
The Influence of Source Credibility Theory on Bid-winning Performance

Yanjing Xu

School of Information, Central University of Finance and Economics, Beijing, China

Email address:

xuyanjing_519@126.com

To cite this article:

Yanjing Xu. The Influence of Source Credibility Theory on Bid-winning Performance. *European Business & Management*. Vol. 7, No. 1, 2021, pp. 1-13. doi: 10.11648/j.ebm.20210701.11

Received: December 26, 2020; **Accepted:** January 6, 2021; **Published:** January 12, 2021

Abstract: Mixed crowdsourcing has become the main organization model of domestic crowdsourcing platform. The existing research on the interpretation of winning performance mainly fails to pay attention to the persuasive effect on the decision-making of the contractees from the perspective of information receiving of the contractors and the credibility of the information source of the contractors. The data collected from EPWK website, the two round of data collection was carried out, including the industries engaged by the contractors, the ID of the contractor's team, the profile of the contractor's team, regional division, city level, total number of successful bids, integrity guarantee, contact authentication, ability level, professional identity, number of cases, number of members, type of the contractor's team, and number of positive evaluations. Based on the information source credibility theory, this paper constructs a model of the factors influencing the winning bid performance of the contractors from three aspects of credibility, professionalism and attractiveness, and explores the moderating effect of positive evaluation on the above relationships. The results show that good faith guarantee, contact certification, competence level and professional status positively affect the winning bid performance of the contractors, and the reverse u-shaped relationship exists between the number of services and members displayed by the contractors and the winning bid performance.

Keywords: Mixed Crowdsourcing Model, Contractors, Winning Performance, Source Credibility Theory, Positive Evaluation

1. Introduction

The mixed crowdsourcing mode was evolved from the crowdsourcing contest, and gradually subdivided into reward mode, bidding mode, and employment mode. The reward mode is a traditional crowdsourcing contest where the contractor releases a task on the platform, and the contractor submits a scheme to participate in the task. After that, the contractee chooses the bid-winning scheme and gives economic rewards [1]. Different from the reward mode, in the bidding mode and the employment mode, the contractor is selected to establish the cooperative relationship before the crowdsourcing task is started. Under the mixed crowdsourcing mode, the contractor may participate in the three crowdsourcing modes simultaneously [2]. The bid-winning performance not only directly affects the economic returns of contractors [3], but also influences the sustainability of their participation in the crowdsourcing task to a large extent [4]. The mixed crowdsourcing mode

platform encourages the contractors to set up a personal homepage, which is similar to opening an online shop, to comprehensively display the contents such as the contractor's individual information, historical participation, historical evaluation, services and cases, so as to provide information support for the contractor to participate in the crowdsourcing task. No matter what mode the contractor uses to launch crowdsourcing activity, the information displayed on the contractor's personal homepage will be noticed before the contractor makes the bid-winning decision, and it has become another important factor affecting the bid-winning performance of the contractor in addition to the quality of scheme. However, existing researches mainly focus on the logic quality of the scheme when explaining the bid-winning performance of the contractor, and it is believed that factors such as difficulty of the task, style of the scheme, and professional knowledge will influence the quality of the schemes submitted by the contractors, and then further affect their probability of winning the bid. These researches fail to

notice the persuasive effect of the credibility of the contractor's information source on the contractee's bid-winning decision in addition to quality of the scheme. Therefore, this paper aims to study the following questions: How does the credibility of the contractor's information source affect the bid-winning performance of the contractor under the mixed crowdsourcing mode? What role does the third-party information source, that is, the positive evaluation of historically participated tasks, play in bid-winning performance?

2. Review of Related Researches

2.1. Mixed Crowdsourcing Mode

As a typical crowdsourcing mode, crowdsourcing contest can fully explore the wisdom of the public and apply it to the open innovation process of enterprise products [5-8]. Enterprises release innovation tasks through third-party network platforms to solicit solutions from the public around the world, and give cash reward to winners [9]. Enterprise, as the contractee, sets the contest requirements and releases the task through the third-party platform; the public, as the contractor, participates in the contest and submits the solution based on their own skills and knowledge; after that, the enterprise selects the optimal solution and issues rewards; the third-party platform sets contest rules, establishes a connection between the enterprise and the public, and supervises the successful implementation of the crowdsourcing contest [10].

With the widespread application of crowdsourcing contest, traditional contest mode is gradually subdivided into the reward mode and bidding mode. The reward mode aims at soliciting creative ideas of product or solving difficult problems, and the contractor participates in the bidding with final work; the bidding mode aims at launching relatively complex projects with long period. The contractee chooses the contractor in the bidding process, and the contractor participates in the project with its own skills [11]. Further, the crowdsourcing platform has also derived an employment market mode (similar to the e-commerce mode), in which the contractor shifts from a passive position and an active position, setting up service shop and displaying service skills to attract contractee to employ [2]. Subsequently, the employment market was further subdivided into a fixed mode and a customized mode, among which the fixed mode is suitable for relatively simple, repeatable, and easily standardized projects, while the customized mode is applicable to large-scale and complex projects [12].

In the reward mode of the bidding market, the main steps for the contractors to use crowdsourcing are: (1) find the task in which they are interested; (2) receive the task; (3) answer the task; (4) submit the answer; (5) the contractee chooses satisfactory scheme draft; if the scheme is selected, the transaction is completed, and the contractor will receive the bonus; (6) if the scheme is not selected, the demand will be closed. The transaction process in the bidding mode of the

bidding market is: (1) the contractor makes the quotation; (2) bid selection and connection; (3) if the connection is successful, the service provider uploads the task progress every day, and the task will be evaluated by both party during the project acceptance and settlement; (4) if the connection is not successful, the task will enter the price markup process [12, 13]. In the employment market, the contractor will display skills, achievements, experience, certificates, and credit in its service shop; waiting for the contractee to search and compare all potential contractors before employment. If employed, bargaining will be conducted, and after the task is completed, both parties will evaluate and settle the payment [12].

This paper names the above multiple crowdsourcing forms as a mixed crowdsourcing mode which is the current situation of large-scale crowdsourcing platforms, where both the contractee and contractor have the right to choose which crowdsourcing mode to participate in. Especially for contractors, they may participate in multiple crowdsourcing modes at the same time to achieve better bid-winning performance.

2.2. Research on the Bid-winning Performance of the Contractees

The bid-winning performance will directly affect the economic returns of contractors, encourage their online participation, improve the performance level of crowdsourcing contests, optimize the environment of crowdsourcing platforms, and promote the healthy development of crowdsourcing contests [14-17]. Existing researches mainly focus on three aspects: characteristics of task, scheme and contractor to explore the factors that influence the bid-winning performance of contractor.

