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Understanding Trust Transfer in Construction Project Marketplace of China

Chen Menglong and Yin Yinlin
School of Management, Tianjin University of Technology, China

Abstract: Initial trust has been proved to be a crucial antecedent of Proper Risk Allocation (PRA) which benefits the improvement of construction project management. However, In the context of China, employer's lack of trust in the unfamiliar contractor without prior trade experience is the main obstacle that prevents employer from using the RPA. The aim of this paper is to create a better understanding of a specific path of building trust named trust transfer. In this paper, we first reviews related literatures and sum up the main feature of the trust transfer from the other context (e.g. E-business), and proposed the conceptualization of trust transfer in construction project marketplace. And then, according the feature of the trust transfer, we describe the basic model of the trust transfer in the construction project marketplace including employer as the trustor, the third party (source) and the unfamiliar contractor as trustee (target), and the relationship between these three nodes. At last, we analyze the type of the third party and the relationship of the trust transfer in the context of construction project.

Key words: Trust transfer, trustor, the third party, trustee, construction project.

1. Introduction

Trust constitutes one of the most salient concerns of researchers in contemporary social science [1, 2]. Since the seminal works of Robert Putnam [3], several studies have attempted to identify the fundamental characteristics of trust and to relate trust to economic outcomes [4, 5]. In the context of construction project, the employer use construction contract to form the transaction relationship with a contractor. And whether to trust or not is the key factor for the employers to decide who to trade with and how to trade.

Our prior studies point out that initial trust is a crucial antecedent of Proper Risk Allocation (PRA) between the employer and contractor in a construction project [6, 7], and PRA is proved to be positively related with the project management performance by Badenfelta [8]. However, the decision-making paradox on risk allocation is prevalent in practice. That is to say, the employer does not use a reasonable risk allocation scheme which is in favor of contract performance, so as to form adverse selection in risk allocation decisions [9]. It roots in the lack of initial trust in construction project marketplace, so the employer is caught in a trust dilemma.

In the context of China, employer's lack of trust in the unfamiliar contractor without prior trade experience is the main obstacle that prevents employer from using the RPA to improve the performance of project management. In other words, how dose an employer, when encountering an unknown contractor, decide how much to trust. Therefore, more attention should be paid on how trust develops, especially in China context, a social with low level of general trust [10, 11].

In theory, Williamson distinguished three types of trust—calculative, institutional, and personal trust [12]. Each type of trust yields different explanations regarding why people trust [13]. In fact, many employers must attempt to gather more related information before they actually decide to give the initial trust to a contractor and use RPA, according to

Corresponding author: Chen Menglong, research field: traffic and transportation engineering.

McKnight [14]. However, In China, a society with low general trust, employer tends to distrust the unfamiliar contractors. In this context, employer prefers distrusting the unfamiliar contractors and refuse PRA rather than spending lots of transaction cost on gathering relevant information to assess trustworthiness of unfamiliar contractors by themselves.

Trust establishment mechanisms have focused on providing trust relationships among nodes, rating the reputation of nodes, and managing trust among nodes [15]. However, such mechanisms are not efficient because the marketplace of construction project comprise a large number of nodes with limited communications and unfamiliar relationships. It is therefore impossible for a node to be familiar with all other individual nodes [16]. Consequently, employers must utilize limited and trustworthy nodes and build broader trust relationship with strange nodes. Therefore, besides direct trust based on gathering information, Trust transfer process is the one of the major mechanisms to build trust, and refers to a trust mechanism that one's trust in an unknown person/object can be derived from his trust in a known person/object who has certain association with the unknown person/object [17, 18].

Trust transfer has exponentially gained attention in recent years among practitioners and academics due to its importance in current business practice and to the challenges in understanding the nature of the multiple relations involved [19-21]. In related literature, the trust transfer process has been used to solving the trust-building problem in the e-commerce context [22, 23], and is seen as a cognitive process in which one's trust in a familiar target can be transferred to another target by virtue of certain associations [24, 25]. Prospective buyers could then form the belief that the transaction environment is well managed and that sellers there are trustworthy.

Previous literature on trust has mainly focused on online business contexts [26-28], with only a few studies addressing the transfer of trust in construction project contexts. However, it is also important to study the mechanism of trust transfer in construction project, because the employer has to decide whether to trust an unfamiliar contractor or not, and according the results of the trust decision to decide whether to use PRA. Specifically, employer can derive related information of trust from the contractor as well as from other contractors, employers, and the third parties. In such cases, trust is important for employers to evaluate the quality of information from various sources, and serves as a foundation for their initial trust to the contractor. In addition, according to trust transfer theory [29], it is expected that initial trust of employers would be transferred to their related sources. In this manner, an employer initial trust in a contractor could be transferred to their trust in other contractors. Given that, trust transfer through a trusted third party is an effective developing path to build initial trust, and it is important to understand how employer initial trust developed in construction project.

