handle complexity and uncertainty in the future transactions and is a time and energy consuming asset to build (Boisot and Chile, 1996).

Studies related to contract enforcement are scant, research on social enforcement is scarce. Similar to this study, the research of Johnson and Sohi (2016) pays attention to enforcement options after contract violations. Based on in-depth interviews, they find two main categories of social enforcement, including integrative and compromising. However, the results of their study are categories, which are not feasible to do questionnaire with scale.

Social enforcement refers to the severity of one party’s response to another’s violation of contractual obligations in social institutions, which is guided by shared expectations and norms. The existing shared expectations and norms could form a company’s reputation in its industry. What’s more, a company’s reputation could also give its new partners an image even before their transactions. Thus, reputational sanctions might be one of the ways to conduct social enforcement. When a transaction party breaches the contract, the violated party would lower the reputation of the other party in the reputation system as a sanction to reshape the default party’s reputation in the whole industry market. However, whether reputational sanction works
as social enforcement in practice needs more exploration.

Reputation is introduced into management research from sociology (Vlasic and Langer, 2012), where it is seen as part of social identity (Nguyen and Leblanc, 2001), which could be shaken by a violation and rebuilt by new input from a violated party. Reputation is regarded as sets of attributes, which are inferred from its past actions, of a firm from an economics perspective (Weigelt and Camerer, 1988). Reputation is seen as an idiosyncratic capital of a company, which needs investment and a long time to develop from the strategy perspective (Vlasic and Langer, 2012). Organizational researchers treat reputation as an intangible resource contributing to the performance and even survival of an organization (Hall, 1993, Rao, 1994). This research adopts the definition from Vlasic and Langer (2012) and defines reputation as a key stakeholder’s perceptual representation of an organization’s observable past, current and expected, future performance. Contractual violation with intentionality is such a past action, which would rebuild the violating party’s attributes.

In general, both legitimacy and reputation regulate what and how organizations should work to govern exchanges. Legitimacy is achieved if reputation is satisfied at its minimum level.

**Perceived Intentionality**

People make a distinction between intentional and unintentional actions when they explain others’ behavior (Malle and Knobe, 1997). The concept of perceived intentionality was introduced into management research from psychology. The authors adopt the studies of Malle and Knobe (1997) and Lafrenière et al. (2016) and define perceived intentionality as acts that are planned, foreseeable, and desirable on the part of agent in this research.

Researchers have found out that perceived intentionality would influence people’s decision-making, especially when they evaluate negative behaviors. Ohtsubo (2007) posit that perceived intentionality plays a crucial role when people determine how much blame the negative behavior deserves. In general, the negative behavior incurs more blame if the intentionality is
perceived by the violated party (Kleinke et al., 1992, Hogue and Peebles, 1997, Malle and Bennett, 2002). All of these studies provide a prediction that intentional contract violation would incur severer enforcement. Thus, the authors develop the following hypotheses:

**H1a. Perceived intentionality is positively associated with the severity of contract enforcement.**

**H1b. Perceived intentionality is positively associated with the severity of social enforcement.**

**Two Dimensions of Trust**

Trust is believed to influence the severity of contract enforcement since it determines how the violations are interpreted (Chen et al., 2018). It is also said that social contract in general, and therefore social enforcement in particular, requires trust. For example, Rousseau et al. (1998) draw attention to trust in social contracts, Macneil (1974, 1978) cites the social dimension of contracting, Smyth et al. (2010) argue trust is foundational to effective relationships in a project context.

The authors follow the studies of Nooteboom (1996), and define trust as the willingness of a party to be vulnerable to the actions of another party based on positive expectations regarding the other party’s motivation and/or behavior. After a meta-analysis in literature in trust, Delbufalo (2012) finds out that operationalization of trust would influence the conclusion generated from a particular study. Thus, it’s important to choose the components of trust. In this research, trust is dimensioned into goodwill-based trust, which refers to the belief in the other party’s intention to perform in a trustworthy manner, and competence-based trust, which refers to the belief in the other party’s ability to complete tasks as promised. The reasons for distinguishing trust into these two components are as follows. Firstly, there are five cues that people would use for judging whether an agent’s behavior is intentional or not: (a) a desire for an outcome, (b) beliefs about a behavior leading to that outcome, (c) a resulting intention to perform that behavior, (d) the skill to perform the behavior, and (e) awareness of fulfilling the
intention while performing the behavior (Malle, 1999). By distinguishing trust in this way, this study grasps the cues of perceived intentionality. Secondly, previous studies related to enforcement also distinguish trust in this way (Lumineau and Henderson, 2012, Chen et al., 2018, Yao et al., 2018). What’s more, expectations based on competence are found to be dominant in incidents like contract violations in projects (Kaulio, 2018).