In terms of the characteristics of the task, existing researchers have found that factors such as task difficulty, task density, task bonus, and task duration will affect the possibility of winning the bid by the contractee. Shao [14], Jian L, Yang S, Ba S, et al [18], Sun Y [19] et al. found that the difficulty of the task is negatively correlated to the bid winning of the contractor. Jian L, Yang S, Ba S, et al [18] pointed out that task density exerts a positive effect on the bid winning of the contractor. Gefen [15] Ye H J, Kankanhalli A. [20], Martinez and Walton [21], and Terwiesch C [22] proposed that the task bonus has a positive influence on the contractor's possibility of winning the bid. Zheng H [23] found that the tacitness of the task will negatively affect the possibility of winning the bid by the contractor.

Based on the characteristics of the scheme, current studies have found that factors such as creative and thoughtful style, order of submission of the scheme, and after-sales services may affect the possibility of winning the bid by the contractor. MahrD [17] found that the problem-solving style featuring creativeness and thoughtfulness can effectively promote the successful solution of the problem. Bockstedt J [3] and Xiao H, Xiaomin G, Pengzhu Z [24] found that the contestants who submit materials late for the first time in the contest are

more likely to succeed. Leimeister J M, Huber M, Bretschneider U, et al [16] verified that IT service providers positively influence the operating performance of the shop when they perform well in the service dimension.

Regarding the characteristics of the contractor, existing researchers have found that the contractor's experience, professional knowledge, and deposit have a positive impact on the possibility of winning the bid. Mo J [25], Huang Y [26], Boudreau KJ [27], and Leimeister J M, Huber M, Bretschneider U, et al [16] proposed that the contractor's professional skills, such as professional level, professional knowledge, ability, and total skill level can improve the possibility of winning the bid. Mo J [25] and Ye H, Kankanhalli A. [28] found that the contractor's experience will enhance the possibility of winning the bid. Archak N [29] verified that the comprehensive evaluation score of the shop has a positive impact on the possibility of winning the bid by the contractor in a single task, while the shop level exerts no significant effect on the possibility of winning the bid. Ye H, Kankanhalli A [28] proposed that the deposit provided by the contractor will positively influence the possibility of winning the bid by the contractor in a single task.

In the mode of crowdsourcing contest, extensive researches have been conducted on the bid-winning performance of the contractors, and these researches are mainly based on the perspective of the contractors engaging in innovative tasks or submitting solutions to explore how the factors such as task difficulty, style of the scheme, and professional knowledge influence the quality of the scheme, and then further affect the possibility of winning the bid by the contractor. However, these researches fail to notice the persuasive effect of credible information sources on the bid-winning decision of the contractee in addition to the quality of the scheme. In particular, when a single mode of crowdsourcing contest develops into a mixed crowdsourcing mode, credible information sources may play a more important role. Specifically, in the bidding mode of the contest market and the crowdsourcing activities of the employment market, candidates are firstly selected to determine the partners before the project is started. Therefore, individual or team information displayed by the contractor will appear in the crowdsourcing process prior to the scheme content, and then affects the possibility of winning the bid. In the mixed crowdsourcing mode, this paper explores the effect of perceived credible information sources of the contractee on the bid-winning performance of the contractor from the perspective of information reception by the contractee.

2.3. Source Credibility Theory

Source Credibility Theory (SCT) proposes that when the information source is credible, the receiver is more likely to be persuaded by the information [30]. The same information may present different degree of credibility after being

transmitted through credible and incredible sources, which further affects the persuasiveness of the information to the receiver [31]. Generally speaking, credibility is divided into three dimensions: credibility, professionalism and attraction [32]. Credibility refers to the reliability or authority of the information source, including safety, fairness and honesty. Professionalism refers to that the knowledge or skills of the information source are trained, experienced and proficient. Attraction means that the way information is transmitted is dynamic, diverse and full of confidence.

Source Credibility Theory is widely applied to the researches in multiple fields, with good applicability. Related research on website design uses SCT to explore the credibility of website logo design, credit mechanism and artistic design [32-34]. In the field of politics and religion, the reputation and charm of candidates or leaders have become popular qualities and virtues. Politically, the credibility of information source reflects the important persuasiveness effect [35-37]. Religiously, the credibility of a leader determines his important position. Brand marketing researches adopt SCT to support the vital role of advertising in brand building [38, 39]. Similarly, in the field of social media and healthy behaviors, the persuasive effect of SCT on behavior has also been investigated extensively [40]. In summary, we believe that SCT is also applicable to the research on the factors influencing the bid-winning performance of contractors in crowdsourcing scenario. Specifically, since contractor is the information source of the scheme, the credibility characteristics of the contractor may affect the persuasion of the scheme to the contractee, and further influences the bid-winning decision of the contractee.

3. Theoretical Basis and Research Hypotheses

3.1. Research Model

Based on the Source Credibility Theory, this paper builds the models of factors influencing the bid-winning performance from three aspects: credibility, professionalism, and attraction. Integrity guarantee and contact authentication are introduced to the credibility dimension, the professionalism dimension contains ability level and professional identity, and the attraction dimension involves the number of services, the number of cases, and the number of members. Then the effects of the above factors on the bid-winning performance are explored. On this basis, the positive evaluations of the previous tasks are introduced as the third-party information source to investigate the regulating effect of positive evaluation on the above correlation. In addition, the effect of the industries, cities, and regions where the contractors are located is controlled in this paper.