Initial trust is the key driving factor of PRA in the construction projects, and in this research, we focus the initial trust developed by the trust transfer, increasing our understanding of the trust transfer in construction projects. We argue that the trust transfer is the process that employer trusts an unknown contractor based on that employers' association with a trusted third party. Especially we are interested in the following research questions:

- What's the conceptualization of trust transfer in construction projects;
- How to describe the basic model of trust transfer in construction projects;
- What's the basic components of the trust transfer in construction projects.

This study aims to propose a theory-based model to describe how employers' initial trust built through the trust transfer in the construction project, and is structured as follows.

First, we describe the motivation for our paper that draws from the PRA between the employer and contractor needs trust as the driving factor, which may be built through the trust transfer in the context of China. Second, we reviews related literatures and sum up the main feature of the trust transfer from the other context (e.g. E-business), and proposed the conceptualization of trust transfer in construction project marketplace. Third, according the feature of the trust transfer, we describe the basic model of the trust transfer in the construction project marketplace including employer as the trustor, the third party (source) and the unfamiliar contractor as trustee (target), and the relationship between these three nodes. In this part, we point that the third party as the source of trust transfer and the relationship between the nodes is the key factors. Forth, we analyze the type of the third party and the relationship of the trust transfer in the context of construction project. Finally, we discuss the contribution and implications of our research.

2. Concept of Trust Transfer in Construction Projects

2.1 Trust Transfer

A rational trustor is expected to place trust in trustee whose trustworthiness can be confirmed by reliable information. However, in situations which direct knowledge regarding trustees is not available, trustor may be able to gather such information from the third party. This phenomenon is called trust transfer [30]. Trust transfer, theoretically rooted in social comparison theory, can be understood as a cognitive process that reduces the dissonance associated with holding divergent beliefs about other parties perceived to be similar to one another [31]. Trust transfer theory provides atheoretical basis for some research. It occurs when a person develops trust in an entity because of her or his trust in a related entity. Based on that, several studies have proposed the definition of trust transfer from different perspective (see Table 1). The implication of this theory is that attitude, association, and image can be transferred when there is a perception of association between the two parties involved [32].

According to prior literatures, although, trust transfer has been defined in many ways and there is no universally accepted definition of it, they almost follow a basic logic which is implied in the definition proposed by Stewart [33]. That is to say that trust is transferred from the better-known party to a closely associated but less well-known group or individual, and the better-known party is the bridge linking between trustor and less well-known one forming trustors' trust in the less well-known one.

We also find some common features among the literatures. First, trust transfer is a cognitive process that is rooted in social network [34, 35]; Second, in this process, there are actors, trustor, trustee and the third party; Third, the third party is the bridge building trust between the trustor and trustee; Forth, the cognitive process which trustor trust trustee is formed by the relationship between third part and others. Because of these common features in trust transfer, we extend these insights and build a theoretical framework of trust transfer in construction project market and analyze the process of trust building between employers and contractors without prior experience.

2.2 Trust Transfer in Construction Projects

In the social commerce context, many consumers are in an attempt to gather more product-related information before they actually buy from the company [36]. Similarly, in the construction project marketplace, the employer is in an attempt to gather more contractor-related information before they decide to use PRA.

Table 1 Summary of trust transfer definition in prior literatures.

Study	Definition	Context
Strub and Priest1976	"Extension pattern" of gaining trust as using a "third party's definition of another as a basis for defining that other as trustworthy." This suggests that trust can be transferred from one trusted "proof source" to another person or group with which the trustor has little or no direct experience	The Marijuana User
Zucker1986	Trust transfer occurs when an individual transfers the trust in a group to which they belong to another member of the group with whom the former has no direct history or experience	Organizational Behavior
Doneyet al.1997	Trustor draws on "proof sources." from which trust is transferred to the target	Supply chain
Stewart2003	Considering trust transfer as a cognitive process, transfer occurs when a person (the trustor) bases initial trust in an entity (a person, group, or organization referred to as the target) on trust in some other related entity, or on a context other than the one in which the target is encountered (e.g., a different place).	B2C e-commerce
Pavlou et al.2004	Trust transfer from contextually-related entities, trust transfer of intuitional structures affect trust in the community of sellers. Trust transference logic is based on the perceived association with the intermediary	Trust in the community of sellers
Lee et al.2007	Narrowly defined, trust transfer means transfer of trust from one domain, such as offline, to another, such as online. We define trust transfer more broadly to include the influence of trust in one domain on attitudes and perceptions in another domain.	online marketplaces
Kuan2007	Trust was generated through the social relations and networks of an individual, especially when he or she has had had no prior interaction with the trustee.	Brick and click retailers
Lu et al.2011	Broadly defined, the trust transfer process is a cognitive one in which the trust in one domain has an influence on attitudes and perceptions in another domain.	Mobile payment
Blanca et al.2013	Trust transfer is applied to interpersonal interactions, according to which a trust transfer occurs when one party (the trustor) trusts an unknown agent (the trustee) based on that agent's association with a trusted third party. In other words, this type of trust is equivalent to trust that occurs among unknown agents who have a common trusted third party.	Measurement of Trust Transfer
Yanget al.2015	Trust transfer refers to a cognitive process in which the trust in a known entity has an effect on attitudes and perceptions in another unknown entity.	Shopping on line
Shi et al.2015	trust transfer occurs when "the unknown target [is]being perceived as related to the source of the transferred trust	
Chen et al.2016	The trust transfer process is a cognitive process in which one's trust in a familiar target can be transferred to another target by virtue of certain associations	

