

The Impact of Answer Quality Feedback on Users' Continuous Answering Intention in Social Q&A Communities: A Case Study of Zhihu (Postprint)

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Abstract

[Purpose/Significance] Analyzing the impact of answer quality feedback on users' continuous answering intention in social Q&A communities can provide guidance for enhancing user stickiness and improving user experience in such communities. [Method/Process] Answer quality feedback variables were extracted from social capital theory to analyze their influence on users' continuous answering intention in social Q&A communities. The collected survey data were analyzed using structural equation modeling to verify the model's feasibility and superiority. [Results/Conclusion] An impact model of answer quality feedback on users' continuous answering intention in social Q&A communities was constructed; the findings indicate that answer quality feedback positively affects feedback expectation confirmation and feedback perceived usefulness; feedback expectation confirmation positively affects feedback perceived usefulness and feedback satisfaction; feedback perceived usefulness positively affects feedback satisfaction and continuous answering intention; feedback satisfaction also positively affects continuous answering intention.

Full Text

Preamble

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The Influence of Answer Quality Feedback on Users' Willingness to Continue Answering Questions in Social Q&A Communities: A Case Study of the Zhihu Platform

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Abstract:

[Purpose/Significance] Analyzing the impact of answer quality feedback on users' willingness to continue answering questions in social Q&A communities can provide guidance for enhancing user stickiness and improving user experience in these platforms. [Method/Process] This study extracts the answer quality feedback variable from social capital theory to examine its influence on users' continuous answering intention. Structural equation modeling is employed to analyze survey data, verifying the feasibility and superiority of the proposed model. [Results/Conclusions] The study constructs an influence model of answer quality feedback on users' continuous answering intention in social Q&A communities. Findings indicate that answer quality feedback positively influences feedback expectation confirmation and perceived feedback usefulness; feedback expectation confirmation positively affects perceived feedback usefulness and feedback satisfaction; perceived feedback usefulness positively influences feedback satisfaction and continuous answering intention; and feedback satisfaction also positively affects continuous answering intention.

Keywords: social Q&A community; social capital theory; expectation-confirmation model; answer quality feedback; continuous answering intention

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Introduction

In the Web 2.0 era, content characterized by “big data,” “Internet Plus,” and “media convergence” has become the dominant component of online information, and social network services (SNS) built on internet and mobile platforms have rapidly flourished [1]. In recent years, SNS have become an integral part of people's lives, with the number of online users growing significantly [2]. According to official data released by Zhihu, as of January 2019, the platform had surpassed 220 million registered users and accumulated over 130 million answers. Since its beta launch in July 2016, more than 30,000 official institutional accounts have registered on Zhihu, encompassing media outlets, well-known brands, small and medium-sized enterprises, and government agencies. These accounts have collectively created 1.4 million knowledge posts totaling 1.9 billion characters, receiving over 54.8 million upvotes and 7 million thanks [3]. Zhihu users interact through feedback behaviors such as comments, replies, upvotes,

and shares, making the impact of user answering behavior a key research topic in academia.

Recent studies have investigated user answering intention in social Q&A communities. Zhang Changliang et al. analyzed influencing factors of users' continuous answering intention based on perceived value theory [4]; M. H. Hsu et al. utilized social awareness theory to examine factors affecting user answering intention in social Q&A communities [5]; L. Zhou et al. found through empirical research that under the influence of users' self-efficacy and outcome expectations in social Q&A communities, interactive behaviors among users directly or indirectly affect their questioning or answering behaviors [6]; Zhang Baosheng et al., using grounded theory, analyzed users' problem-solving intention in social Q&A communities and found that intention is influenced by the interaction of four factors: knowledge demand-side, knowledge supply-side, platform service-side, and community environment-side factors [7].