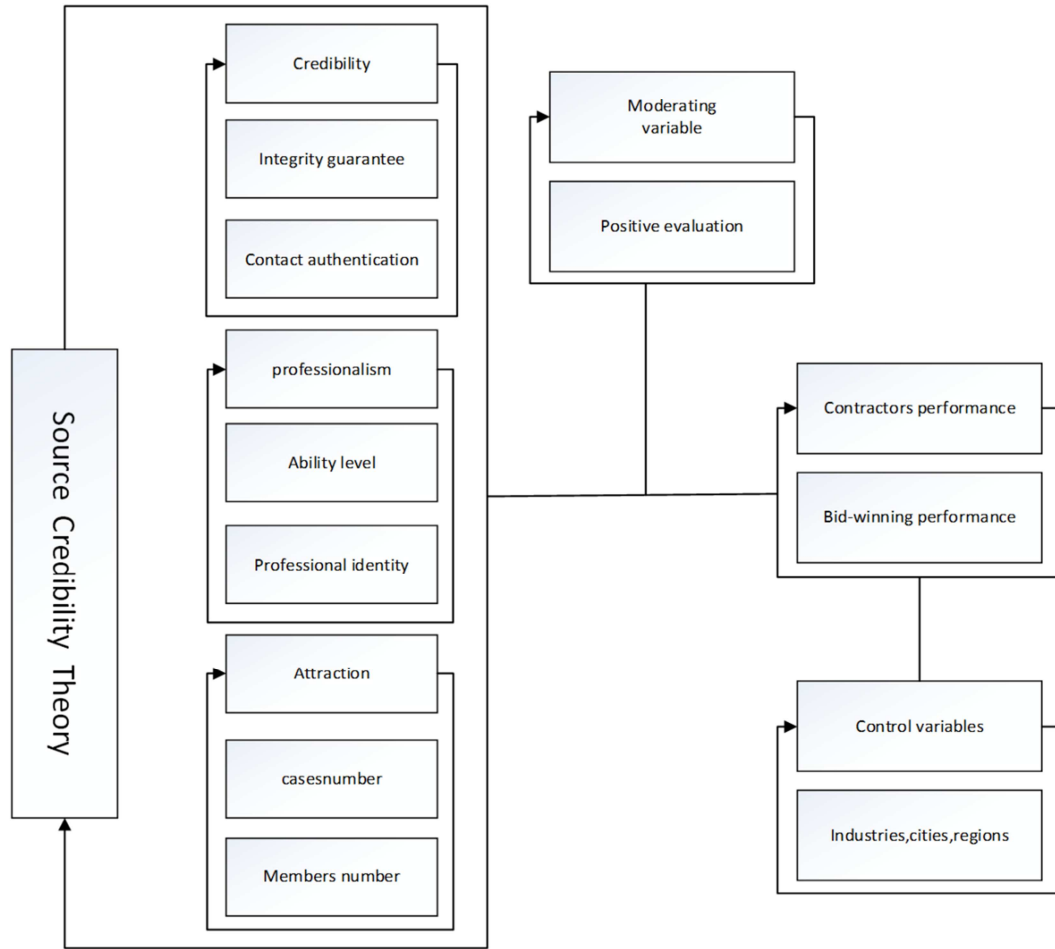


Figure 1. Research model.

3.2. The Influence of Credibility on the Bid-winning Performance

Credibility is the authenticity of information perceived by individuals [30]. The judgment of information receivers on the authenticity of the information depends on their feelings about the honesty and integrity of the communicator [41, 42], that is, the trust and integrity of the information source [43, 44]. Integrity guarantee is a guarantee-before-event system, where the contractors pay a certain amount of deposit to the platform to ensure the completion, originality and after-sales services of the schemes submitted by the them. Contact authentication refers to the true contact information disclosed by the contractors, such as mobile phone authentication and mailbox authentication. Therefore, integrity guarantee and contact authentication are selected in this paper to represent the credibility dimension.

Integrity guarantee is a reputation mechanism designed by the crowdsourcing contest platform. Whether or not the contractor joins the integrity guarantee program will affect the contractee’s perception of the trust in the contractor. According to the Source Credibility Theory, the higher the credibility of the contractor, the more likely the contractee is to choose its bid-winning performance. The contractors who are engaged in the integrity guarantee program will pay a

deposit to the crowdsourcing platform. When the contractor's scheme or service fails to achieve the predetermined goal, the platform can firstly pay the deposit to protect the rights of the contractee. The integrity guarantee program significantly reduces the uncertainty of the contractees’ choices and enhances their perception of the trust in the contractors. Hence, the integrity guarantee increases the probability of the contractors winning the bid. Researches in the field of electronic transactions have found that the reputation mechanisms of the sellers’ information source [45-49], such as registration deposit (Sun Y, Wang N, Yin C, et al. [50]), and transaction deposit (Dellarocas [51], Taboubi, Sihem. [52]) have a positive effect on the consumers’ purchase intention [45-48]. Based on the above analysis, the following hypotheses are proposed:

Hypothesis 1: The integrity guarantee provided by the contractors is positively correlated with the bid-winning performance.

Contact authentication is similar to real-name authentication, which mainly refers to the real contact information outside the platform disclosed by the contractors, such as mobile phone number or email address. The authenticated contact information provided by the contractor will affect the contractee’s perception of the authenticity of the contractor. According to the Source Credibility Theory,

the credibility of the contractor helps to increase the possibility of winning the bid [51]. Crowdsourcing platform is a virtual community, where the contractee and the contractor conclude a transaction on the virtual network. On the basis of overcoming time and geographical barriers, the risk of false information is also hidden in the crowdsourcing contest. Thus, contact authentication guarantees the authenticity of the contractor to a certain extent, which reduces the uncertainty of the choices of contractees, and enhances their perception of the integrity of contractors. The research conducted by Gao Q et al. showed that real-name authentication usually improves the credibility of the Weibo posts of users [52]. Therefore, contact authentication positively influences the probability of winning the bid by the contractor.

Hypothesis 2: The contact authentication provided by the contractor is positively correlated with the bid-winning performance.

3.3. The Impact of Professionalism on Bid-winning Performance

Professionalism refers to the experience or skills possessed by the information source [53, 54], which represents the degree to which the information source can convey accurate and comprehensive information [31]. In the crowdsourcing contests, the ability level represents the professional experience of the contractor, and refers to the reward and quality evaluations provided by the employers of the previous tasks of the contractor. Professional identity represents the professional skills mastered by the contractor, and refers to the competition awards or technical patents obtained by the contractor in the professional field. Therefore, the ability level and professional identity are used to represent the professionalism dimension in this paper.

High ability level indicates that the contractor has received large amount of reward and good quality evaluations in the previous tasks, which means that the contractor possesses rich professional experience. According to Source Credibility Theory, the higher the ability level of the contractor, the higher the level of professionalism perceived by the contractee, and the greater the possibility of winning the bid by the contractor. The more rewards and quality evaluations for the previous tasks provided by the contractor, the higher the quality of the completed tasks of the contractor, and the higher the credibility and the lower the risk perceived by the contractee. Boudreau K J [27] found that the professional skills of the contractor, such as professional level, professional knowledge, ability, and total skill level, can improve their possibility of winning the bid. Archak N [29] pointed out that the comprehensive evaluation score of the shop has a positive influence on the possibility of winning the bid by the contractor in a single task, while the level of the shop has no obvious effect on the possibility of winning the bid.

Hypothesis 3: The ability level of the contractor is positively correlated with the bid-winning performance.

The accumulated professional skills displayed by the contractor for winning competition award or obtaining the

technical patent in the professional field is defined as professional identity. It also refers to the proficiency required for completing a task developed through practice. This is the ability obtained through long-term exposure to a specific field. People with high-level professional knowledge often have quick learning ability and are proficient in solving problems in this field. They can accept new things more easily than novices, because they can easily absorb fresh knowledge based on professional knowledge and enhance the contractor's perception of the trust and credibility of the contractors [55, 56]. Professional knowledge can bring excellent performance [57]. Researches on crowdsourcing have shown that individual abilities will be limited by personal professional knowledge or skills [22]. Huang [26] et al. found that in crowdsourcing contests, high level of professional knowledge will contribute to high-level performance.

Hypothesis 4: The professional identity of the contractor is positively correlated with the bid-winning performance.

3.4. The Effect of Attraction on Bid-winning Performance

Attraction refers to the dynamic, diverse and attractive ways of information transmission [53, 58]. In the scenario of the Internet, attraction specifically examines the credibility of information presented on the website [34], such as "design and appearance", "information design" and other factors [59]. Lowry [32] found that the users generate the first impression in the first few seconds of browsing the web pages. Visual design and aesthetics are extremely important for improving the credibility of content, and will affect the perception of credibility in the network environment [60]. The contractors establish personal homepage on the crowdsourcing platform to display information in various ways, among which the most typical ways are: previously submitted cases, and the information of team members. Therefore, this paper uses the number of cases and the number of team members to represent the attraction dimension.

