UNDERSTANDING VENDOR PREFERENCE IN THE CROWDSOURCING MARKETPLACE: THE INFLUENCE OF VENDOR-TASK FIT AND SWIFT TRUST

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ABSTRACT

What factors affect client perception of vendor preference in a crowdsourcing marketplace? We approach this question from two theoretical perspectives in this study. First, extending the knowledge of e-commerce transaction, we propose the concept of vendor-task fit in this study and test its relationship to vendor preference. Second, we posit that swift trust also influences client decisions. Our research model is being tested via a field study of the leading Chinese-based crowdsourcing platform zhubajie.com. Our results show a full mediation role of swift trust for the effect of reputation on vendor preference and partial mediation role for the effect of competence on vendor preference; however, vendor-task fit is found to have a slightly less important role influencing vendor preference compared to swift trust. Our contributions will shed light on the phenomenon of crowdsourcing, especially, vendor preference issues.

Keywords: Crowdsourcing marketplace; Vendor preference; Vendor-task fit; Swift trust; Competence; Reputation

1. Introduction

The vendor selection problem in outsourcing has been an abiding issue in IS research and practice [Cao et al. 2007a; Cao et al. 2007b; Cullen et al. 2006]. Vendor selection is one of the most critical steps, so much so that the success of outsourcing process is largely dependent on successful choice of vendors [Lee 2008; Wadhwa et al. 2007]. There are a number of reasons [Dickson 1966; Weber et al. 1991] that make vendor selection difficult for clients, especially in terms of IT projects. One pitfall leading to outsourcing failure is that clients have minimal knowledge about outsourcing methodologies, especially in the vendor selection process [Power et al. 2004]. Crowdsourcing, the latest incarnation of outsourcing, also suffers from the vendor selection problem, since the crowdsourcing marketplace (CM) has undergone rapid development worldwide, especially in the United States. Samplings of the 5 leading companies that publish statistics on their marketplace are listed below in Table 1. As we can see, almost 19 million registered vendors are competing for jobs in various CMs. Given the complexity of the matter, online vendor selection is certainly worthy of investigation.

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Table 1. Introduction to key crowdsourcing marketplaces in United States (Dated December 2015)

CM	Vendor Number (million)	Task Number	Cumulative Transaction Amount (million)
elance-odesk.com	9	2,800,000	$750
crowdflower.com	5	200,000	$100
99designs.com	3	337,064	$80
guru.com	1.5	1,000,000	$200
innocentive.com	0.36	2,000	$40

Bearing the risks and difficulties in mind, some scholars have asserted that incentives and mechanisms could be set up by the CM to help alleviate problems through sundry website features. How will the website features influence a client's choice of certain vendors? At the moment, there are gaps in our understanding of the client decision making processes in the crowdsourcing marketplace.

In order to pursue the logic of our study, it is first important to define the scope of the study. Among sundry crowdsourcing applications, in particular, a CM, there are two prevailing models, the contract and contest models. The contest model allows clients to specify the reward and choose the best solution (no bids are solicited) while the contract model allows the client to choose the vendor based on qualifications and proposals for work. In the latter mode, the vendor undertakes the task with an agreed reward and specific time limit to finish the work. In fact, there is a contest element in the contract model but it occurs before the work is actually done.

For further clarification, we can state the key roles in the CM context in Table 2. A CM is a trusted online intermediary ensuring that online vendors successfully complete the task requests and online clients pay for the charges. The crowdsourcing client is an entity that initiates the crowdsourcing process by submitting a task request and specifying the acceptance criteria. Task characteristics of interest refer to the attributes of the task including work effort specified, duration, requirements, etc. Crowdsourcing vendors are members of the crowd who bid for the job, undertake the tasks, and gain monetary reward from the clients for their work.

Table 2. Definition of Key Roles in Crowdsourcing Marketplace

Role	Definition
Crowdsourcing Marketplace	A trusted intermediary ensuring that online vendors successfully complete the task requests and online clients pay for the charges.
Client	An entity that initiates the crowdsourcing process by submitting a task request and specifying the acceptance criteria.
Vendor	Members of the crowdsourcing marketplace that execute tasks and gain monetary reward from the clients for their work.

Our belief is that in the contract model, selection is a competitive process among the vendors and client's choice of the vendor is based on his or her evaluation of the vendor-task fit and swift trust, which are the two main foci of this study. In this study, we provide a nuanced angle for examining the issue of vendor selection, by defining our dependent variable vendor preference as the degree of client's willingness to choose the vendor to perform his or her task posted on a CM. Vendor-task fit as perceived by the client is proposed to be an important factor influencing vendor preference. Swift trust is developed prior to repeated interactions and is a second factor affecting client decisions. Therefore, this paper aims to answer the following research questions:

RQ1: What are the factors influencing client's vendor preference in the crowdsourcing marketplace? And how important are these factors?

RQ2: Is swift trust a significant antecedent of vendor preference in the crowdsourcing marketplace?

The objective of the study is to derive and empirically test a theoretically grounded model of factors leading to vendor preference. For this purpose, we draw from literature that might help to explain the outsourcing relationship between client and vendor, in particular, swift trust and person-job fit theories. Therefore, our model, derived by integrating relevant perspectives, aims to advance our theoretical understanding of vendor preference in the CM context as well as offer practical insights for client's vendor selection decision making process.

The rest of the paper is organized as follows. We begin with a conceptual framework and background of the study. Then, the paper presents the research model and hypotheses. Next, the research methods and measurement instrument are shown. Last, we discuss our findings and conclude the paper with potential contributions and limitations.