Currently, scholars increasingly analyze influencing factors of user answering intention in social Q&A communities from the perspective of social capital theory. H. H. Chang et al. introduced relational dimensions from social capital theory to analyze the motivations of network community users in providing Q&A assistance [8]; X. Zhang et al. demonstrated that social capital positively influences intrinsic and extrinsic motivations, thereby stimulating professional users' willingness to answer questions for ordinary users in Q&A communities [9]; F. Zhang et al. introduced motivation theory to analyze factors influencing user communication intention in online communities [10]; I. Y. L. Chen et al. found that in online communities, users with higher activity levels exhibit stronger communication and knowledge-sharing intentions [11]. Existing research shows that social capital theory offers strong explanatory power for studying user answering intention in social Q&A communities. However, previous studies have primarily focused on answer quality assessment or analyzing influencing factors of users' initial answering intention, with limited in-depth and targeted research on the motivations behind their subsequent answering intention. This gap prevents explanation of why some users discontinue answering activities.

Inspired by this, the present study distills and summarizes factors influencing users' continuous answering intention in social Q&A communities from social capital theory, incorporates these as variables, and combines them with the integrated technology acceptance model to propose hypotheses and establish a model. Using structural equation modeling, the study analyzes survey data collected from Zhihu users to test the hypotheses. This research attempts to address three questions: (1) What factors influence users' continuous answering intention in social Q&A communities? (2) Can an influence model for users' continuous answering intention be established based on social capital theory and the integrated technology acceptance model? (3) Can this study on users' continuous answering intention provide guidance for user retention and optimized community development? Theoretically, this research offers a new perspective for studying user intention in social Q&A communities; practically, it helps plat-

form developers and administrators better understand user needs and enhance user stickiness.

1. Related Theories

1.1 Continuous Answering Intention in Social Q&A Communities

(1) Social Q&A Communities

Social Q&A communities are web-based services that provide a new environment for online users to seek and share information, allowing them to ask questions and receive answers from other users [12]. Zhang Baosheng et al. define social Q&A communities as social network service communities formed around internet Q&A services and participating users, where user knowledge contribution is the core value and plays a crucial role in community development and operation [7]; Fang Chencheng et al. view social Q&A communities as Q&A platforms combining knowledge dissemination and social functions, representing an extension of traditional search-based Q&A platforms toward social relationships [13]; Shi Yanping et al. consider social Q&A communities as platforms that achieve knowledge sharing through one-to-many Q&A models, compensating for traditional search engines' inability to retrieve tacit knowledge in real-time [14].

(2) Continuous Answering Intention

Continuous answering intention is a process referring to users' willingness to continuously participate in communication activities with individuals or groups in social Q&A communities [15]. C. Chen-jou et al. define Q&A community answering intention as the subjective intention that occurs when individuals provide answers or obtain answers from others [16]; W. K. M. Will defines answering intention as "the desire to serve as a knowledge source for others' learning" [17]; A. Farhan et al. propose that answering intention refers to "the willingness to provide task information and expertise to help others, collaborate on problem-solving, develop new ideas, or implement policies and procedures" [18]. Based on a comprehensive review of relevant literature, this study defines users' continuous answering intention in social Q&A communities as their intention to continuously share the knowledge information they possess.

1.2 Social Capital Theory

Social capital theory, proposed by P. Bourdieu in 1985, is defined as the sum of assets or resources embedded in relational networks among individuals, communities, networks, or societies, existing through interpersonal relationships [8]. J. Nahapiet et al. conceptualize social capital as a multidimensional construct comprising three dimensions: relational, structural, and cognitive [19]. The relational dimension represents natural relationships among individuals in an organization, the structural dimension represents the overall relationship patterns within an organization, and the cognitive dimension represents the extent

to which people in a social network share common perspectives or understandings.

The three dimensions of social capital theory describe organizational structure from the perspectives of individual relationships, network structure, and individual consciousness. Introducing social capital theory into research on user answering intention in social Q&A communities enables analysis of how implicit and explicit information contained in community users' organizational structures, relational networks, and consciousness levels influences their answering intention.