In order to show their skills to the contractor, the contractors will display the cases submitted in the previous projects. Similar to the services, the cases are also exhibited in various ways, such as pictures and text, and contain the information such as the contractee of the case, project requirements, scheme content, and designed products. According to the Source Credibility Theory, display of diverse cases of the contractors can help to enhance the attraction perceived by the contractee, thereby positively affecting the bid-winning performance of contractors. However, crowdsourcing tasks generally have requirements for innovation. Excessive display of the previous cases may make the contractee too familiar with the style of the contractors, which will reduce the contractor's perceived novelty [61, 62], and negatively influence the bid-winning performance of the contractors. ANU investigated the conditions under which CVC investments affect knowledge creation for corporate investors. We found that, when investor involvement is low, number of CVC investments has an inverted U-shaped relationship with innovation performance [63]. Therefore, the following hypothesis is proposed:

Hypothesis 5: The number of cases provided by the contractor has an inverted U-shaped relationship with the bid-winning performance.

The contractor may be an individual or a team. Displaying the information of members helps to increase the understanding of the contractee for them. According to the Source Credibility Theory, compared with individual contractor, team contractor has a higher level of credibility perceived by the contractee, so the contractor tends to choose the team contractor. However, when the team size exceeds a certain range, the contractee may worry that the contractor undertakes too many projects and will diversify the investment in the existing project, and the uncertainty is increased, thus weakening the contractor's bid-winning performance. Yang Sui et al. found partially mediated LMX differentiation's inverted U-shaped relationship with team performance [64]. Chirico F, Bau M. found that the family members on the top management team (TMT) and performance is not obvious, and there is a nonlinear inverted U-shape relationship between the two [63]. Therefore, the following hypothesis is proposed:

Hypothesis 6: There is an inverted U-shaped relationship between the number of team members of the contractor and the performance in winning the bid.

3.5. Regulating Effect of Positive Evaluation

After the crowdsourcing task is completed, the contractee will evaluate the scheme submitted by the contractor. The positive evaluation of contractees reflects their positive evaluation of the schemes submitted by the contractors. Relative to the self-displayed information of the contractors, the positive evaluation of the contractees involved in the previous crowdsourcing tasks is the third-party information source. Evaluations of third-party information source, such as online reviews, have a positive impact on the users' evaluation of products or purchase intention [65]. Davis J M, Tuttle M explained the regulating effect of evaluation on the system. Van-Dijk and Kluger found that online reviews have a regulating effect. For people who focus on promotion, positive feedback can better motivate them [66, 67]. According to the Source Credibility Theory, positive evaluations of the third-party information source further strengthen the contractee's perception of the credibility and professionalism of the contractor, reduce the uncertainty in decision-making, thereby improving the possibility of winning the bid by the contractor, and vice versa. Therefore, the following hypotheses are proposed.

Hypothesis 7a: Positive evaluation positively regulates the positive relationship between integrity guarantee and bid-winning performance.

Hypothesis 7b: Positive evaluation positively regulates the positive relationship between contact authentication and bid-winning performance.

Hypothesis 7c: Positive evaluation positively regulates the positive relationship between ability level and bid-winning performance.

Hypothesis 7d: Positive evaluation positively regulates the

positive relationship between professional identity and bid-winning performance.

There is an inverted U-shaped relationship between the number of cases, the number of members and the bid-winning performance. For groups with high positive evaluation, the inverted U-shaped relationship between cases, members and bid-winning performance shows a trend to slowly increase and then sharply decrease; for the groups with low positive evaluation, the inverted U-shaped relationship between cases, members and the bid-winning performance presents a dramatic increasing trend while a slow declining trend. Due to the virtual nature of the network and the asymmetric information, review readers often refer to relevant information of reviewers [68]. Zhang [69] et al. proposed through empirical test that reviews, as perceptions, significantly positively influence the quality of argument. Xu X, Wang X, et al. found that the number of reviews can reflect the professional level, and the large number of reviews reflects that those reviewed have high-level professional skills and experience [70]. The core competitiveness of the contractors, namely, the professional identity and ability level, is positively correlated with the bid-winning performance. The groups with high third-party evaluation reflect that hard power has weaker effect than soft power such as services, cases, and members which are attractive factors; for the groups with low third-party evaluation, the bid-winning performance can be improved by well displaying services, cases, and members, which have strong effect.

Hypothesis 7e: Positive evaluation negatively regulates the inverted U-shaped relationship between the number of cases and the bid-winning performance.

Hypothesis 7f: Positive evaluation negatively regulates the inverted U-shaped relationship between the number of members and the bid-winning performance.

4. Research Design

4.1. Sample Selection and Data Source

This paper intends to use time series data to verify the causality, so two rounds of the sample data collection were conducted. On December 10, 2019 (t1), the first round of data collection was carried out, including the industries engaged by the contractors, the ID of the contractor's team, the profile of the contractor's team, regional division, city level, total number of successful bids, integrity guarantee, contact authentication, ability level, professional identity, number of services, number of cases, number of members, type of the contractor's team, and number of positive evaluations. Two months after the end of the first round of data collection, that is, on February 10, 2020 (t2), the second round of data collection was launched to collect the information on the total number of successful bids of the contractors. The difference in the total number of successful bids between the two rounds of data collection is the number of successful bids, which is the dependent variable in the research model.

4.2. Variable Operation

Table 1. Variable operation.

Name of the variable	Variable operation
Dependent variable	
Bid winning performance	The difference in the total number of successful bids (t2-t1)
Independent variable	
Integrity guarantee (IG)	The transaction guarantee deposit paid by the contractees to participate in the guaranteed service project of "guaranteed completion, guaranteed after-sales, and guaranteed originality".
Contact authentication (CA)	Authenticated contact displayed by the contractees. 0 for no contact authentication, 1 for mobile phone authentication or email authentication, and 2 for both the contact authentication methods.
Ability level (AL)	The comprehensive evaluation value of the reward and quality obtained by the contractees for completing the tasks. The ninth level is 1, the eighth level is 2, so the first level is 9.
Professional identity (PI)	Whether or not the contractee has won competition award or obtained the patent of technology in this professional field. 1 for yes, and 0 for no.
Number of cases (NC)	The number of work cases displayed by the contractees.
Number of members (NM)	The number of members displayed by the contractees.
Moderating variable	
Positive evaluation (PE)	The number of favorable reviews received by the contractees.
Control variable	
Type of the contractors (TC)	Individual or team. 1 for the team, and 0 for the individual.
Industry (I)	The industry involved by the contractee, 1 for creative design, 2 for e-commerce design, 3 for brand marketing, 4 for software development, and 5 for WeChat marketing.
City level (CL)	The city level of the places where the contractees registered. 1 for first-tier cities, 2 for second-tier cities, 3 for third-tier cities, 4 for fourth-tier cities, 5 for fifth-tier cities, and 6 for sixth-tier cities.
Regional division (RD)	The division of the places where the contractees registered, 1 for the eastern region, 2 for the central region, 3 for the western region, and 4 for other regions.