From the transaction cost perspective, contracts are designed to safeguard the specific investments and diminish moral hazards in the transactions (Eckhard and Mellewigt, 2006a) since exchange parties are opportunistic at times (Williamson, 1996). Under such circumstances, a contractual violation might be regarded as opportunistic since the violated party probably concludes the behavior to be opportunistic in pursuit of the violating party’s own self-interest.

However, the violation would be perceived less intentional if the level of goodwill-based trust between the exchange parties is high. The violated party, who perceives the default party as generally trust-worthy, may perceive the violation as less intentional since two cues for judging whether an agent’s behavior is intentional or not would be reduced. The two cues are a desire for an outcome, and a resulting intention to perform that behavior since both of the two cues contradict with an intention to perform in a trust-worthy manner. In addition, norms of equity and reciprocity also exist if the level of goodwill-based trust between exchange parties is high (Ven, 1992). This also results in the violation being perceived as less intentional. Thus, the authors posit the following hypothesis:

**H2a. Goodwill-based trust is negatively associated with the level of perceived intentionality.**

However, competence-based trust has opposite influence on perceived intentionality according to attribution theory. When the competence-based trust is high between the exchange parties, it means that the violated party believes the default party has the ability to complete tasks as promised. However, contract violation still occurs. The default party, whether intentionally or
not, will be perceived more favorable since it is known that they have the competence to rectify the breach or complete what is incomplete. Further, Malle (1999) has proved that skill has explanatory functions regarding “how” events are conducted rather than “why” they are. The default party has two skills. One skill is the ability to complete the contract; the other skill is the competence to carry through a default in a specific way. A decision to default puts an intention into an action. Thus, the authors develop the following hypothesis:

**H2b. Competence-based trust is positively associated with the level of perceived intentionality.**

Since collaboration and emotional investment may be attached to the willingness to trust (Mcallister, 1995, Robson et al., 2008), the violated party perceives the information provided by the default party as reliable and hence regard it as unintentional, thus take a less severe enforcement. In addition, remedies tend to be substantial rather than restorative and the response to a breach tends to be desirable to restore present and cooperation in the future according to Macneil (1974). While severe enforcement would destroy the established relationship between the contracting parties (Nahapiet and Ghoshal, 1998), less severe sanction can maintain a degree of cooperation in the future. Since goodwill-based trust will influence the severity of enforcement directly by itself (Chen et al., 2018, Yao et al., 2018), the authors propose that the mediation effect of perceived intentionality would be partial. Thus, the authors develop the following hypotheses:

**H3a. Goodwill-based trust is negatively associated with the severity of contract enforcement.**

**H3b. Perceived intentionality partially mediates the inhibiting effect of goodwill-based trust on severity of contract enforcement.**

**H3c. Goodwill-based trust is negatively associated with the severity of social enforcement.**

**H3d. Perceived intentionality partially mediates the inhibiting effect of goodwill-based trust on severity of social enforcement.**

The influence of competence-based trust is more complex. Competence-based trust might
diminish the severity of enforcement directly by facilitating the exchange of information between transaction parties and improving the satisfaction of relationship (Pinto et al., 2009, Guo et al., 2013). What is more, the likelihood of continued collaboration after the rise of a conflict is higher in the presence of competence-based trust (Malhotra and Lumineau, 2011b). Since both parties in a transaction desire to continue cooperation in the future and avoid interference with this goal (Macaulay, 1963), severe enforcement will be avoided under such circumstance. Thus, competence-based trust would directly reduce the severity of enforcement. However, another opposite influence also exists. As has been discussed in the preceding part, competence-based trust would increase the perceived intentionality, thus improve the level of enforcement severity. The problem here is which mechanism dominates the influence of competence-based trust on the severity of enforcement. The authors posit that the enhancing influence from the mediating effect of perceived intentionality would be dominant since perceived intentionality plays crucial role when people evaluate negative behavior, and determines how much blame this behavior deserves (Ohhtsubo, 2007). Because of the direct influence from competence-based trust on enforcement, the mediation effect should be partial. Thus, the authors develop the following hypotheses:

**H4a. Competence-based trust is positively associated with the severity of contract enforcement.**

**H4b. Perceived intentionality partially mediates the enhancing effect of Competence-based trust on severity of contract enforcement.**

**H4c. Competence-based trust is positively associated with the severity of social enforcement.**

**H4d. Perceived intentionality partially mediates the enhancing effect of Competence-based trust on severity of social enforcement.**

**Methods**

**Data collection and samples**
Research questions are answered by quantitative data collected by questionnaire survey, which is partially based on qualitative data collected by semi-structured interviews.

Context, including the culture, political, legal, and economic system at one time (Tsui, 2006), is vital for conducting management researches because it: 1) is necessary for theory development and application (Tsui, 2007) and facilitates replications and evaluation while borrowing theories from more mature disciplines to emerging ones (Fellows and Liu, 2020), 2) helps with appropriate specification of constructs and generalizable results as researches become more international (Roussear and Fried, 2001), and 3) implies distributional assumptions and helps to better convey the applications of research (Johns, 2006).

Contextualization is conducted in this research following the guides from the studies of Roussear and Fried (2001), Tsui (2006), and Child (2009). We argue that construction industry in People’s Republic of China (China) provides a fertile context in exploring the research questions. Firstly, contract ineffectiveness is more common in China due to low information transparency and legal enforceability (Shou et al., 2016). There is a proverb in Chinese, “Muddy water makes it easy to catch fish”. This shows that people in China believe opacity creates opportunities. What’s more, legal enforcement may not be a practicable option in China with more difficulties to verify information, and weaker legal systems for protecting and enforcing contracts (Luo, 2006). This background encourages people in China to seek other effective and fast approaches to deal with contract violations. It is also very common that transactions in construction industry in China are between two parties who share the same group company. In that case, it will be a transaction under both market and hierarchy mechanism. A wider distribution of enforcement is expected in such context, which is an important consideration while contextualizing (Roussear and Fried, 2001). Secondly, Chinese companies prefer to use network-centered strategies rather than market-centered strategies because of China’s *guanxi* culture and imperfect institutional framework (Peng,
As mentioned above, business is done following a tradition of not having a particularly strong legal system in China. Thus, people rely more on trust and on personal relationships. There’s a lot of focus on building relationships so that you can build the trust. I do you favors, and then you owe me one. If you do enough favors of people, you have the ability to call on them for a favor that even inconvenient for them in the future. And they would feel an obligation to actually go forward. What’s more, a legal and transparent way of dealing contract violation would disclosure company and project information in public and be a signal of disharmony among the companies under the same group company, which is against the three Chinese cultural norms (Tsui, 2007). Thirdly, construction projects, which are among the most complex of all production undertakings, are influenced greatly by contracting uncertainty (Winch, 2006). Contract is one mechanism to manage uncertainties, however, is incomplete because of bounded rationality and consideration of ex-ante costs (Oliver and John, 1999). It is contracting uncertainty that has greatest impact on construction projects (Winch, 2006). Because all contracts are incomplete, social redress is also needed to address matters outside the bounds of the contract. Thus, it’s more likely to perceive the other party’s behavior as a violation in construction industry. Because of the three reasons above, Chinese construction industry provides a fertile context for exploring research questions.

The ethical approvals for both interview and questionnaire were obtained before we conducted the research. The interviews were firstly conducted to develop a way to measure social enforcement in terms of severity. The results from the interview study, which include: 1) reputation system is used as social enforcement in practice, 2) the severity of social enforcement could be distinguished by scope of disclosure, were used in the following questionnaire survey. The process of interview is described in the social enforcement measurement development session since that is the main reason for the interview. The questionnaire survey was then conducted to test all the hypotheses. A sample of the designed
questionnaire is shown in the Appendix 1. Questionnaires were distributed to Chinese professionals in owner companies who have dealt with contract violation in construction projects. The respondents were asked to recall their most recent experience of contract violation and complete the questionnaire. All the respondents were told that the questionnaires were only for academic research and would be kept confidential and anonymity preserved. Data collection lasted 2 months. The authors distributed 320 electronic questionnaires. Finally, 206 informants responded to the questionnaire, for a response rate of 64.4%. 179 valid questionnaires were left after deleting responses that do not meet criteria. Questionnaires that have been finished within 100 seconds, from non-manager responses, the answers of different items measuring the same variable contradicted each other were deleted due to the low data validity. The valid response rate is 55.9%, which is between the response rates (48.75% and 59%, respectively) in recent studies related to contract enforcement (Mooi and Gilliland, 2013, Chen et al., 2018).