By contrast, trust is more difficult to build in the context of construction project in China. Because, compared to the other kind of transition, construction project transaction involves greater uncertainties and risks, and the employer often trades with an unfamiliar contractor. In China, a society with low general trust, one way to solve this trust building problem is to transfer trust through a trusted third party.

According to the literatures, trust transfer exists in the inter-individuals [37], Between individual and organization [38], and in the inter-organization [39]. No matter what kind of context, from the respective of information, the trustor with informational disadvantage needs to build trust in the trustee with information superiority in order to decide business relationship. However, symmetric information makes it different for trustor to obtain direct and accurate knowledge regarding trustees. Therefore, trust transfer through a trusted third party is one of major mechanisms to build trust from trustor to a trustee who is unfamiliar to the trustor [40].

From the economic perspective, the project of construction is regarded as the business relationship between employer and contractor. And the building process is seen as a trading activity with duration where employers and contractors continuously interact and cooperate. During the transaction, a typical principal-agent relation is formed between employers and contractors, in which the former one is the client with informational disadvantage, and the latter one is the agent with information superiority. In the condition of information asymmetry, the nature of improving the project management performance is to solve the problem of principal-agent between the employer and contractor. Employer needs to use project governance mechanism to control or to incent the contractors aiming at guarding against opportunistic behavior and improving project management performance [41-43].

Prior studies have proven that PRA as an important mechanism is positively related with project management performance [44]. However, the decision-making paradox on risk allocation is prevalent in practices. That is to say, the employer does not use a reasonable risk allocation scheme which is in favor of contract performance, so as to form adverse selection in risk allocation decisions. It roots in the lack of initial trust in construction market, so the employer is caught in a trust dilemma. In other words, initial trust is a crucial antecedent that triggers employers use PRA to improve the project management [45, 46]. Therefore, the key to solve the dilemma is to build initial trust developing path.

However, to assess trustworthiness of a less well-known contractor, employer has to spend lots of transaction cost to gather relevant information. Especially in China where the general trust is relatively low, employer tends to prefer distrusting the unfamiliar contractors rather than gathering information directly from the contractor at the beginning of the construction project by themselves. Given that, Trust transfer through a trusted third party is an effective developing path to build initial trust.

According to the analysis and results above, trust transfer in construction projects can be describe as process that employers as trustor trusts an unknown contractors as trustee based on that employers' association with a trusted third party. In this process, the employer gains the contractor-related information directly from the trusted third party instead of collecting by self.

2.3 The Basic Model of Trust Transfer in the Construction Projects

Stewart [47, 48] described that in a model of trust transfer, there are three kinds of actors, including the trustor who makes judgments on if or not to trust others, the trustee whose trustworthiness is assessed by the trustor, and a third person who is the broker in the trust belief transfer process. According that, Nan Wang et al. [49] argue that when the trustor trusts in a trustee through the third person, that means there is a close relationship between the trustee and the third person, the trustor's trust in the third person will be transferred to the trustee. This shows that the trustor gain information about trustworthiness of trustee from the third person.

From the perspective of trust transfer theory, there are three category-based factors namely trust in source, the relationship between source and target, and trust in target, may help to explain the trust transfer process. Combined with the discourses proposed by Kuan and Bock [50], can infer that the trust transfer process is cognitive activity rooted in social networks and there are three actors (notes) including the trustor, trustee as target, and the third party as source [51], and there are three relationship between the sets, including the trust from trustor to trustee, the relationship between trustor, third party and trustee, third party(shown as fig. 1).In other words, when people are faced with assessing an object or a person they are unfamiliar with, they tend to rely on the source of trust and relate its image to the lesser-known or trusted target as long as association between source and target is established [52].