5. Empirical Results and Analysis

5.1. Statistical Description

In this paper, stata statistical analysis software was adopted to statistically describe the research variables, including mean, standard deviation, minimum and maximum, as shown in Table 2.

Table 2. Statistical description of study variables.

variables	mean	standard deviation	minimum	maximum
BP	0.250	7.630	0	580
NM	0.530	1.780	0	30
AL	2.250	2.200	0	9
PI	0.000	0.060	0	1
NC	6.800	12.380	0	425
CA	1.820	0.480	0	2
PE	7.930	56.520	0	2364
IG	142.460	833.970	0	9000

Table 3. Correlation table.

VL	1	2	3	4	5	6	7	8
BP	1							
IG	0.240*	1						
CA	0.010	0.060*	1					
AL	0.090*	0.210*	0.110*	1				
PI	0.010	0.080*	0.010	0.110*	1			
NC	0.090*	0.080*	0.110*	0.230*	0.080*	1		
NM	-0.010	0.040*	0.080*	0.150*	0.060*	0.060*	1	
PE	0.370*	0.240*	0.030*	0.310*	0.120*	0.090*	0.110*	1

Note: * indicates $p < 0.001$.

5.2. Correlation Test

Table 3 shows the results of the Pearson correlation coefficients between the main variables. Except for the number of members, the correlation coefficients between other independent variables and the bid-winning performance are significantly positive, which initially verified hypotheses 1-4. The correlation coefficients among other major independent variables are mostly less than 0.5, indicating that there is no multicollinearity problem, which ensures the reliability of the results of subsequent multiple regression analysis.

5.3. Hypothesis Testing

In the actual problem analysis, a certain variable is generally affected by multiple factors, so it is necessary to construct a multiple linear regression model containing two or more explanatory variables to study this type of problem, so as to analyze the effect of different factors on the dependent variable. The premise hypothesis of the multiple linear regression model is: a single explained variable is a linear function of multiple explanatory variables X_1, X_2, \dots, X_k and random error term ξ , that is, considering the correlation between a single dependent variable Y and a set of predictor variables X_1, X_2, \dots, X_k .

According to the analysis of the above theoretical hypotheses, the bid-winning performance is influenced by integrity guarantee, contact authentication, ability level, professional identity, the number of cases, the number of members, positive evaluation, ability level, type of contractees, industry, city level, and regional division. Therefore, on the basis of standardizing some continuous data

$$\begin{aligned}
 Y = & \beta_0 + \beta_1 \ln(IG) + \beta_2 \ln(CA) + \beta_3 \ln(AL) + \beta_4 \ln(PI) \\
 & + \beta_5 \ln(NC) + \beta_6 \ln(NC)^2 + \beta_7 \ln(NM) + \beta_8 \ln(NM)^2 \\
 & + \beta_9 \ln(PV) + \beta_{10} \ln(PV) * \ln(IG) + \beta_{11} \ln(PV) * \ln(CA) \\
 & + \beta_{12} \ln(PV) * \ln(AL) + \beta_{13} \ln(PV) * \ln(NC)^2 \\
 & + \beta_{14} \ln(PV) * \ln(NM)^2 + \beta_{15} \ln(TC) + \beta_{16} \ln(I) + \beta_{17} \ln(CL) \\
 & + \beta_{18} \ln(RD) + \xi
 \end{aligned} \quad (1)$$

Note:

- (1) Control variables: type of contractor i , industry i , city level i , regional division i ;
- (2) β_i is the effect of the corresponding research variable on the bid-winning performance;
- (3) ξ is an error term used to control unobservable heterogeneity.

Considering that heteroscedasticity is likely to occur when performing linear regression using time series data, the heteroscedasticity was tested through the White test after the regression order was executed. It was found that the P value is significant at 5% level, and there exists heteroscedasticity. Therefore, OLS Robust was used for regression. The independent variables and the moderating variables were standardized to conduct the regulating effect test. The

regression results are shown in Table 4.

Table 4 shows the estimated results of this study. Model 1 contains the main effects of independent variables. In Model 2, the regulating effect of positive evaluation on the relationship between independent and dependent variables is added. In Model 1 and Model, R² is 13.79% and 33.46% respectively. Compared with Model 1, after including the quadratic terms and moderating variables, Model 2 shows a significant increase in the coefficient of the number of cases and the number of members, which suggests that it is important to include the quadratic terms and the moderating variables, because without the quadratic terms, there may be deviation in the estimates of these effects.

Table 4. Regression results.

Model variables	Model1	Model2
IG	0.036***	0.002
CA	0.007***	0.052***
AL	0.027***	-0.013***
PI	0.192*	-0.043
NC	0.015	0.019
NC ²	-0.010	-0.012
NM	0.004*	0.008***
NM ²	-0.018*	-0.031***
regulating effect test		
PE		0.018***
PE×IG		0.027***
PE×CA		0.069***
PE×AL		0.017***
PE×PI		-0.005
PE×C ²		-0.005*
PE×M ²		-0.009***
Control variables		
TC	included	included
I	included	included
CL	included	included
RD	included	included
Intercept item		
Constant	-0.218***	-0.021
R ²	0.137	0.3346
F	13.360***	14.540***

Note: ***Significantly in 1%, **Significantly in 5%, *Significantly in 10%, n.s. no Significant.

5.4. Robustness Analysis

5.4.1. Addition of New Control Variables

In order to verify the robustness of the above results, the robustness test was conducted by adding new control variables: recent transactions and the number of identity authentications for re-regression analysis. Table 5 shows that after adding new control variables, the research conclusions obtained are basically consistent with the previous ones, which demonstrates that the results are robust.

5.4.2. Changing the Measurement Method of Positive Evaluation

This paper uses the number of favorable reviews received

by the contractee to measure the positive evaluation. In addition to the number of favorable reviews, the contractor's credit and accumulated evaluations directly reflect the degree of recognition of the contractee by the employer, and can also represent the contractor's positive evaluation. Therefore, the contractor's credit and accumulated evaluations are used as another method for measuring positive evaluation. Specifically, the credit score of the contractor was extracted and standardized using natural logarithm. We can sum the positive, middle, and negative reviews, and then standardize accumulated evaluations by natural logarithm. It can be seen from Table 5 that the research conclusion on the regulating effect is basically consistent with the previous one, thus the results are robust.

Table 5. Robustness test results.