Structural Equation Modeling (SEM) approach was used to model complex relationships between directly and indirectly latent variables. SEM is suitable to do the regression analysis with multiple dependent variables and to reduce measurement errors. *AMOS 24* was employed to conduct SEM in this study. Since SEM could not distinguish the difference between full and partial mediation effect, the authors also carried out the regression analysis according to Baron and Kenny (1986) and (Judd and Kenny, 1981). Thus, linear regressions were also conducted in this study.

**Measurement development**

Based on the current literature related to this study, items were developed to measure variables. Special attentions have been paid to ways of theory borrowing according to the advice of Fellows and Liu (2020). Validity is a big concern while borrowing the existing theory across contexts in different situations (Tusi et al, 2007). Since the related studies are all in English and
the respondents are Chinese, comprehensive and critical translation should be made. Four steps of scrupulous translation (Sharifirad, 2011) were adopted in this study. The English items were first translated into Chinese. Two other independent researchers translated it back into English. The authors compared these two versions to make sure that there was no significant changes. Following the recommendation from the study of Tusi (2006), the authors also conducted a pilot study with 11 interviewees to make sure that the measurements fit in the Chinese construction context. Modifications were made accordingly.

**Dependent variable: Social Enforcement and its Severity**

As far as we know, the measurement of social enforcement is limited in the current literature. Thus, semi-structured interviews were conducted to explore what is the empirical way of social enforcement and how do companies use social enforcement distinctively in terms of severity. The interviewees were expected to have experience of contract violations and dealing with them afterward. Convenient sampling was used to identify the target interviewees. The purpose of the interview was told to the interviewees in advance so that they could be sure if they are suitable for this study. Finally, 31 working professionals were interviewed (28 male/3 female) from 6 organizations until data saturation principal (Francis et al., 2010) is satisfied. All of them are either project manager or contract manager so that they have enough experiences of dealing contract violation.

The whole interview process lasted for more than 3 months. Each interview lasted from 45 to 60 minutes in a face-to-face manner. All the interviewees were told that their answers would only be used for academic research and kept confidential and anonymity preserved. The whole processes were recorded with their permissions and turned into transcripts.

In each interview, the following questions were asked:

- Q1: Has your project experienced contract violations? If yes, please describe it.
- Q2: How did you deal with the contract violations?
• Q3: Apart from contract enforcement, are there other ways for you to deal with contract violations?

• Q4: How do you differentiate the severity of any social enforcement?

• Q5: What factors will influence your decisions upon the type and the severity of enforcement?

• Q6: Are there any difficulties to do with enforcement?

In every interview, the interviewers did not ask about reputation punishment at all but all interviewees raised this in response to Question 3 by themselves. All the interviewees started talking about and only about reputational punishment without the interviewers giving them any prompts or clues. Thus, it can be concluded that reputational punishment could stand for social enforcement to some extent. Then, the interviewers made a detailed inquiry about how to distinguish reputational punishment in terms of severity based on their answers. Interviewees mentioned the reputation punishment in different ways. As one interviewee described: *We have a company list, which is only available to ourselves. We give a very low score to this company so that it could hardly cooperate with us after this project. They were blacklisted.*

After data analysis by three researchers together, a reputational punishment mechanism became clear. The severity of reputational punishment can span from within company, within a group of companies, within local companies, to within international companies in this industry. The scope the violated party discloses about the violating party’s behavior follows a logical sequence from within company to within international companies in this industry. Since a logical sequence of social enforcement in terms of severity was discovered, the Guttman scale was used in this study (Guttman, 1944). In order to check the Guttman scale developed by interviews, the authors made the item, which measures social enforcement, a multiple-choice question. Since the options of Guttman scale should be in order (Guttman, 1944), the authors went through all the collected questionnaires to check whether respondents have ticked all the
options before the most severe chosen option. For example, the authors found that when they choose to punish the violated party within the relevant international institution in industry, they also ticked all the options less severe than that. This result held the same vice versa. If the respondents have not chosen to punish the default party in certain level, they will not tick the more severe option as well. Thus, these items qualify in regard to the Guttman scale.