2. Research Background and Conceptual Framework

2.1 Crowdsourcing

With the development of the web economy, crowdsourcing is used by enterprises to achieve greater efficiency and effectiveness in completing projects. The impetus for crowdsourcing is Web 2.0 technology, an internet based movement that relies on the inherent assumption that users are no longer passive browsers of the web but contribute to the web. An initial definition of crowdsourcing was introduced by Jeff Howe in an article at Wired magazine in 2006; it is said to be the act of outsourcing a job that are traditionally performed by a designated agent to an undefined and large group of people in the form of an open call. Over the last decade, crowdsourcing has gained much attention in academia and practice [Afuah et al. 2012; Leimeister et al. 2009; Majchrzak et al. 2013; Zheng et al. 2011; Zheng et al. 2014]. Table 3 provides several exemplary definitions on crowdsourcing in previous research. Although there is an apparent agreement on the meaning of crowdsourcing as well as its core element, it should be noted that each definition is not exhaustive, i.e., the term crowdsourcing has also been an umbrella term used to describe several related but different phenomena, such as collective intelligence, crowdfunding, user-generated content, open innovation, open source, freelancing, etc [Pedersen et al. 2013]. Currently, crowdsourcing is employed across a variety of industries for different purposes. A growing number of enterprises, including IBM and P&G, crowdsource R&D projects through their websites to the consumers or technicians worldwide in order to develop better products.

Table 3. Definitions of Crowdsourcing in Previous Literature

Howe [2006]	"the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call"
Brabham [2008]	Crowdsourcing is a legitimate, complex problem-solving model, more than merely a new format for holding contests and awarding prizes
Doan et al. [2011]	Crowdsourcing system enlists a crowd of users to explicitly collaborate to build a long-lasting artifact that is beneficial to the whole community
Saxton et al. [2013]	Crowdsourcing is a sourcing model in which organizations use predominantly advanced Internet technologies to harness the efforts of a virtual crowd to perform specific organizational tasks. The three elements of crowdsourcing is outsourcing, crowd and social web.

As mentioned earlier, the focus of this study is crowdsourcing marketplace. Crowdsourcing marketplace manifests several key differences from traditional outsourcing, such as open competition, control systems, quality and transparency of information, as Table 4 shows. The unique characteristics of crowdsourcing marketplace make the vendor selection problem differ from traditional outsourcing as well. The differences of sourcing activities in CMs compared to traditional outsourcing provide strong rational for us to explore the vendor selection problem.

Table 4. New Features of (IT Projects) Sourcing in CMs Compared to Traditional Outsourcing

Characteristics	Comparison
The crowd and open competition among them	With its definition being said, the crowd in a CM usually consists of a larger talent pool than a traditional outsourcing context. After a client initiates the process by posting a job in CMs, there is competition among vendors for them to either get the job or get paid.
Control systems	CM provides control systems for managing the crowdsourcing process and the behaviors of both client and vendors, such as escrow service and voting-comment [Saxton et al. 2013].
Quality of Client/Vendor Information	Different from traditional outsourcing, the CM guarantees the quality of client and vendor information. Prior to a contracting client-vendor relationship, the availability of client and vendor information can provide sound knowledge for the two parties.
Transparency of Information	The reputation of all vendors is transparent in CM. Not only the perceived competence and reputation of the vendor being selected is affecting client choice, but the availability of the perceived competence and reputation of other vendors can strengthen or weaken a client's perception of a certain vendor.

2.2 Vendor-Task Fit

Theories of "fit" have appeared in research domains such as industrial organizational psychology, human resource (HR) management and information systems [Chatman 1989; Edward 1991; Goodhue et al. 1995; Kristof-Brown et al. 2005]. Although there are numerous conceptualizations of fit, the purpose of this study is to focus on the Vendor-Task Fit (VTF) in the CM context.

The literature that speaks most about the VTF in the present study is the organizational behavior (OB) literature stream on person-job (PJ) fit. Applicant recruitment and assessment have long been important research areas for HR management and OB, among which person-job (PJ) fit is one major theoretical framing. In practice, PJ fit analysis is an integral part of strategic planning in organizations. It provides for a comprehensive analysis of organizational tasks and responsibilities. The main purpose of conducting such an analysis is to understand who the right person to get the work done properly is. Previous literature provides three perspectives on PJ fit [Carless 2005; Edward 1991]. First, PJ fit in traditional job recruitment is the match between the individual and the demands of a specific job. Second, it refers to the match between the employee needs and the intrinsic rewards supplied by the job. Third, it refers to the congruence between job requirements and employee personality traits. The constellation of PJ fit theories posits job satisfaction, low job stress, motivation, individual performance, and retention as outcomes that are positively affected by PJ fit [Kristof 1996; Murray et al. 2011].

VTF is more than analogous to PJ fit. In both cases, human characteristics are compared to job requirements to analyze the fit. However, in the CM context, vendors are similarly evaluated with a focus on whether a given vendor can accomplish a particular task or solve a specific problem. VTF in our context is defined as the degree to which a client feels the overall quality of the vendor matches with his or her task requirements posted on a CM. Therefore, VTF goes beyond PJ fit by comparing job requirements with personality traits or employee competence. The quality of the vendor can refer to ability, experience, qualifications etc. that are evaluated at the discretion of the client based on the requirements of the task.

2.3 Swift Trust

Creating a trust-based relationship also helps reduce the perceived risk for the client where clients and vendors communicate mainly through information and communication technologies and are often geographically dispersed. A trust-based relationship between the client and vendor add extra value to the business relationship and undermines the propensity of the vendor to engage in opportunistic behavior [Goo et al. 2009].

Swift trust developed prior to the client-vendor interaction explains, we believe, the client's perception of vendor preference [Kramer 1999; Meyerson et al. 1996]. Table 5 gives a summary of previous literature on swift trust. The concept of swift trust has been applied in several online domains such as e-learning, virtual teams, and e-commerce. In common, these studies emphasized the nature of swift trust, which is in most cases one party has no prior working experience with the other party but starts engaging in trusting behavior at the early stage of interaction. But certain kinds of swift trust can occur earlier, especially when institutions warranty the transaction. Institution-based trust, also known as third-party recommendation-based trust, is among the factors believed to influence the formation of swift trust [Robert et al. 2009].