Model variables	Model1	Model2	Model3
IG	0.030***	-0.024***	0.012***
CA	0.013***	0.030***	0.020***
AL	0.011***	-0.041***	0.017***
PI	0.132	-0.057*	0.004
NC	0.034*	0.013	0.0300*
NC ²	-0.018*	-0.009	-0.018**
NM	0.007**	0.007***	0.006**
NM ²	-0.027***	-0.026***	-0.025***
CC		0.086***	
AE			-0.075**
regulating effect test			
CC×IG		0.044***	
CC×CA		0.024***	
CC×AL		0.070***	
CC×PI		0.111	
CC×NC2		-0.005*	
CC×NM2		-0.006*	
AE×IG			0.033***
AE×CA			0.111***
AE×AL			0.022***
AE×PI			0.166**
AE×NC ²			0.000
AE×NM ²			-0.028***
Control variables			
ART	included		
NIA	included		
TC	included	included	included
Industry	included	included	included
CL	included	included	included
RD	included	included	included
Intercept item			
Constant	-0.117*	-0.351***	0.025
F	14.430	14.020	15.920

Note: ***Significantly in 1%, **Significantly in 5%, *Significantly in 10%, *n.s.* no Significant.

6. Conclusions

6.1. Research Conclusions

Based on the perspective of the contractee's information reception, this paper explores the effect of three dimensions

of Source Credibility Theory: credibility, professionalism, and attraction on the bid winning performance of the contractors, and introduces the positive evaluation of the previous tasks as the third-party information source to analyze the regulating effect of positive evaluation on the relationship between the credible factors of information source and the performance in winning the bid. It has been found that the contractors who participated in the integrity guarantee program, disclosed more authenticated contact information, possess a high ability level, and obtained award certificates in various professional competitions have higher bid-winning performance; as the number of members shown by the contractors gradually increases, their performance in winning the bid shows an inverted U-shaped trend to rise first and then decrease. Compared to the contractors with low positive evaluations, those with high positive evaluations are more likely to win the bid after participating in the integrity guarantee program, disclosing more authenticated contact information, and achieving higher ability level; the inverted U-shaped relationship between the number of members exhibited by the contractors with high positive evaluation and the bid-winning performance shows a slower increase and a faster decline.

The inverted U-shaped relationship between the number of cases displayed by the contractor and the bid-winning performance has not been verified. In order to analyze the linear relationship between the number of cases and the performance in winning the bid, the square term of the number of cases in the model was removed and only its linear term was retained. Data analysis results show that there is a negative correlation between the number of cases and the bid-winning performance. Surprisingly, excessively display of cases will reduce the probability of winning the bid by the contractor. The possible reason is that the excessive exhibition of cases increases the possibility of exposure of adverse factors, and reduces the attraction perceived by the contractee. Positive evaluation does not have a significant positive regulating effect on the relationship between professional identity and bid winning performance, possibly because that the contractee attaches great importance to the professional identity of the contractor. Regardless of the high or low positive evaluation of the third party, the professional identity strongly enhances the possibility of winning the bid by the contractor.

6.2. Theoretical Contributions

The main theoretical contributions of this paper can be summarized as the following three aspects:

First, in the mixed crowdsourcing mode integrating contest and employment market, this paper studies the bid-winning performance of contractor from the perspective of information reception of the contractee for the first time. Existing researches mainly focus on the theoretical logic of the characteristics of tasks, schemes, and the contractor affecting the quality of the schemes submitted by the contractor and then influencing the bid-winning performance, while ignores the persuasive effect of the credibility of the contractor as the information source on the contractee's

decision-making. This paper introduces the Source Credibility Theory to build the model of factors influencing the bid winning performance of the contractor from three aspects: credibility, professionalism and attraction, which provides a new theoretical perspective for explaining the bid-winning performance.

Second, this paper proposes and verifies the non-linear inverted U-shaped relationship between the number of members displayed by the contractors and their bid-winning performance; a new theoretical explanation for the positive impact of integrity guarantee, contact authentication, and ability level on the bid-winning performance is proposed. Previous studies mainly explored the influence of the contractor's skills, experience, score, and deposit on the bid-winning performance, while ignored the impact of the members, and cases displayed by the contractor. Based on the Source Credibility Theory, this paper illustrates the inverted U-shaped relationship between the number of members and the bid-winning performance from the attraction dimension. In addition, in the credibility and professionalism dimension, the research shows the positive effects of integrity guarantee, contact authentication, and ability level on the bid-winning performance, which is consistent with the previous research findings, but this paper provides a new theoretical explanation for the above relationship. By introducing new variables, proposing new opinions, and adding new theoretical explanation, this paper expands and enriches existing research conclusions.

Third, this paper introduces the positive evaluation of the previous tasks as the third-party information source, and proposes and verifies the positive regulating effect of positive evaluation on the relationship between credibility and bid winning performance. The previous researches fail to consider the interaction between the contractor's information source and the third-party information source. However, these two different information sources may jointly affect the contractee's perception of the credibility of contractor. In order to make up for the research gap, this paper investigates the interaction between the contractor's information source and the third-party information source, and it has been found that the third-party information source strengthens the effect of the credibility of contractor's information source on the bid winning performance, hence expanding and enriching the existing research conclusions.

6.3. Practical Contributions

First, the crowdsourcing website should help the contractors to improve the integrity, recommends the contractors to participate in the Integrity Guardian Program, pay more transaction deposits to attend the service guarantee project of "guaranteed completion, guaranteed after-sales, and guaranteed originality". The contractors of the crowdsourcing website should actively participate in real-name authentication of contact information, that is, mailbox authentication and mobile phone authentication, to increase credibility. Second, crowdsourcing websites can promote professional competitions, and issue award

certificates to encourage users to continue to actively participate in competitions to improve their ability value, and obtain more favorable reviews. Third, appropriate display of the number of team members in the shop of the contractor can improve the bid winning performance. Fourth, the contractors can appropriately reduce the number of case displayed to weaken the negative effect of case presentation. Fifth, contractors can obtain more favorable evaluations from the contractee by improving the average work quality, average working speed, and average work attitude.

6.4. Limitations and Future Prospects

In this paper, the research design is carried out according to the empirical research standard, and the research model and hypotheses are verified with objective data. However, there are still some limitations. First, only one crowdsourcing platform, EPWK, is used as the research scenario, which limits the applicability of the research conclusions to a certain extent. Although EPWK is one of the well-known crowdsourcing platforms in China, the sample is representative, it is still slightly different from other crowdsourcing platforms such as ZBJ.com and Taskcn.Com. In the future research, multiple research scenarios can be selected to verify the robustness of the research conclusions of this study. Second, this paper only collected the samples of the five most popular and representative fields on EPWK: creative design, e-commerce design, brand marketing, WeChat marketing, and software development, without considering the full sample data. Third, there are unobservable variables in the samples in this paper, such as the demographic characteristics of the contractors. Future research can use survey method to obtain the individual characteristics of the contractor to control this effect.

This paper proposes the following suggestions for future research: first, content analysis method can be employed to explore the textual features of the contractor's profile and investigate the effect of textual features on the bid-winning performance. Second, a comparative study on the factors that influence the bid winning performance of the contractors in the contest mode and the employment mode can be conducted. Third, the time factor can be introduced to the future research to empirically verify the development law of the contractor's bid-winning performance, and the differences in the factors influencing the contractor's bid-winning performance at different stages.