As a result, four items were used to describe their different scope of reputational punishment including: we blacklisted the default party within: a) our company, b) our group of companies, c) local institution in our industry, and d) the international institution in our industry. The score of this item is 1,2,3,4,5 respectively when the respondent chooses none of these options, only chooses option A, chooses both option A and B, chooses option A, B and C, and chooses all of these options.

**Dependent variable: Severity of Contract Enforcement**

The severity refers to the owner’s reaction to the violation of the contractor. It can range from lenient actions, for example tolerating the violation completely or just replying with mild attempts to gain compliance, to tough and punitive actions. In addition to severity, Antia and Fisher (2006) also dimension enforcement into certainty, and speed. However, severity is fundamental to the definition of contract enforcement (Gibbs, 1975) since an increase in severity is more effective than an equivalent increase in the probability of enforcement (Friesen, 2012). What’s more, the questionnaire survey in this study is based on experience rather than a scenario-based experiment. Thus, items in the study of Antia and Frazier (2001) were adopted in this study and shown in Table 1. The level of their study is the same as ours, which is transaction between two parties.

**Independent variable: Trust**

Both goodwill-based trust and competence-based trust are measured in Chinese context in the studies of Jiang *et al.* (2013) and Zhang *et al.* (2016), assuring the applicability of these items.
Thus, the authors used the existing items in these two mentioned studies as shown in Table 1.

**Mediating variable: Perceived Intentionality**

Based on the study of Harmon et al. (2015), three items were used to assess the perceived intentionality in this study. The items are shown in Table 1.

**Control variables**

Consistent with the study of Johnson and Sohi (2016), the control variables in this study are based on four factors that influence the decision on enforcement, including: external environment, interfirm, internal, and interpersonal factors. Legal feasibility, which stands for external environment factors, is controlled in this study since legal institutions are expected to affect enforcement decisions (Zhou and Poppo, 2010). Relationship type, prior tie, bilateral lock-in, and the shadow of the future are controlled as interfirm factors since they are found to influence severity of contract enforcement (Chen et al., 2018). Cost of resolution, and cost of contractual breaches are considered as internal factors based on the study of (Antia and Frazier, 2001) since they will influence the enforcement decision after default (Macaulay, 1963). Items are all shown in Table 1.

**Results**

**Measurement Model Fit**

Cronbach’s alpha values of multiple-item scales were calculated to explore the internal consistency and reliability of the scales. As shown in Table 1, the Cronbach’s alpha values of each scale are all above the 0.7 benchmark indicating that the level of consistency and reliability is sufficient in this study (Nunnally and Bernstein, 1994).

Confirmatory factor analysis (CFA) was employed to explore the convergent validity and discriminant validity. Average variance extracted (AVE) and construct reliability (CR) were calculated to explore the convergent validity. As shown in Table 1, the AVE values of each construct are all above the 0.5 benchmark. The CR value of perceived intentionality is 0.657,
closed to 0.7. All the other CR values for constructs are all above the 0.7 benchmark indicating that measurements have good convergent validity. Each square root of AVE is compared with the off-diagonal correlation coefficient to assess the discriminant validity. As shown in Table 2, the square root value of AVE of each construct is higher than the off-diagonal correlation coefficient, indicating that discriminant validity is acceptable.

The authors conducted an exploratory factor analysis (EFA) with Harman’s one-factor to make sure that common method variance (CMV) would not influence this research (Podsakoff et al., 2003). The results show that the contribution rate of each latent variable is less than 25%, and their cumulative contribution rate of these four latent variables is 73.391%, which indicate that neither could one main factor explain all, nor could most of the factors merge together, thus demonstrate that CMV is not a significant disturbance.

In addition, variance inflation factor (VIF) was also calculated to check multicollinearity problems. The results show that VIF values in this study ranged from 1.057 to 1.811, indicating that these variables are not significantly correlated. The results for the structural model fit are shown in Table 1.