In this paper, we only examine third-party recommendation-based trust, otherwise known as institution-based trust here because of its high relevance to the crowdsourcing marketplace. Crowdsourcing intermediaries can facilitate outsourcing and transactions in many ways, but one of the main roles of the crowdsourcing intermediary are to help build trust in the crowdsourcing setting. Institution-based trust is trust that is based on guarantees and recommendations from third parties [Shapiro 1987; Zucker 1986]. Such trust transference, which refers to the generalization of impression about one entity to related entities, occurs in the online context [Hamilton et al. 1996; Stewart 2003]. Institution-based swift trust, thus, can be built in the CM because it is an effective mode of trust creation when clients and vendors have no previous history and come from different social and cultural backgrounds.

To reduce uncertainty and build trust, the crowdsourcing intermediary needs not only to provide a reliable and secure environment with fair and open rules and procedures but also to accredit clients/vendors who register online and encourage benevolent transaction norms. The CM is not only able to help manage risks, but also is a proven way to help build trust. There are several mechanisms through which this occurs. The authentication, online feedback, and arbitration system mitigate the adverse selection risks [Pavlou et al. 2004]. The authentication process requires vendors to upload real names as well as qualifications, a check that aids the client in verifying whether the information provided in the proposal or bid is accurate or not. In this way, the vendor will be less able to oversell or claim to be able to do more than they really can in order to get the job. Online feedback systems give the client the option to evaluate the vendor after the transaction is complete. Therefore, if the client feels the vendor is not meeting expectations, the client's negative feedback will reify the poor reputation associated with the vendor. In addition, status reports are a CM-provided feature of the website that acts as a monitoring system to alleviate moral hazard risks. Status reports are updates submitted by vendors with a record of work completed, progress made and plans for upcoming weeks. Through reading the reports, the client is able to measure the progress made by the vendor, a process which has a homologous mechanism in the physical world. Last but not least, if the vendor cannot deliver the service on time and transaction problems occur, the CM will play the role of arbitration, and hopefully arbitrate a fair solution for both parties. Above all, the online vendors are in a business relationship, and it is in their interest to maintain credibility with the CM to attract future clients.

Table 5. Summary of Previous Literature on Swift Trust

Study (Time)	Research Context	Brief Description
Meyerson et al. [1996]	Temporary Groups	"As a unique form of collective perception and relating that is capable of managing issues of vulnerability, uncertainty, risk, and expectations..." (p.167) "[s]wift trust is most likely when interdependence is kept modest through a combination of distancing, adaptability, resilience, interacting with roles rather than personalities, and viewing one's participation as partly voluntary (trust) and partly involuntary (confidence)…" (p.191)
Iacono and Weisband [1997]	Virtual Teams	"[T]he constant interaction necessary for the development and maintenance of swift trust requires constant access to technology[,]…[S]wift trust depends entirely on the rapid and successive interplay of initiations and responses… [H]igh performing teams will be more successful in maintaining trust over time than will low performing teams." (p.413)
Hiltzand Turoff [2002]	Online Learning	One aspect of developing effective student-instructor interaction is to establish swift trust during the first or two weeks of the course. For example, the instructor needs to structure clear contributions for each student to make, help them to cope with technical or task uncertainties.
Adler [2007]	Capstone Course Team-based Designs	"Based on the concept of temporary team-based designs, swift trust and distrust develop because of the diversity of team membership, limited history working together and task non-routineness, complexity and interdependence…Inter-team relationships should be perceived as of higher quality in high trust situations…." (p. 108)
Robert et al. [2009]	Face to face and virtual teams	"[C]ategory-based processing of team member characteristics and an individual's own disposition to trust dominate… the initial formation of swift trust. Once individuals accumulate… sufficient information to assess a team member's trustworthiness, the effects of swift trust decline… and knowledge-based trust formed using team members' behaviors (perceived ability, integrity, and benevolence) bec[o]me dominant…" (p. 242)
Crisp and Jarvenpaa [2013]	Global virtual teams	Swift trust consists of cognitive components that involve early trusting beliefs that render expectations of team competence for a common goal and normative action components that reinforce trust through interactions between team members. There is a causal chain from early trusting belief to normative action to late trusting belief to team performance.
Li et al. [2011]	Online e-commerce vendor	Consumer perceptions of normality, social presence, and third-party assurances lead to swift trust in a web vendor. Although the casual visitors led by search engines may have many alternatives and move fast, web vendors can successfully foster swift trust and convert them to paying customers through the proper use of the appearance and functionality features.
Jarvenpaa and Leidner [1998]	Global virtual teams	"[W]hereas traditional conceptualizations of trust are based strongly on interpersonal relationships; swift trust deemphasizes the interpersonal dimensions and is based initially on broad categorical social structures and later on action. Because members initially import trust rather than develop trust, trust might attain its zenith at the project's inception…" (p.794)

2.4 Additional Explanatory Variable: Vendor's Competence

In that the concept of competence has been widely used in management, especially in HR assessment and evaluation [Boyatzis 1982; Yeung 1996], the importance of identifying worker capabilities is not new. As early as Taylor's arguments, as reported in Shop Management [Taylor 1911], worker competence has been seen as a problem. Taylor conducted time and motion studies to enable managers to identify the element of worker competence. He did this by restructuring competence into rules, laws and formulas. Based on these descriptions of competence, Taylor demonstrated that managers could set up training to improve worker competence and performance. Later, competency tests, rather than intelligence tests, were proposed for predicting an employee's performance or job success [McClelland 1973]. In effect, competency models are a detailed description of behaviors that articulate how employees can be effective or not in a defined work setting [Mansfield 1998]. In Bassellier et al.'s study [2003], IT competence is defined as "the set of IT-related knowledge and experience that a business manager possesses (p. 317). "