References

- [1] Poetz, M. K., Schreier, M. (2012). The value of crowdsourcing: can users really compete with professionals in generating new product ideas? *Journal of product innovation management*. 29 (2), 245-256.
- [2] Hu, Liping. (2010). A discussion on developing virtual reference service based on witkey-mode in academic library. *Library Journal*. 8 (1).

- [3] Bockstedt, J., Mishra, A., Druehl, C. (2011). Do Participation Strategy and Experience Impact the Likelihood of Winning in Unblind Innovation Contests?. Available at SSRN. 196, 12-44.
- [4] Lüttgens D., Pollok P., Antons D. (2014). Wisdom of the crowd and capabilities of a few: internal success factors of crowdsourcing for innovation. *Journal of Business Economics*. 84 (3), 339-374.
- [5] Zuchowski O., Posegga O., Schlagwein D. (2016). Internal crowdsourcing: conceptual framework, structured review and research agenda. *Journal of Information Technology*. 31 (2), 166-184.
- [6] Lee, H. C. B., Ba, S., Li, X. (2018). Salience bias in crowdsourcing contests. *Information Systems Research*. 29 (2), 401-418.
- [7] Wang X., Khasraghi H. J., Schneider H. (2019). Towards an understanding of participants' sustained participation in crowdsourcing contests. *Information Systems Management*. 1 (0), 1-14.
- [8] Ayaburi E. W., Lee J., Maasberg M. (2019). Understanding crowdsourcing contest fitness strategic decision factors and performance: an expectation-confirmation theory perspective. *Information Systems Frontiers*. 1 (0), 1-14.
- [9] Zheng, C., Lidh, Houwh. (2011). Task design, motivation, and participation incrows sourcing contests. *International Journal of Electronic Commerce*. 1 (4), 57-88.
- [10] Bullinger, A. C., Neyer, A. K., Rass, M. (2010). Community-based innovation contests: where competition meets cooperation. *Creativity & Innovation Management*. 19 (3), 290-303.
- [11] Shan, Liu, Fanl. (2016). Exploring the trends, characteristic antecedents, and performance consequences of crowdsourcing project risks. *International Journal of Project Management*. 34 (8): 1625-1637.
- [12] Marinova, D. M. (2016). On the Use of Crowdsourcing Labor Markets in Research. *Perspectives on Politics*. 14 (2), 422-431.
- [13] Ghezzi, A., Gabelloni, D., Martini, A. (2018). Crowdsourcing: a review and suggestions for future research. *International Journal of Management Reviews*. 20 (2): 343-363.
- [14] Shao, B., Shi, L., Xu, B. (2012). Factors affecting participation of contractors in crowdsourcing: an empirical study from China. *Electronic Markets*. 22 (2), 73-82.
- [15] Gefen, D., Gefen, G., Carmel, E. (2016). How project description length and expected duration affect bidding and project success in crowdsourcing software development. *Journal of Systems and Software*. 116 (1), 75-84.
- [16] Leimeister, J. M., Huber, M., Bretschneider, U. (2009). Leveraging crowdsourcing: activation-supporting components for IT-based ideas competition. *Journal of management information systems*. 26 (1), 197-224.
- [17] Mahr, D., Rindfleisch, A., Slotegraaf, R. J. (2015). Enhancing crowdsourcing success: the role of creative and deliberate problem-solving styles. *Customer Needs and Solutions*. 2 (3), 209-221.
- [18] Jian, L., Yang, S., Ba, S. (2019). Managing the crowds: the effect of prize guarantees and in-process feedback on participation in crowdsourcing contests. *MIS quarterly*. 43 (1), 97-112.
- [19] Sun, Y., Fang, Y., Lim, K. H. (2012). Understanding sustained participation in transactional virtual communities. *Decision Support Systems*, 53 (1), 12-22.
- [20] Ye, H. J., Kankanhalli. (2017). A contractors' participation in crowdsourcing platforms: examining the impacts of trust, and benefit and cost factors. *The Journal of Strategic Information Systems*. 26 (2), 101-117.
- [21] Martinez, M. G., Walton, B. (2014). The wisdom of crowds: the potential of online communities as a tool for data analysis. *Technovation*. 34 (4), 203-214.
- [22] Terwiesch, C., Xu, Y. (2008). Innovation contests, open innovation, and multiagent problemsolving. *Management science*. 54 (9), 1529-1543.
- [23] Zheng, H., Li, D., Hou, W. (2011). Task design, motivation, and participation in crowdsourcing contests. *International Journal of Electronic Commerce*. 15 (4), 57-88.
- [24] Xiao, H., Xiaomin, G., Pengzhu, Z. (2018). Online labor service crowdsourcing analysis based on linear discriminant regression. *Cognitive Systems Research*. 52, 168-173.
- [25] Mo, J., Sarkar, S., Menon, S. (2018). Know When to Run: Recommendations in Crowdsourcing Contests. *MIS Quarterly*. 42 (3), 919-943.
- [26] Jiang, Z. Z., Huang, Y., Beil, D. R., The Role of Feedback in Dynamic Crowdsourcing Contests: A Structural Empirical Analysis. *Social ence Electronic Publishing*.
- [27] Boudreau, K. J., Lacetera, N., Lakhani, K. R. (2011). Incentives and problem uncertainty in innovation contests: An empirical analysis. *Management science*. 57 (5), 843-863.
- [28] Ye, H., Kankanhalli, A. (2017). Contractors' participation in crowdsourcing platforms: Examining the impacts of trust, and benefit and cost factors. *Information Age*. 26 (2), 101-117.
- [29] Archak, N. (2010). Money, glory and cheap talk: analyzing strategic behavior of contestants in simultaneous crowdsourcing contests on TopCoder. *Com. Proceedings of the 19th international conference on World wide web*. 1 (1), 21-30.
- [30] Hovland, C., Janis, I., Kelley, H. (1954). Communication and persuasion. *Psychological Studies of Opinion Change*. *American Sociological Review*. 19 (3), 355.
- [31] Hovland, C., Weiss, W. (1951). The influence of source credibility on communication effectiveness. *Public Opinion Quarterly*. 15 (1), 635-650.
- [32] Lowry, P. B., Wilson, D. W., Haig, W. L. (2014). A Picture is Worth a Thousand Words: Source Credibility Theory Applied to Logo and Website Design for Heightened Credibility and Consumer Trust. *International Journal of Human Computer Interaction*. 30 (1-3), 63-93.
- [33] Cho, J., Kwon, K., Park, Y. (2009). Q-rater: a collaborative reputation system based on source credibility theory. *Expert Systems with Applications*. 36 (2), 3751-3760.
- [34] Robins, D., Holmes, J. (2008). Aesthetics and credibility in web site design. *Information Processing & Management*. 44 (1), 386-399.