The model shows that trust may be transferred from the source to the target. And even be transferred from a well-known third party to an unknown contractor for the employers in construction projects. When employers perceive whether trust the unknown

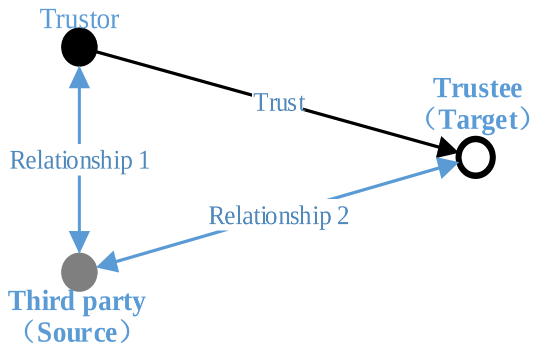

Fig. 1 Basic model of trust transfer.

contractors or not, they obtain relevant information from the third party known as the "source". Such perception of relatedness between two entities (the third party and the trustee) is mainly based on their similarity, closeness, common fate [53], and the prior cooperative experience between them. Meanwhile, the relationship between the trustor and the third party is also affects the trust transfer.

In construction projects, aiming at completing the construction goal, employers form the business partnership with contractors as well as form a social network community [54]. In this social network community employers is the trustor, assessing the trustworthiness of the contractor as trustee. According to the Fig. 1 we infer that, the contractor is the target that employer decide whether to trust or not. So that the third party called as the source is the key to build trust between the employers and contractor, and their relationship with employers and contractor constitutes the path of trust building between the employer and contractor.

3. The Source of the Trust Transfer in Construction Project

The source of the trust transfer is third party trusted by the trustor, and the third party offers to trustor a definition of the trustee as trustworthy. Trustor accepts or rejects this definition largely on the basis of her/his trust for the third party's judgment. The trusted third party may come from the prior trusted target (trustee) [55], or the entity who plays the same role in the former trade, or the authority of the third party which has no trade or alliance relationship with the trustee and trustor. Therefore, trust may be transferred from different kinds of sources.

Some studies focus on known targets which serve as the source of trust transfer to unknown targets (e.g., [56]). Some researchers argued that if the third party stands in the same position as a trustor in the former transition, the current trustor also tends to trust the trustee who has been trusted by the third party. Strub and Priest [57] found that a marijuana user would decide to trust an unknown person if a third person, trusted by the marijuana user, vouched for the unknown person. Other studies argue that transfer may be made from a place [58] or an industry association [59] to an individual. For example, Milliman and Fugate [60] found that a salesman could transfer the burden of establishing trust from himself to a "proof source"—specifically that the salesman could co-opt a prospect's trust in an industry association. They explained that the proof source offered verifiable evidence of the sales person's claims and therefore led to a greater intention to buy on the part of the client. Based on that, several studies have proposed the different kinds of source in the trust transfer (see Table 2).

In addition to showing that trust transfer may occur from different kinds of sources [61], previous work suggests that transfer may work through different processes. It may occur based on a cognitive process in which trustor form initial trust in the target through the former trusted target, or be based on a communication process in which the trustor and the third party have the same interests and are in the same position of the transition, or be based on a evaluation process in which a platform as the third party evaluates the trustworthiness of the target, providing the objective and correct information for the trustor. Generally, trust transfer may occur from the former trusted target, the former trustor and the platform. In conjunction with the literatures, we defined three kinds of sources in the trust transfer process. The concrete content is as follows.

Table 2 Summary of the source of trust transfer definition in prior literatures.

Study	Context	Source	Trustor	Trustee	Mechanism
Chen et al., 2016	e-commerce environment	Selling platform	consumers	sellers	Institutional context and seller's website mechanisms provided by Selling platform serve as signals that moderate the Trust in Platform–Trust in Sellers–Purchase Intention relationship. Signaling theory indicates that buyers tend to depend on some informational cues to assess product (or company, sellers) quality, especially when facing situations involving difficult decisions about quality and in an environment of information asymmetry.
Shi et al., 2015	online business	Other customers in social commerce web site	customers	companies	Customers can make better-informed purchasing decisions by viewing the opinions, experiences, and product-related information shared by others in SCWs to assess trustworthiness of companies
Yang et al., 2015	online business (web-mobile service)	Web-based channels of commercial transactions	customers	Mobile-based channels of commercial transactions	The well-established trust that consumers have in existing web services may affect trust in the new emerged mobile services. This trust transfer may further affect consumers' evaluations and behaviors toward mobile services extension.
Lien et al. 2014	Healthcare industry	one particular hospital	patient	Hospital in the same alliance	The transfer of patients' trust in one particular hospital to other hospitals in its alliance is important because a positive trust transfer will enhance patients' willingness to remain in the same alliance of hospitals.
Daniel Belanche Et al., 2014	Public management	public administration and the Internet	citizens	public e-service	Trust transfers to the e-service from two elements: provider characteristics and technology characteristics. The transfer effect of trust in the Internet is smaller than that of trust in the public administration, which suggests that delivery channel is relatively less important than which entity provides the service when citizens evaluatee-service trustworthiness. They must trust public administrations before they will do so.
Lee et al., 2014	event and tourism marketing	mega event	tourist	The hosting country	Visitors of well-known mega events such as the Olympics and the Expo may engage in the transfer process by relating the image of the well-known mega event to the lesser-known hosting country.
Pratibha A.D. et al., 2012	online business	RA (recommendation agents-aided online)	customers	Salesperson and the organization where this sales person works	Once a consumer trusts an RA, s/he will trust the RA's recommendations
Lee et al., 2014	Web environment	source site an offline site	user	target site an online site	Two common kinds of hypertext links displayed on Web sites are links between organizations sharing business affiliations, such as partnerships, and links that represent advertisements. Small- and medium-sized firms place hyperlinks on the Web sites of large firms to make up for their low brand images and to induce visits to their site.
Lin et al., 2011	E-commerce	online brokerage services a brokerage firm	investors	mobile brokerage services of the firm	Online brokerage services emerged earlier and are more mature than mobile brokerage services, and many mobile brokerage services users were first online brokerage services users. Therefore, if trust is transferred from online to the mobile, brokerage companies can take advantage of this transfer by motivating their online customers to go mobile.