Traditionally, the rationalistic approach [Sandberg 2000] to competence sees it as a specific sets of attributes known as KSAs, i.e., knowledge, skills, and abilities. That being said, competence on the vendor side of traditional

outsourcing has not received much attention in the IS literature [Nevo et al. 2012]. On the client side, Levina and Ross [Levina et al. 2003] distinguished three types of operational capabilities: (1) client-specific capabilities, (2) process capabilities, and (3) human resource capabilities. Jarvenpaa and Mao [2008] studied capabilities of the subcontractors in the subcontractor-primary vendor relationship and identified relevant factors that sustain subcontractor relationship with the primary service provider. Such studies have provided insights for the current study, but it is equally clear that operational capabilities are not sufficient to capture the nature of vendor competence. Therefore, we adopted KSA dimensions in construct conceptualization. In this study, vendor's competence is defined as a triality, including the knowledge, skills and ability of the vendor as perceived by the client to finish a certain task.

An additional explanatory variable, vendor reputation, will be explained later as we develop our hypotheses. This variable is often included in research models explaining online vendor-consumer choices.

3. Research Model and Hypotheses Development

Setting forth vendor-task fit as a key determinant of choice of vendor, our study first examines the relationship between vendor-task fit and vendor preference. Extending the theoretical model and consistent with previous literature on swift trust, the paper explores the possible mediating role of swift trust on vendor preference. Figure 1 depicts the research model for the study. Hypotheses are developed according to the paths expressed in this model.

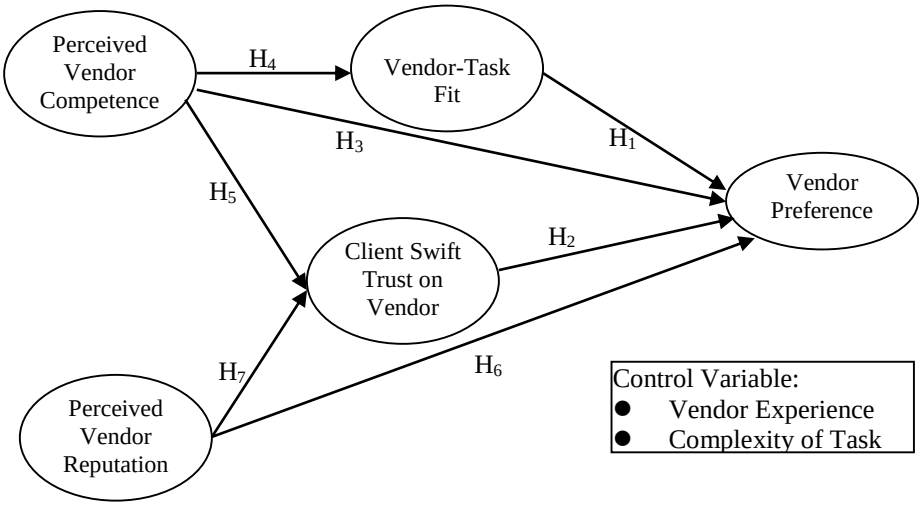


Figure 1. Research Model

3.1 The Relationship between Vendor Preference (VP) and Vendor-Task fit (VTF)

Vendor preference is defined in this study as the degree of client's willingness to choose the vendor to perform his or her task posted on a CM. Vendor preference is predicted by the user evaluation of the vendor-task fit. As mentioned earlier, our conceptualization of vendor-task fit originates from person-job fit that been regarded as the traditional foundation for employee selection [Adkins et al. 1994; Carless 2005; Sekiguchi 2004]. Although previous research has made the clear distinction of actual fit (mathematical calculations of profile correlations) and perceptions of fit [Sekiguchi 2004], it has also been proved that it is the perception of fit that best predicts individual outcomes such as employee recruitment and job satisfaction [Cable et al. 1997; Lauver et al. 2001]. In a similar manner, we posit that, the more the client feels the vendor fulfills his or her requirements, i.e., the better the fit, the more preference the client should show toward a given vendor. Therefore, we hypothesize,

H1*: Client evaluation of vendor-task fit will positively influence his or her vendor preference.*

3.2 The Relationship between CSTV and VP

Trust has been argued as a critical factor in stimulating purchases over the internet [Ba et al. 2002; Gefen 2000; Jarvenpaa et al. 2000] as well as outsourcing relationships [Langfield-Smith et al. 2003]. Trust serves as the lubricant that not only reduces complexity and uncertainty, but also produces more positive effects on the client decision-making in the e-commerce environment. Especially, Li et al. [2011] found that swift trust can affect purchasing intention even when consumers have limited time to familiarize themselves with a web vendor. Quickly formed client swift trust on vendors (CSTV) is expected to have a same effect in the client evaluation of vendor preference. Therefore, it is hypothesized that swift trust will influence the client's vendor preference.

H2*: Client swift trust on vendors will positively influence client's vendor preference.*

3.3 Perceived Vendor Competence

Vendor competence, as defined by our study as the KSAs of the vendor, has a positive effect on his or her performance at the CM. From the perspective of the client, perceived vendor competence will impact the evaluation of the vendor preference. In order to be selected, vendors need to pay attention to their KSAs. First, vendors need to show their knowledge or specialty as it relates to the tasks, i.e., the body of information that can be applied directly to the performance of a given task. It can be presented via the CM through the authentication process, such as education background, certificates, qualifications, etc. Although knowledge is a key part of competence, it is not sufficient to represent the whole [Bassellier et al. 2003; Orlikowski 2002]. Second, vendors need to demonstrate their skills in proficiently completing the tasks, i.e., skills such as the manual, verbal or mental manipulation of tools or other resources. For example, the programming languages a vendor has mastered become necessities for certain software development tasks. Third, the vendor needs to prove that he or she has the ability to meet the requirements of a client, i.e., the ability to perform the required job functions and carry out relevant activities. Vendors with higher perceived competence are more likely to be chosen by the client. In other words, the higher the perceived vendor competence, the higher the vendor preference.