- [35] Teven, J. (2008). An examination of perceived credibility of the 2008 Presidential Candidates: Relationships with Believability, Likeability, and Deceptiveness. *Human Communications*. 11 (1) 383-400.
- [36] Dholakia, R. R. (1987). Source credibility effects: a Test of Behavior Persistence. *Advances in Consumer Research*, 14, 426-430.
- [37] Johnson, T. J., Kaye, B. K. (2009). In blog we trust? Deciphering Credibility Of Components Of The Internet Among Politically Interested Internet Users. *Computers in Human Behavior*. 25 (1). 175-182.
- [38] Shimp. (2010). Integrated Marketing Communications In Advertising And Promotion Integrated Marketing Communications In Advertising And Promotion. 4 (3), 223-236.
- [39] Visentin, M., Pizzi, G. (2019). Pichierri, M., Fake news, real problems for brands: the impact of content truthfulness and source credibility on consumers' behavioral intentions toward the advertised brands. *Journal of Interactive Marketing*. 45 (1): 99-112.
- [40] Na, S., Kunkel, T., Doyle, J. (2020). Exploring athlete brand image development on social media: the role of signalling through source credibility. *European Sport Management Quarterly*. 20 (1), 88-108.
- [41] Jones, L. W., Sinclair, R. C., Courneya, K. S. (2003). The effects of source credibility and message framing on exercise intentions, behaviors, and attitudes: an integration of the elaboration likelihood model and prospect theory. *Journal of applied social psychology*. 33 (1), 179-196.
- [42] McGinnies, Elliott, and Charles, D., Ward. (1980). Better liked than right: trustworthiness and expertise as factors in credibility. *Personality and Social Psychology Bulletin*. 6 (3), 467-72.
- [43] Ohanian, Roobina. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*. 19 (3), 39-52.
- [44] Ridings, C. M., Gefen, D., Arinze, B. (2002). Some antecedents and effects of trust in virtual communities. *The journal of strategic Information Systems*. 11 (3-4). 271-295.
- [45] Patrick, P., Lüttgens, Dirk., Piller, F., T. (2018). Attracting solutions in crowdsourcing contests: The role of knowledge distance, identity disclosure, and contractee status. *Research Policy*. 48 (1): 98-114.
- [46] Goldsmith, R. E., Lafferty, B. A., Newell, S. J. (2000). The impact of corporate credibility and celebrity credibility on consumer reaction to advertisements and brands. *Journal of Advertising*. 29 (3), 43-54.
- [47] Lafferty, B. A., Goldsmith, R. E., Newell, S. J. (2002). The dual credibility model: The influence of corporate and endorser credibility on attitudes and purchase intentions. *Journal of Marketing Theory and Practice*. 10 (3), 1-11.
- [48] Pornpitakpan, C. (2004). The effect of celebrity endorsers' perceived credibility on product purchase intention: The case of Singaporeans. *Journal of International Consumer*. 16 (2), 55-74.
- [49] Wang, S. W., Kao, G. H. Y., Ngamsiriudom, W. (2017). Consumers' attitude of endorser credibility, brand and intention with respect to celebrity endorsement of the airline sector. *Journal of Air Transport Management*. 60 (1), 10-17.
- [50] Sun, Y., Wang, N., Yin, C. (2015). Understanding the relationships between motivators and effort in crowdsourcing marketplaces: A nonlinear analysis. *International Journal of Information Management*. 35 (3), 267-276.
- [51] Dellarocas, C. (2005). Reputation mechanism design in online trading environments with pure moral hazard. *Information systems research*. 16 (2), 209-230.
- [52] Taboubi, Sihem. (2019). Incentive mechanisms for price and advertising coordination in dynamic marketing channels. *International Transactions in Operational Research*. 26 (6), 2281-2304.
- [53] Barnes, S. A., Green, A. de, Hoyos, M. (2015). Crowdsourcing and work: individual factors and circumstances influencing employability. *New Technology, Work and Employment*. 30 (1), 16-31.
- [54] Gao, Q., Tian, Y., Tu, M. (2015). Exploring factors influencing Chinese user's perceived credibility of health and safety information on Weibo. *Computers in Human Behavior*. 45 (1), 21-31.
- [55] Berlo, D. K., Lemert, J. B., Mertz, R. J. (1969). Dimensions for evaluating the acceptability of message sources. *Public opinion quarterly*. 33 (4), 563-576.
- [56] Roberts, C. (2010). Correlations Among Variables in Message and Messenger Credibility Scales. *American Behavioral Scientist*. 54 (1), 43-56.
- [57] Narayanan, S., Balasubramanian, S., and Swaminathan, J. M. (2009). A Matter of Balance: Specialization, Task Variety, and Individual Learning in a Software Maintenance Environment, *Management Science*. 55 (11), 1861-1876.
- [58] Schilling, M. A., Vidal, P., Ployhart, R. E., Marangoni., A learning by doing something else: variation, relatedness, and the learning curve, *Management Science*. 49 (1), 39-56.
- [59] Ericsson, K. A. (2006). The influence of experience and deliberate practice on the development of superior expert Performance. *Journal of Workplace Learning*. 20 (7), 560-560.
- [60] New York, NY., Wiley, Whitehead, J. L., JR. (1968). Factors of source credibility. *Quarterly Journal of Speech*. 54 (1), 59-63.
- [61] Ismagilova, E., Slade, E., Rana, N. P. (2020). The effect of characteristics of source credibility on consumer behaviour: A meta-analysis. *Journal of Retailing and Consumer Services*, 53 (1).
- [62] Purcell, A., Gero, J. (1992). Effects of examples on the results of a design activity. *Knowledge-Based Systems*, 5 (1), 82-91.
- [63] Chirico, F., Bau M. (2014). Is the family an 'Asset' or 'Liability' for firm performance? the moderating role of environmental dynamism. *Journal of Small Business Management*. 52 (2), 210-225.
- [64] Sui Y., Wang H., Kirkman, B. L. (2016). Understanding the curvilinear relationships between LMX differentiation and team coordination and performance. *Personnel Psychology*. 69 (3).

- [65] Birch, H. G., Rabinowitz, H. S. (1951). The negative effect of previous experience on productive thinking. *Journal of Experimental Psychology*, 41 (2), 121-125.
- [66] Ventre, I., Kolbe, D. (2020). The impact of perceived usefulness of online reviews, trust and perceived risk on online purchase intention in emerging markets: a mexican perspective. *Journal of International Consumer Marketing*. 1 (4), 1-13.
- [67] Van, Dijk, D., Kluger, A. N. (2004). Feedback sign effect on motivation: Is it moderated by regulatory focus? *Applied Psychology*. 53 (1), 113-135.
- [68] Sokolova, K., Kefi, H. (2020). Instagram and YouTube bloggers promote it, why should I buy? How credibility and parasocial interaction influence purchase intentions. *Journal of Retailing and Consumer Services*. 53 (1).
- [69] Zhang, K. Z. K., Zhao, S. J., Cheung, C. M. K., Lee, M. K. O. (2014). Examining the influence of online reviews on consumers' decision-making: a heuristic-systematic model. *Decision Support Systems*. 67 (C), 78-89.
- [70] Xu, X., Wang, X., Li, Y. (2017). Business intelligence in online customer textual reviews: Understanding consumer perceptions and influential factors. *International Journal of information management*. 37 (6), 673-683.