**Hypothesis analysis**

Linear regression was firstly conducted to test the hypotheses with SPSS 23.0. Severity of contract and social enforcement were put into the regression as dependent variables separately. As shown in Table 3, only control variables were first conducted in both Model 1 and Model 4. Then, independent variables, goodwill-based trust and competence-based trust were added into the Model 2 and Model 5. Finally, the mediation variable, which is perceived intentionality, was added into the Model 3 and Model 6.

The results indicate that goodwill-based trust is negatively related to both contract and social enforcement significantly, supporting H3a and H3c. However, these two types of enforcement are not significantly influenced by competence-based trust. It is worthwhile noticing that the
coefficients are positive. The SEM model, which is illustrated in Fig.1, is used to do further analysis. The results are shown in Table 4. The authors also depict the results in Fig. 2, Fig. 3 and Fig. 4. As shown in the table and figures, H1a, H1b, H2a, H2b, H3a, and H3c are all supported by the data analysis. However, this confirms the results in the linear regression discussed above; both H4a and H4c are not supported. From the examined hypotheses above, it can be generalized that the influences of two dimensions of trust on both contract and social enforcement are mediated by perceived intentionality, which supported H3b, H3d, H4b, and H4d.

In order to test whether the mediation effect is partial or full, the authors used three steps mediation test according to Baron and Kenny (1986) and (Judd and Kenny, 1981). Thus, perceived intentionality was put into the regression as dependent variables in Table 5. The results support H2a and H2b. Combining Table 3 and Table 5 together, the authors could conclude that the negative influence from goodwill-based trust on severity of contract and social enforcement is partially mediated by perceived intentionality. However, since the positive relationship between competence-based trust and severity of enforcement is not significant, it’s not feasible to test mediation effect in this mediation test method.

Discussions and Contributions

In this research, the authors found that goodwill-based trust would reduce the perceived intentionality thus lower the severity of both contract and social enforcement. However, competence-based trust has the opposite influence on perceived intentionality. The violation would be perceived as more intentional under the circumstance of higher competence-based trust, thus induces more severe contract and social enforcement.

Influence of trust dimensions on contract and social enforcement

Previous studies related to trust focus on how trust improves the positive sides (Ven, 1992, Munns, 1995, Zhang et al., 2009, Pettersen and Danielsen, 2017). Different from these previous
studies, the authors explore trust from another perspective, how trust inhibits the dark sides in the transaction. By dividing trust into goodwill-based trust and competence-based trust, the authors find the opposite influences of these two dimensions of trust on perceived intentionality. Goodwill-based trust reduces the perceived intentionality towards the violators’ default. However, when the violated party trusts the default party in having the competence to complete the task, yet still violated, they would perceive the default as more intentional. In short, these two dimensions of trust have opposite influences on the transaction’s dark side, which not only strengthen the necessity of doing a nuanced study but also reconfirm the way to distinguish trust from previous studies (Nootbooom, 1996, Malhotra and Lumineau, 2011b).

**Mediating effects of perceived intentionality**

Our results confirm the opinion that perceived intentionality plays crucial role when people evaluate negative behavior, and determines how much blame this behavior deserves (Ohtsubo, 2007). The mediation effects show that the negative influence of goodwill-based trust on severity of contract and social enforcement is partially mediated by perceived intentionality. However, the partial mediation effect of perceived intentionality is not applicable in the relationship between competence-based trust and severity of contract and social enforcement. Two reasons might explain this phenomenon. Firstly, the direct influence from competence-based trust identified by Chen et al. (2018) and Yao et al. (2018) might offset the mediation effect posed by perceived intentionality. Secondly, there might be some other mediation variables working in opposite directions. For example, competence-based trust might improve the level of likelihood of continuity (Malhotra and Lumineau, 2011b, Ta et al., 2018) or promote interest-based strategy of both side (Zhang et al., 2016) after contract violation. From the results in **Fig. 3, Fig. 4**, and **Table 3**, it is notable that goodwill-based trust poses more significant and more influence on both enforcements, which confirm that goodwill-based trust leads to less likelihood of continued collaboration compared to competence-based trust.
(Malhotra and Lumineau, 2011b) since it’s harder to continue collaboration after severer enforcement. In addition, the correlations between trust and enforcement show that there are other variables explaining the severity of enforcement. We argue that the influence could be partially explained by the control variables since the results in Table 3 show that legal feasibility, the shadow of the future, cost of resolution and contractual breaches have significant influences on the severity of enforcement.

**Contributions**

By exploring issues related to contract violations, this study contributes to contracting theory in construction project management in the following three ways.