H3*: Client evaluation of vendor preference will be positively affected by the perceived vendor competence.*

PJ fit is conceptualized as the match between individual knowledge, skills, and abilities (KSA) and demands of the job [Edward 1991; O'Reilly et al. 1991]. In particular, previous literature on realistic job previews has demonstrated that applicants tend to assess their competence with the job information, and applicants who perceive a fit between competence and job demand are most likely to stand out in the selection process [Carless 2005; Phillips 1998]. Similarly, according to technology-task fit theory, both the technology characteristics and task characteristics affect the technology-task fit theory. Accordingly, in our study, the vendor competence will have impacts on the client evaluation of vendor-task fit. Therefore, we hypothesize that,

H4*: Client evaluation of vendor-task fit will be positively affected by the perceived vendor competence.*

Previous literature has identified factors influencing trust in interpersonal relationships such as ability/competence, benevolence and integrity [Gefen et al. 2003; Mayer et al. 1995; Vance et al. 2008]. After a systemic review of previous literature on trust, McKnight et al. [2002] developed and validated the measures for trusting belief in an e-commerce context. They came up with the conclusion that competence is one of the major indicators of trusting belief. It is thus hypothesized here that high perceived vendor competence will help to form client swift trust toward the vendor.

H5*: Client swift trust on vendors will be positively affected by the perceived vendor competence.*

3.4 Perceived Online Reputation

Reputational systems are considered to be an important component of online communities, facilitating good behavior and cooperation among loosely connected and geographically dispersed economic agents [Dellarocas 2003; Resnick et al. 2000], who were, in most cases up to this point, strangers on the internet. A vendor's online reputation in this study refers to the collective opinions and feedback about the vendor, typically based on the evaluation of the vendor's previous work history and record.

A common aspect of many online transactions is feedback. As mentioned earlier, feedback systems are thought to be an authentic reflection of the vendor's trading behaviors and impressions left on previous clients the vendor has worked with. Leading online retailers such as Amazon.com have enabled consumers to submit feedback for many years. In addition, as the availability of customer feedback becomes widespread and common, the strategic focus shifts from the mere presence of it but to consumer use of the feedback comments [Mudambi et al. 2010]. In the e-commerce context, online reputation has been argued to have an effect on the user's intention to purchase [Duan et al. 2008; Zhu et al. 2010].

In the CM context, a vendor's online reputation is a valid reference point for the client's selection process. This is because the client should be able to form a belief about the vendor based, in part, on reputation and to make judgments. We argue that vendor's online reputation has a positive influence on vendor preference.

H6*: Client evaluation of Vendor preference will be positively affected by vendor's perceived online reputation.*

Besides, as mentioned earlier, client swift trust on vendors is based on the third-party mechanism such as feedback. Previous research also found the effect of feedback mechanism on buyer's trust in sellers [Ba et al. 2002; Pavlou et al. 2004]. Pavlou and Gefen (2004) argued that feedback systems not just discriminate among sellers, but also provide consumers with a solid overview of the vendor's past behavior. Besides, one major source of cognition-based trust, as pointed out by previous research is reputation categorization that is an assignment of attributes to a trust object based on second-hand information [Xiao et al. 2007]. Similarly, in a CM, the client will be able to form swift trust based on the reputation of a given vendor. Thus, we propose hypotheses 7.

H7*: Client swift trust of the vendor will be positively affected by a vendor's perceived online reputation.*

3.5 Control Variables

To fully examine the research model, two control variables that may influence swift trust and vendor preference in CM are incorporated: complexity of tasks and vendor experience. First, complexity of tasks may influence trust because routine tasks and non-routine tasks require varied skills and effort [Pavlou et al. 2006]. Moreover, the payment for different types of task varies. We, therefore, include complexity of task as a control variable in this study. Second, previous working experience is expected to influence vendor selection because experience demonstrates vendor's familiarity with the task type and the ability to accomplish similar tasks [Pavlou et al. 2005].

4. Research Method

Data to empirically validate the hypotheses were collected through a field study of clients on a CM in China. Over the last decade, China's CM has undergone a rapid development. One of the leading players in the Chinese crowdsourcing marketplace, Zhubajie.com, was established in 2006 and will serve as our data source.

4.1 Instrument Design

To gather data from appropriate respondents, we adopted the recall method found in the marketing literature. This method helps respondents effectively retrieve information stored in their long term memory [Bagozzi et al. 1983; Bradburn 2004]. Thus the instrument solicits a respondent's perceptions of a recent sourcing experience with an online vendor. The purpose of the recall method is to recall the perception before they made the choice and let the client evaluate the vendor at the pre-contract stage. The survey included two parts. The first part measured the respondent's perceptions of a vendor they have worked with. We asked the client to write down the name of the vendor they have chosen and the task name in order to assess the accuracy of their responses vis-à-vis the information available on the Internet. The second part was focused on their recall of experiences with the vendor that turned in the worst bid. They could recuse themselves if they did not remember details about the worst bid. In this way, we will be able to collect data from both selected and non-selected vendors.

Measures were adapted wherever available in accordance with previous literature. As for the measurement of VTF, we adopt a subjective fit perspective. We operationalize the construct of vendor preference using a single item scale. Although the use of a single item measure raises the problem of mono-operational bias, there are circumstances that single item perform equally well with multi-item measures [Bergkvist et al. 2007]. First, previous research has argued that using single item is the best measurement approach when a construct in nature is narrow and unidimensional in scope, and the attribute of the construct is judged to be concrete [Diamantopoulos et al. 2012]. Second, the use of single item measures could be considered if the sample size is expected to be restricted due to irresistible factors [Fuchs et al. 2009]. In particular, while conceptualizing vendor preference, we refer to the Murray and Haubl's study [2011] that adopted a similar approach for measuring interface preference. Appendix A shows the measurement instruments. A back translation verification approach [Hoskisson et al. 2000] was utilized since the instruments are first developed in English and then translated into Chinese.