1.3 Answer Quality Feedback in Social Q&A Communities

Answer quality refers to the degree to which an answer matches the questioner's expectations, primarily measured by whether the questioner adopts the answer and the extent to which other users recognize it [20]. X. Chen et al. use answer usefulness, answer interactivity, and answer entertainment as evaluation indicators for answer quality [21]; S. Liao et al. found that non-active community users' answer adoption intention is more influenced by network relationships, shared vision, and perceived usefulness, while posters are more influenced by mutual trust and common language [22].

The degree of recognition from other users regarding answer quality is a decisive factor in determining answer providers' continuous answering intention in social Q&A communities. Feedback on answer quality adoption and recognition promotes users' enthusiasm for subsequent question answering. From the perspective of social capital theory, answer quality is manifested through three aspects: interactive connection, identification, and common language, corresponding to the structural, relational, and cognitive dimensions of social capital theory. Analyzing the influence of feedback from these three angles on users' continuous answering intention provides strong explanatory power.

2. Model of Knowledge Sharing Intention in Social Q&A Communities

2.1 Expectation-Confirmation Model

The Expectation-Confirmation Model (ECM), proposed by J. A. Bhattacher in 2001 based on Oliver's Expectation Confirmation Theory (ECT), is a model for analyzing factors influencing users' continuous usage intention [23]. It posits that users' continuous usage intention regarding a system or technology is influenced by perceived usefulness and satisfaction, which in turn are affected by expectation confirmation (see Figure 1 [Figure 1: see original paper]). This model breaks through the traditional research framework of initial information technology adoption and has been widely applied in studying continuous usage behavior in online communities [24], e-magazines [25], mobile search [26], and

information technology [27], demonstrating the effectiveness and explanatory power of the ECM model.

The ECM model shows strong explanatory capability for studying the influence on users' continuous answering intention, making it suitable for this research. Therefore, this study sets variables for feedback expectation confirmation, perceived feedback usefulness, and feedback satisfaction to analyze their impact on users' continuous answering intention.

2.2 Variable Definitions

Answer quality feedback includes interactive connection feedback, common language feedback, and identification feedback. These variables are derived from social capital theory and involve the structure, relationships, and cognitive levels among users in social Q&A communities, comprehensively covering the feedback that answering users can receive. Interactive connection feedback reflects the degree of attention and response attitude that answering users receive during interactions with other users. Common language feedback reflects the level of shared professional knowledge that answering users perceive among other users. Identification feedback reflects the series of responses such as upvotes, thanks, and replies that answering users receive for their answers.

The ECM model is highly suitable for studying the influence on users' continuous answering intention. Therefore, variables are set for feedback expectation confirmation, perceived feedback usefulness, and feedback satisfaction to analyze their impact on continuous answering intention. Table 1 presents the variable descriptions and sources.

Table 1. Variable Descriptions and Sources

Variable	Description	Source
Interactive Connection Feedback	Feedback received by answering users regarding the closeness of relationships with other users in social Q&A communities	J. Nahapiet et al. [19], J. Wu et al. [29]
Common Language Feedback	Feedback received by answering users regarding the smoothness of communication during the Q&A process in social Q&A communities	M. K. Cheung et al. [34], J. Zhou et al. [6]
Identification Feedback	Feedback received by answering users regarding the degree of recognition and agreement from other users on their answers in social Q&A communities	M. H. Hsu et al. [5], Y. Kim et al. [30]

Variable	Description	Source
Feedback Expectation Confirmation	The standard by which answering users evaluate the quality feedback on their provided answers	C. Shah et al. [36], X. Zhang et al. [9]
Perceived Feedback Usefulness	The degree of usefulness of feedback to answering users	K. E. Kolekofski et al. [37], M. Mouaket et al. [31]
Feedback Satisfaction	The degree of satisfaction users have with feedback	H. H. Chang et al. [8], J. Wu et al. [29]
Continuous Answering Intention	The intention of users to continue providing answers after receiving feedback	L. Jeppesen et al. [38], H. H. Chang et al. [8]