First of all, most of the previous studies in contracting theory literature focused on how to draft the contract (Arino and Reuer, 2004, Eckhard and Mellewigt, 2006b, Argyres et al., 2007, Cao and Lumineau, 2015). One important and implicit assumption behind these studies is that the contract would be fulfilled exactly the same as it is drafted. However, contractual breaches commonly occur in practice for different reasons (Antia and Frazier, 2001, Harmon et al., 2015), to which less attention has been paid in contracting literature. By addressing this limitation, this research extends contracting theory from the preliminary designing stage to the forward enforcement stage.

Secondly, this research complements contract enforcement with social enforcement. The results of this research show that reputational sanction is the most common social enforcement way to deal with contract violation in practice in Chinese construction industry. By addressing issues in the enforcement stage, the authors offer another perspective to analyze the relationship of contractual and relational governance. The authors also propose a new way to differentiate severity of reputation via social enforcement, which will be helpful for the empirical studies related to social enforcement in the future. The violated party can sanction the violating party by disclosing their behavior of violation in the reputational system. As Warren Buffett puts it,
“It takes 20 years to build a reputation and five minutes to ruin it” (Buffett and Clark, 2006).

Thirdly, even some recent work started to explore issues related to contractual breaches, the mechanism of how exchange parties make the severity of enforcement decisions is still underdeveloped. By exploring the mediating role of perceived intentionality, this research also highlights the importance of psychological influences in contracting.

In addition to the contributions to contracting theory, this research also enlightens research related to trust. This research complements the studies that concentrate on how trust improves the positive sides in transactions with how trust inhibits the dark side in the transactions.

The authors also provide further insightful and practical implications for the management of construction projects that goes further than prior work (Smyth and Edkins, 2007, Smyth et al., 2010). In general, trust is not always good and brings benefits in the construction project. The straightforward conclusion in practice is that trust breeds more tolerance. However, our results show that competence-based trust would increase the violated party’s perceived intentionality, thus inducing more severe enforcement in both contractual and social ways. The endeavors for gaining the transaction party’s trust before winning the bid are understandable and can be enhanced through relationship management (Smyth and Edkins, 2007). However, the contractors should never be complacent about their competence since it would increase the dark side in the transaction when violation happens. Raising owner’s expectation of their competence might increase the possibility of winning the bid, however, would cause more trouble once violation happens. Gaining project opportunity is not the final goal of cooperation, but grasping it is. It is also notable that project parties should behave cooperatively to show their goodwill even they have enough competence.

**Limitations and future directions**

Given the contributions discussed above, this research is also subjected to several limitations. Firstly, reputation is used to be on behalf of social enforcement in this research. Even
reputational punishment stands for social enforcement to some extent, there should be some other non-contractual ways to deal with contractual breaches. Hence, more research could be done to clarify these ways are and to consider how to measure them in empirical studies.

Secondly, the data gathered in this study is all from China, where transactions are guided by a less stable institutional environment and a guanxi culture with certain unique features. Thus, further studies could be conducted among different countries with different cultural backgrounds so that a more general conclusion could be secured, especially the way of measuring the severity of social enforcement in terms of reputation could be tested in other contexts.

Thirdly, this research is an empirical study based on the past experience. In order to explore the causal relationship more precisely, experiment based studies (Harmon and Kim, 2015, Harmon et al., 2015) are necessary in the future.

Last but not the least, this research only focuses on the decision-making process to deal with contract violation. The effects of contract enforcement and social enforcement after the decision is made need further exploration.

In general, there are plenty of opportunities in the research area of contractual breaches. This research is just an initial attempt is this direction. More relevant research is still needed to explore this topic in the future.

**Conclusion**

The authors explore influences of two dimensions of trust on both contract and social enforcement with the opposite mediating effects of perceived intentionality in Chinese construction projects. Specifically, goodwill-based trust reduces severity of enforcement via decreasing perceived intentionality, competence-based trust increases severity of enforcement by increasing perceived intentionality. One important step is moved further in studies related to contract violations. More research is needed to explore how these different types of
enforcement improve performance or reduce related costs. A comprehensive and nuanced understanding for dealing with contract violation is provided by this research, which will help project managers understand how to deal with contract violations and thus manage the interfirm relationships more effectively.

**Disclosure statement**

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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