4.2 Data Analysis Technique

Partial least squares (PLS) will be used to validate the measurement model and test the structural model. PLS is suitable for this study for the following reasons. First, PLS is well-suited for exploratory work and for prediction when the research theories are in early stages of development [Gefen et al. 2005; Gefen et al. 2000]. Second, PLS can estimate loadings of indicators on constructs and the casual relationships in multi-stage models [Bagozzi et al. 1982]. Third, not only does PLS not require normally-distributed observations, but it also may require few data points [Hair Jr et al. 2014; Ringle et al. 2012].

4.3 Data Collection

Data collection was undertaken with the cooperation with zhubajie.com. We used client contact information on the task descriptions posted by the client to recruit vendors. To compensate the participants, 20 RMB was offered as an incentive. We confined our study of task type to IT projects since it has been an area that IS researchers have long been paying attention to.

To validate our instrument, therefore, we first established content validity through literature review, discussions with experts and practitioners, and a preliminary questionnaire survey. A total of 45 respondents participated in the pilot study. The pilot study resulted in a few changes to the wording of items, the clarification of hypotheses and preliminary results of instrument validation. Data of respondents for the pilot study is not included in the main result analysis later.

After a pilot study, 172 responses were received over a 3-month period. Discarding 16 invalid questionnaires, the total sample size for this study is 156. In that data collection was sponsored by zhubajie.com, we were able to use client contact information posted by the client to recruit vendors on the task descriptions. Table 6 shows the stages of our data collection.

Table 6. Phases of Data Collection

Stage	Data Collected	Purpose	Time Period
1	● Interviews with experts and practitioners. ● 45 completed questionnaires from a post for recruiting participants at zhubajie.com	Generate items and assess content validity	2013.10-2013.11
2	● 172 in total completed questionnaires under the coordination of the company	Instrument validation and data analysis	2014.1-2014.3

Table 7 shows the demographic characteristics of the sample. Out of the 156 usable responses, the mean age was 28, min/max values were 21 to 46, with the standard deviation 5.17. The respondents comprised 63.8 percent males and 36.2 percent females. More than 80 percent of the respondents had some sort of college degree. Moreover, more than half of the transaction amounts in posts were below 1000 RMB.

Table 7. Demographic Characteristics of the Sample

Variables	Sample Composition	
Gender	Male	63.8%
	Female	36.2%
Education	Graduate Degree	20.5%
	Bachelor Degree	63.4%
	High School Or Below	16.1%
Transaction Amount (RMB)	0-1000	57.6%
	1000-3000	26.4%
	More than 3000	16.0%

We assessed non-response bias using the method suggested by Armstrong and Overton [Armstrong et al. 1977], i.e., comparing early and late respondents. We found no significant difference between the two respondent groups for all of the constructs. None of the t-statistics for difference in means were significant, which implies non-response bias was not an issue.

Common method bias was estimated by following Harman's single-factor test [Podsakoff et al. 2003]. A principal components analysis of all constructs in our model yielded 4 factors that had eigen values greater than 1.0 and accounted for 71.7% of the total variance, with no single factor accounting for more than 40.9% of the variance, which is less than 50%. This is some evidence that common method bias is not a major concern.

5. Results

5.1 Measurement Model

Internal consistency reliability, convergent and discriminant validity are three criteria adopted in this study to assess measurement model. Table 8 gives a detailed account of the results of composite reliability, the square root of average variance extracted (AVE), and Crobach Alpha. As we can see, composite reliability is above the threshold value 0.708, suggesting good internal consistency reliability. The AVE for each construct is greater than the recommended 0.5, which demonstrate good convergent validity.

Table 8. Reliability, convergent and discriminant validity coefficients

	Composite Reliability	AVE	Crobach Alpha	Perceived Vendor Competency (PVC)	Perceived Vendor Reputation (PVR)	Vendor-Task Fit (VTF)	Client Swift Trust on Vendor (CSTV)
PVC	0.844	0.825	0.724	0.962			
PVR	0.795	0.570	0.620	0.151	0.755		
VTF	0.958	0.824	0.894	0.714	0.155	0.908	
CSTV	0.815	0.595	0.660	0.623	0.481	0.605	0.771

To assess discriminant validity, we used two criteria. First, as shown in Table 9, the outer loadings of each item on its own construct are all higher than its cross loadings with other constructs. Second, the square root of the AVE of each construct is higher than its highest correlation with any other construct. Loadings of all the items in their

respective latent constructs are higher than 0.7, except KVR3. Therefore, KVR3 was excluded from subsequent analyses [Comrey et al. 2013], as shown in Table 9.

As some of the correlations between independent variables are relatively high, we run variance inflation factor (VIF) values test to test for multicollinearity problems. We found the VIF values for all the constructs were acceptable (i.e., between 1.032 and 2.918), therefore, multicollinearity is not a concern. After the above standard procedures for validating the instrument, we found that our revised instrument had acceptable psychometric properties.