3.1 Former Trusted Target

For an upcoming interaction activity, the former trusted target (e.g. entity, seller, company or organization) is the intermediary of trust building which induce trusor's trust in the current unfamiliar target. As Doney [62] indicating, the trust in a known counterparty may be transferred to an unknown one. The known target is once the trustee that the trustor has already trusted in the previous interaction activity. If the unknown party which will be the counterparty in the current transaction is considered to have relationship with the former trusted target, it favors the transfer of trust from one known one to the unknown one [63]. Che-hui Lien et al. [64] explored the trust transfer on the health care industry and found that trust migrates from a trusted hospital to an unfamiliar hospital because the two hospitals are in the same alliance, and the patients will perceive similarity from the unfamiliar hospital. In other words, patients' trust in a hospital influences the trust in its allied hospitals positively.

The mediating effect of former trusted target also exists in the variation of different channel. In the inter-channel trust transfer research, Lee et al. [65] examined trust transfer from offline to online channels in the brick-and-click bookstores and the results demonstrated that trust in online channels is affected by trust generated in the physical store. Similarly, Badrinarayanan et al. [66] found that more and more traditional retailers have transformed into multi-channel retailers and consumers' trust from the multi-channel retailer's physical stores influences their trust on the retailer's online store. The latest researches focus on the trust transfer from web-based channels to the mobile-based channels in the context of E-business [67].

In the construction projects marketplace of China, there are lots of large construction group companies, such as China Railway Construction Corporation Co., ltd, China State Construction Engineering Corporation and China State Construction International Holdings Limitedetal. And each of them has numerous sub-companies. That contributes some conditions to transfer trust in the construction projects marketplace. Considering a context in which an employer is about to form transaction relationship with an unfamiliar construction company, if the unfamiliar company belongs to the group with another company who has haven good experiences with the employer in the prior construction project transaction, according the existing research about trust transfer, we assume that the employer tends to trust the unfamiliar construction company and adopt PRA in the following construction project transaction. Furthermore, by virtue of related research in recommendation trust, the suggestion from a familiar construction company also influences employer's initial trust in an unfamiliar construction company which has relationship with the familiar one. And that will extend mediating effect of the former trusted target (See Fig. 2).

3.2 Former Trustor

In the commerce context, many trustors such as consumers or buyers are in an attempt to gather more trade-related information before they actually form the transactional relationship with the targets (e.g. sellers, companies) [68]. When a buyer faces an unfamiliar seller, the recommend from the other buyer is the important path of trust transfer [69]. Si Shi et al. [70] argued that, customers can obtain the information about whether trusting or not from other customers.

Trust transfer through the former trustor often occurs in the context of E-business, and is often used by the

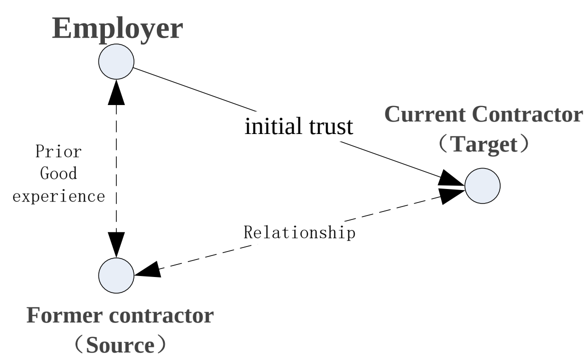

Fig. 2 Former contractor as the source in trust transfer.

online customer who is about to trade with an unfamiliar seller or company. Trust transfer based on former trustor as source is shown as the recommendation provided by the former turstor which could help the current trustor to establish the initial trust in an unfamiliar target [71]. In many consumption situations at the individual consumer level, other customer's affective reaction has an impact on her/his choice [72]. In E-business context with a large scale and a large number of buyers, the possibility of repeated interaction between buyer and seller is small or time spacing between two interactions is too long, so that the recommendation provided by the former trustor is particularly important in the trust evaluation of destination peer.