Table 9. Loadings and cross-loadings of items

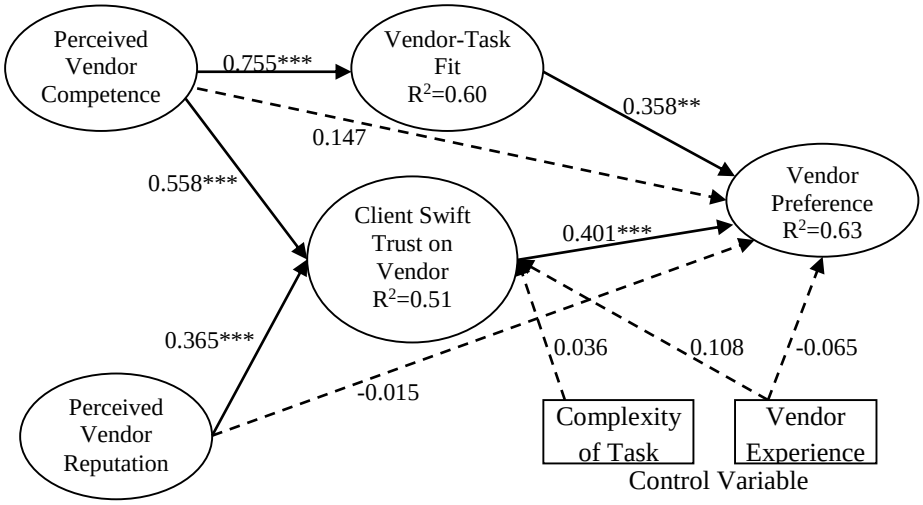
	Client Swift Trust on Vendor (CSTV)	Perceived Vendor Competence (PVC)	Perceived Vendor Reputation (PVR)	Vendor Task Fit (VTF)	Vendor Preference (VP)
CSTV1	0.756	0.430	0.294	0.401	0.451
CSTV2	0.822	0.574	0.441	0.557	0.525
CSTV3	0.732	0.425	0.301	0.428	0.638
PVC1	0.510	0.837	0.125	0.620	0.573
PVC2	0.580	0.783	0.245	0.627	0.487
PVC3	0.402	0.786	0.064	0.616	0.557
PVR1	0.432	0.189	0.887	0.116	0.267
PVR2	0.198	0.152	0.646	0.265	0.155
PVR3	0.034	0.123	0.350	0.035	0.110
PVR4	0.394	0.076	0.765	0.095	0.164
VTF1	0.536	0.691	0.147	0.912	0.686
VTF2	0.488	0.698	0.189	0.902	0.642
VTF3	0.631	0.720	0.138	0.909	0.613
VP	0.703	0.671	0.262	0.714	1.000

5.2 Structural Model

The PLS results for the research model are shown in Figure 2. First of all, significant impacts of vendor-task fit (β=0.358, $p<0.01$) and swift trust (β=0.401, $p<0.001$) on vendor preference were supported. Therefore, H1 and H2 were supported. In addition, perceived vendor competence (β=0.558, $p<0.001$) and perceived vendor reputation (β=0.365, $p<0.001$) were found to have no significant direct effect on vendor preference, but rather through the mediation of swift trust. Therefore, H5 and H7 were supported. However, H3 and H6 were not. With no doubt, perceived vendor competence (β=0.775, $p<0.001$) has a significant impact on vendor-task fit, which supports H4. The two control variables complexity of tasks (β=0.036, $p>0.1$) and vendor experience (β=0.018; β=-0.065, $p>0.1$) were not found to significantly affect vendor preference. Table 10 summarizes the results of the hypotheses testing. Perceived vendor competence explained 60% of the variance in vendor-task fit. Perceived vendor competence and perceived vendor reputation explained 51.0% of the variance in client swift trust on vendor. All these factors totally explained 63.3% of the variance in vendor preference.

Table 10. Results of Hypotheses Test

Hypotheses	IV	DV	β	t value	Supported
H_1	Vendor-task Fit	Vendor Preference	0.358**	3.279	Yes
H_2	Client Swift Trust on Vendor	Vendor Preference	0.401***	4.690	Yes
H_3	Perceived Vendor Competence	Vendor Preference	0.147	1.282	No
H_4	Perceived Vendor Competence	Vendor-task fit	0.775***	13.910	Yes
H_5	Perceived Vendor Competence	Client Swift Trust on Vendor	0.558***	7.545	Yes
H_6	Perceived Vendor Reputation	Vendor Preference	-0.015	0.172	No
H_7	Perceived Vendor Reputation	Client Swift Trust on Vendor	0.365***	4.297	Yes
** significant at $p<0.01$; *** $p< 0.001$					



Note: ** significant at p<0.01; *** significant at p<0.001
Solid arrows indicate significant path;
Dashed arrows indicate insignificant path

Figure 2. Structural Model Results

To test the mediation effect of client swift trust on vendor, we adopted Baron and Kenny's method [Baron et al. 1986], as Table 11 presents. The result shows that CSTV plays a full mediation role for the influence of perceived vendor reputation on vendor preference, and a partial mediation role for the influence of perceived vendor competence on vendor preference.

Table 11. Mediation Analysis of CSTV using Baron and Kenny's Method

IV	M	DV	IV→DV (c)	IV→M (a)	IV→DV (c')	M→DV (b)	Results
PVC	CSTV	VP	0.647	0.559	0.375	0.484	Partial
PVR	CSTV	VP	0.141	0.365	-0.031		Full

IV: Independent variable DV: Dependent Variable M: Mediator
PVC: Perceived Vendor Competence PVR: Perceived Vendor Reputation
CSTV: Client Swift Trust on Vendor VP: Vendor Preference

6. Discussion

This paper examines vendor preference issues in the crowdsourcing marketplace by conceptualizing vendor-task fit and swift trust. It extends the outsourcing literature and fills the research gap in the crowdsourcing context. Our results yield several interesting findings.

First, as hypothesized, the results show that quickly formed swift trust by client on vendors is the primary criteria for client in choosing a vendor for the completion of tasks. Vendor-task fit also has a direct effect on vendor preference; however, it plays a slightly less important role compared to the client evaluation of swift trust as the path coefficient shows.

Second, interestingly and opposed to our hypotheses, perceived vendor reputation and perceived vendor competency have no direct effect on the vendor preference. However, the results show that the effect of perceived vendor reputation and perceived vendor competency is fully and partially mediated respectively by swift trust formed by the client prior to signing contract for cooperation.

6.1 Contribution to Theory

Our paper makes several theoretical contributions to IS literature. First, our study fills a research gap by offering a conceptualization of vendor-task fit in the context of crowdsourcing marketplace. The HR literature already has abundant research on person-job fit at the organizational and individual levels. This definition should be able to help understand the ongoing vendor selection problem in both the outsourcing and crowdsourcing context. Adopting a

subjective fit perspective, we developed and validated the measurement for the construct. Our results showed the prominent role of vendor-task fit in the client's decision.

Second, this study also contributes to the trust literature by introducing swift trust quickly formed by a client prior to the interaction with the vendors as an important lens to understand client evaluation of vendor preference, i.e., which vendor to work with. Previous literature has explained institution-based trust to be an important factor in e-commerce. We extended this theoretical framing with swift trust, mainly occurring through institution-based trust in the crowdsourcing marketplace. We found that swift trust plays a mediating role.

6.2 Implication for Practice

Our study sheds some light on the users of crowdsourcing marketplace in practice, especially for vendors. First, although competence is considered the key factor for assessing vendor-task fit, vendors should be aware of the overall fit evaluation formed by the client to help in their decision making. Vendors should be encouraged to bid for appropriate tasks that they are most likely to win. It is not that the higher the reputation, or the more experienced the vendor is, the more likely the certain vendor will be selected. Rather, an overall evaluation is necessary. Second, though reputation and competency show no direct effect on vendor preference, that does not mean improving reputation and competency is unimportant. Instead, through the mediation of swift trust, they are still valuable attributes and worthy of vendor consideration. This will enable a favorable trust relationship to be built even before vendors start to interact with the client.

For the crowdsourcing marketplace, firstly, the CM can do a better job to ensure vendor success by implementing procedures for certificate authentication and feedback mechanisms that will enable vendors to build their reputations. This is important for the vendors to survive in the competitive market and to provide qualified vendors for client selection. Secondly, the CM can develop mutual recommendation systems for both vendors and clients to provide third-party based recommendations, which will help build swift trust between client and vendor.

7. Conclusion, Limitations, and Future Research

This paper examines an important issue involving vendor preference in the crowdsourcing marketplace. Using a survey from a Chinese crowdsourcing marketplace, we test our theory model based on swift trust and vendor-task fit perspective. Our result shows vendor-task fit is the explanatory variable that plays a critical role. In addition, swift trust plays a mediating role for explaining the effect of reputation and competence on vendor choice. Our study has extended the knowledge of e-commerce vendor-customer relationship and contributed to the theory building of the CM.

There are several limitations in this study which suggests future research opportunities. First, it is important to note that the fit construct is conceptualized in a subjective manner, which is only one way to handle this methodological issue. Engineering fit [Chen et al. 1992], such as in a multiple attributes decision making perspective, should be encouraged to further look into the construct of vendor-task fit and to provide more insight. Second, the measure for vendor preference is limited. There is a possibility of mono-operational bias by using single measure. Multiple measures are inherently more reliable and capture more information compared to single measures. Future research should consider taking this route instead of using single measures. Besides, we provided a means by which respondents could recuse themselves in order to best measure preference toward vendors. However, an experimental design with appropriate scenarios could also be set up for capturing outcomes. Third, complexity of task and experience was found to have no significant effect on vendor selection in this study. However, this problem is worthy of further investigation. In a crowdsourcing marketplace, newcomers will not be able to stand out if experience alone is valued. But how newcomers compete with experienced vendors is an interesting future research question. Fourth, since the research is conducted only in one crowdsourcing site based in mainland China, there is a limitation in external validity. Moreover, cultural factors could limit the general applicability of our results.

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Appendix A. Measurement

As you fill out this part, please think of the recent transaction you made at zhubajie.com, if you would please provide (1) the name of vendor you chose_____, (2) the name of task_____, and the (3) transaction amount_____.
Part 1. Consider the vendor you have already chosen (that is, the successful bid of the winning vendor _____)
Part 2. Consider the vendor who made the worst bid, and if you can remember the details, please answer questions related to that vendor.

Construct #	Items	Mean	S.D.	Sources
Vendor-Task Fit				(Cable and Judge 1996; Kriftof-Brown et al. 2005; Piasentin and Chapman 2006))
VTF1	I feel this vendor suits my needs well.	4.831	1.194	
VTF2	I think this vendor will satisfy my requirements to complete my task.	4.018	1.452	
VTF3	I think this vendor meets my selection criteria.	5.175	1.356	
Perceived Vendor Competence				(Sandberg 2000; Edward, 1991)
PVC1	Based on my assessment, I feel the vendor has the skills, abilities, and knowledge to complete my task.	5.027	1.388	
PVC2	After assessing the vendor, I feel this vendor's skills, abilities and knowledge meet my requirements for the task I posted.	4.814	1.441	
PVC3	The vendor's skills, abilities, and knowledge match well with my needs in this task.	4.601	1.227	
Perceived Vendor Reputation				(Pavlou and Gefen, 2004; Ba and Pavlou, 2002)
PVR1	This vendor has a good online reputation.	3.142	1.318	
PVR2	This vendor has received good feedback from previous transactions.	3.071	0.865	
PVR3	This vendor is consistently rated well by the online clients.	3.328	0.967	
PVR4	This vendor has received positive comments in the marketplace.	3.131	1.165	
Client Swift Trust on Vendor				(Robert et al.2009)
CSTV1	Seeing zhubajie.com as a trustworthy crowdsourcing marketplace, I would be comfortable giving this vendor my full trust.	5.787	0.787	
CSTV2	Given that zhubajie.com is a trustworthy crowdsourcing marketplace, I am confident in working with this vendor.	5.74	1.164	
CSTV3	Believing that zhubajie.com is a trustworthy crowdsourcing marketplace, I feel I would have no problem contracting with this vendor.	5.263	1.320	
Vendor Preference				(Murray and Haubl, 2011)
Overall, how strongly or weakly do you prefer the vendor? (9-Strongly Preferred, 1-Weakly Preferred)		6.011	1.709	