However, risk arises because the trustor are aware that the information provided by the other trusor is of uncertain quality and that relying on poor information or poor reasoning renders trustor vulnerable to faulty decisions [73]. Recently, with becoming increasingly popular, more and more researchers have realized that social networks play an important role in trust transfer through the recommender provided by the former trustor because they provide rich information on various social relations between them such as friendship or trust to improve information quality of trust [74, 75].

Especially in construction project marketplace, where there is no similar recommendation agents of web which could realize real-time evaluation, meanwhile, for a contractor, there less number of employers than the buyers in E-business, that will produce poor information easily, because of collusion between former employer and contractor. Thus, trust transfer through the former employer depends the relationship between the employer and the former one (See Fig. 3).

3.3 Platform of the Third Party

We argue that the existence of a common trusted third party can also generate trust in relationship

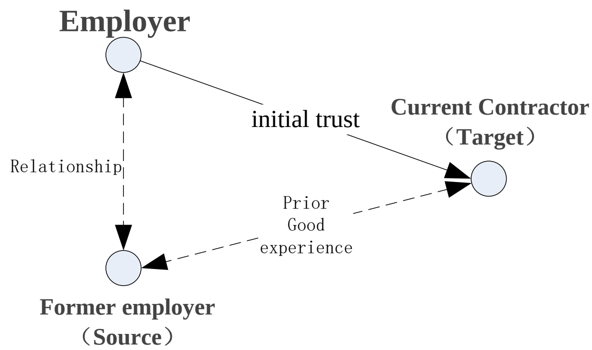

Fig. 3 Former employer as the source in trust transfer.

between a trustor and an unknown trustee by promoting the transfer of trust [76]. If a consumer is interested in purchasing from an unknown online merchant, he/she must be willing to take a risk and believe the merchant will keep its promises (a trusting intention). And if recommend comes from an unknown buyer who has no relationship with the trustor, although they are both in the same position, the trustor still keep nervous about whether trusting the counterparty [77].

In the absence of prior experience, a third-party platform can reassure the consumer that acceptance of the risk is reasonable and ultimately result in willingness to engage in a trusting behavior (i.e., a purchase) by provided objective and neutral information. Therefore, compared with recommend provided by single former trustor, trust transfer through the platform of the third party means trustor trusts the platform first, and get relevant information actively from the platform to build trust in an unfamiliar seller. Following the trust transfer logic [78], we propose that if trustor who trusts the platform and the information on the platform imply trustworthiness of the target, then the trustor should also trust the target because of their perceived associations between the platform and sellers.

As the source of trust transfer, the platform of the third party is neither buyers nor seller, having no prior transaction relationship with the trustor or the trustee. Generally, platform of the third party plays a role of collecting trustee-related information. Simultaneously, the favourable platform could give the current trustor the confidence that the platform will institute regulations and enforce appropriate rules and penalties with integrity, competently, and reliably in order to restrict seller opportunistic behavior [79]. Specifically, the mechanism of platform is collecting and providing the trustee-related information and offer some punishment to control the dishonesty of trustee. According to the difference of information sources, the platform of the third party can be classified into two main kinds, including the platform based on former trustors' evaluation after the transaction and the platform based on certification of specialized agency.

(1) Platform based on former trustors' evaluation

Trust transfer through the platform based on former trustors' evaluation, is defined as the current trustor's willingness to rely on the words, actions, and decisions provided by the former trustors shown on the platform [80]. Prior studies have found that trust toward members positively affected online participatory behaviors, such as getting and giving information in the focal community [65, 68, 70]. This is because in a trusting environment, people tend to help each other and further engage in shared social activities. And people prefer to share their product/service consumption experience when the other side has some trustworthiness attributes (i.e. benevolence, integrity, and ability). Although the current trustor have no direct relationship with the former trustor, the current trustor tend to trust the information on the platform, and then trust the seller. (This kind of platform is the set of consumer-created information by numerous buyers who have already completed the transaction with the target）

In the context of E-business, buyers often use the information shown by comment system of the wed provided by other numerous buyers to decide whether to trade with the unfamiliar seller or not [54]. Comment System could provide external signal which effect the trust from buyer to seller, and the trustworthiness of the comment system depends on the quantity, quality and the source of the comment [35]. Only when considering that those comments are intensive, clear and enough, the buyer would trust the seller through the Comment System. On the contrary, even though the Positive comments, if the comment is emotional, or in fixed model without detail reasons or with little quantity, the buyer could not trust the comments and then the seller [58].

Indeed, the platform based on former trustors' evaluation will always institute platform-level restrictions to prevent opportunistic transaction behavior [69]. For example, any sellers' opportunistic will be shown as negative comment on the platform. Hong and Cho [70] found that trustworthiness factors have a significant effect on a buyer's trust-in-platform, and trust-in-platform can readily be transferred to trust-in-sellers, which in turn affect purchase intentions and attitudinal loyalty in a business-to-consumer e-marketplace. Pavlou and Gefen [78] indicate that buyers who trust the transaction platform should also trust the community of sellers and so perceive a lesser degree of risk in such an online marketplace. Just like Chen et al. [73] finds that trust-in-platform has a positive effect on trust-in-seller and trust-in-seller positively affects purchase intention.

(2) Platform based on certification of specialized agency

In platform based on certification of specialized agency, trustor trusts the platform means considering the information provided by the specialized agency is objectivity and neutral. Tarah and Huitema proposed the valuation of certification path similar to the

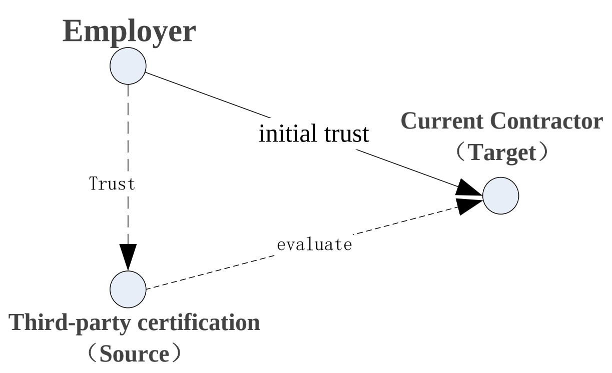

Fig. 4 Third party certification as the source in trust transfer.

commendation path [73]. Third party certification programs have boosted consumer confidence and increased sales [77], and have significantly increased purchasing likelihood and reduced consumers' concerns about privacy and transaction integrity [32].

If a consumer is interested in purchasing from an unknown online merchant, he/she must be willing to take a risk and believe the merchant will keep its promises (a trusting intention). In the absence of prior experience, a third-party certification logo (from a trusted third party of specialized agency) can reassure the consumer that acceptance of the risk is reasonable and ultimately result in willingness to engage in a trusting behavior (i.e., a purchase).

In construction project marketplace of China, the certification of specialized agency existed widely. In some province such as Zhejiang, Jiangsu, evaluation methods of trustworthiness of contractor and relevant policy were introduced constantly. According to those evaluation methods and relevant policy, administrative department carried out credit evaluation of contractor in different construction fields. At same time, credit management system is built to prevent dishonest behavior.

4. The Relationship between Trustor, Trustee and Source in Construction Project

Trustor, trustee (target) and the third party (source) constitute the basic nodes of the trust transfer. However ,the transmission of trust transfer still need to depend on the trustor's assessment of the similarity, proximity, or belongingness between the source and the target, as well as the relationship between the trustor and the third party. If a trustor has a strong belief in the trustworthiness of the third party [13], such trust may be transferred to the trustee if there is a close relationship between the trustee and the third party. Therefore, Trust is the main characteristics of the relationship between the trustor and the source. However, according to different kind of source, the relationship can be further divided into four forms.

4.1 The Relationship in the Trustor-Former Trusted Target-Target

Previous studies argue that particular contextual conditions would impact how trust operates. For example, employers' prior experience with the former contractor may impact how trust transfers to the current contractor which has relationship with the former contractor. In the path of trustor-former trusted target-target, there are two kinds of relationship that influence the trust transfer.

(1) Relationship between the trustor and former trusted target

Former trusted target is the party that the trustor has interacted with, and the relationship between the trustor and the source is the trust based on the prior trade experience. trustors' prior experience with the target contributes to their knowledge and expertise about this company, and the level of the trust could be increased along with accumulation of the number of successful transaction. Many studies reveal a negative relationship between the amount of experience and the degree to which an individual depends on external information [81]. When evaluating the trustworthiness of a company, customers with less prior experience (i.e. lower level of expertise) with the company tend to depend heavily on trustworthy information [43]. On the contrary, customers with more prior experience (i.e. higher level of expertise) would already have enough information to judge the trustworthiness of a company, and would thus depend less on external information [45].

(1) Relationship between the former trusted target and the target

The relationship between the former trusted target and the target is the established by the non-trading interaction. For example, two contractors belong one group, or have stable communication, or often builds consortium to bid. Besides that, if the two contractors have a high level of similarity, employer's trust in the trusted contractor may also be transferred to the current contractor. A high level of similarity between the substitute and the initial brand increases consumers' positive evaluations and buying intentions. Thus, if consumers believe that the two brands are similar, they will assume the products have a similar image and decide to keep buying the substitute brand. In construction projects the similarity between the two contractors may the ability of technology and management, the enterprise qualification and the successful experience.

4.2 The Relationship in the Trustor-Former Trustor-Target

Compared with the path of trustor-former trusted target-target, the relationship in relationship in the trustor-former trustor–target is just opposite. The relationship between the trustor and source is the non-trading trust and the relationship between the source and the target is the trust based on the prior trade experience.

The relationship between the trustor and former trustor is the trust based on the stable relationship instead of Transaction. If the former trustor and the trustor belong to the same group, or the alliance, or they are the partner companies and often communicate, the two trustors could trust each other. For example, in construction project, two employers are in the same construction field (e.g. MTR corporation in different location), or often have communication of learning each other. Besides, if the source is the a organization with high credit worthiness, even if no direct relationship between them, the trustor may tend to trust the organization and accept the information provided by the source. And the information is about the trust of former trustor in the target, describing the prior trading experience between former trustor and the target.

4.3 The Relationship in the Trustor-Former Trustors' Evaluation-Target

The difference from the former trustor as the source is the path of building trust. Rather than the direct relationship between the trustor and the former trustor, trust from the trustor to the platform based on former trustors' evaluation depends on the number of the former trustors on the platform as well as the quality of the information provided by the trustors.

This kind of platform is the set of trustor-created information by numerous former trustors who have already completed the transaction with the target. Because the information and recommendations of the target is from the trustors' perspective [63], the trustor tends to trust the platform and decide her/his behavior [43, 52]. Prior researches have suggested that the information on the platform based on former trustors' evaluation is likely to be more credible than trustee-created information [67, 70]. Because the former information is the typical consumer endorsements that induce the current trustor endorsement in the platform and then in the target [72].

The relationship between the platform and the target is similar to the relationship between the former trustor and the target which is based on the prior trade experience. However in comparison to the latter, platform is a collection of prior trade experience from numerous buyers who have completed transaction. The more the positive comment, the more trustworthy the target is.

4.4 The Relationship in the Trustor-Certification of Specialized Agency-Target

Differing from the platform based on former trustors' evaluation, the specialized agency as the third party improves the trustworthiness by establishing an institution instead of collecting prior trading experience. In trust transfer, the relationship between the trustor and the specialized agency is the trust based on the authority, neutrality and objectivity of the organization. Trustor believe that the information provided by the specialized agency is objective and neutral, because the specialized agency represents the interest of trustor and has established the punishment mechanism to prevent the dishonest behavior of the target.

The relationship between the specialized agency and the target is the administrative relationships. Entity as the target of trust transfer needs to present credit information to the specialized agency, and the specialized agency evaluate the accuracy of the information. According to that, the trustworthiness of the trust could be divided into different level, meanwhile the level will alter on the basis of the current credit of the trustee.

Certification of specialized agency is especially suited for construction projects marketplaces where the employer predominantly transacts with the new and unknown contractor under the aegis of third parties who provide an institutional context. In fact, Chinese market of construction projects has already established the institution-based mechanisms as a means to mitigate transaction risks, build a trustworthy marketplace, and encourage transactions. For example, Tianjin urban & rural construction commission has enacted the credit rating approach of construction enterprise and divide the trustworthiness in to A, B, C, D-grade. In Hangzhou of Zhejiang province, the regulation of credit evaluation system for parties of construction market is not only for the contractors but also for the other parties such as construction supervising units.

5. Conclusion

Trust is the key factor that induces the employer to adopt PRA to increase the performance of project management in the construction project marketplace. Trust transfer through the trusted third party is the effective path of trust building, and is widely used in the business context. As the construction project being seen as a transaction process, trust transfer can also be used to solve the problem of building trust from the employer to the contractor.

In this paper, we introduced three types of the source which help the trust transfer occurring in the construction project marketplace. Type 1 is the former trusted target or the contractor, and type 2 is the former trustor or the employer. These two types are both participator in the former transaction of construction project and have relationship with the current employer. Type 3 is the platform of third party, including the platform based on former trustors' evaluation after the transaction and the platform based on certification of specialized agency. Although this type has no direct relationship with the trustor or the employer, the platform of third party could provide objective and neutral information as well as punishment mechanism for the discredit of the target. Therefore, the trustor could trust the platform and then trust the target. In construction project marketplace of China, there already exit such platform to prevent the discredit of contractors. Related associations of construction have initiated credit ratings to assess the trustworthiness of the contractors.

In the China context, trust transfer is the effective path of building trust from the employer to the contractor. However, in this paper, we just introduced a theoretical framework, empirical research based on the date should be carried out in the next step. Further studies should be conducted in demonstration of specific path of trust transfer to cover the shortage of trust building in construction project marketplace.

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