2.3 Research Hypotheses

2.3.1 Influence of Answer Quality Feedback on Feedback Expectation Confirmation Feedback expectation confirmation refers to the degree to which users confirm the quality feedback standards for their provided answers. The more the feedback meets answering users' expected standards, the stronger their intention to continue answering [16]. Research has found that the closer the relationships among members in social Q&A communities, the higher their standards for their own performance and the quality of information they provide [19]. C. M. Chiu et al., studying information exchange intention in social Q&A communities from a social capital perspective, found that the closeness of social connections among users affects answer quality [28]. J. Wu et al. discovered that in virtual communities, users hope to receive higher evaluations from peers during interactions with users in the same field [29]. M. K. Christy believes that people are more willing to adopt feedback from peers in the same field [34]. Based on these findings, this study hypothesizes:

- **H1a:** Interactive connection feedback has a positive influence on feedback expectation confirmation.
- **H1b:** Common language feedback has a positive influence on feedback expectation confirmation.
- **H1c:** Identification feedback has a positive influence on feedback expectation confirmation.

2.3.2 Influence of Answer Quality Feedback on Perceived Feedback Usefulness After receiving answer quality feedback, users in social Q&A communities assess the value and significance of the feedback—that is, whether other users' feedback on answer quality is useful. The higher the communication frequency among answering users, the higher the proportion of high-quality feedback they receive [6]. Y. Lu et al., studying information exchange in social Q&A

communities under emergency conditions, found that the more interaction relationships among community members, the higher the probability of obtaining useful feedback [33]. For Q&A community users, they prefer to receive replies or suggestions from users with expertise in the same domain [29]. Answering users adjust their psychological expectations for subsequent answers based on feedback from other users with common language [32]. J. Nahapiet et al. believe that in Q&A communities, the higher the quality of answers provided by users, the higher their expectation of receiving enthusiastic responses [19]. Based on these findings, this study hypothesizes:

- **H2a:** Interactive connection feedback has a positive influence on perceived feedback usefulness.
- **H2b:** Common language feedback has a positive influence on perceived feedback usefulness.
- **H2c:** Identification feedback has a positive influence on perceived feedback usefulness.

2.3.3 Influence of Feedback Expectation Confirmation on Perceived Feedback Usefulness Users' feedback expectations are determined by three aspects: interactive connection feedback, common language feedback, and identification feedback. The degree of feedback expectation confirmation determines answering users' judgment of feedback usefulness. Chen Minghong et al. applied the Information Systems Continuance ECM to study continuous information sharing intention in social networks, finding that expectation confirmation positively affects perceived usefulness [35]. In Q&A communities, the quality of feedback received by answering users influences their adoption of feedback [30], and answering users have low willingness to accept negative or useless feedback [5]. Based on these findings, this study hypothesizes:

- **H3:** Feedback expectation confirmation has a positive influence on perceived feedback usefulness.

2.3.4 Influence of Feedback Expectation Confirmation on Feedback Satisfaction Users' feedback satisfaction is determined by the degree of expectation confirmation regarding answer quality feedback. The more the feedback quality matches users' psychological expectations, the higher their satisfaction with the feedback effect [36]. X. Zhang et al., studying medical Q&A communities, found that the more the quantity and quality of patient feedback meet answerers' requirements, the stronger the answering users' acceptance of feedback opinions [9]. Based on these findings, this study hypothesizes:

- **H4:** Feedback expectation confirmation has a positive influence on feedback satisfaction.

2.3.5 Influence of Perceived Feedback Usefulness on Feedback Satisfaction Users' confirmation of feedback information value affects their satisfaction with feedback. S. Mouaket, studying Facebook based on expectation

confirmation theory, found that reply usefulness positively influences user satisfaction with replies [31]. Answering users in social Q&A communities prefer to reply to information marked as “useful” [37]. Based on these findings, this study hypothesizes:

- **H5:** Perceived feedback usefulness has a positive influence on feedback satisfaction.

2.3.6 Influence of Perceived Feedback Usefulness on Continuous Answering Intention Social Q&A community users’ continuous answering intention is influenced by answer feedback. When receiving useful feedback, users’ participation and reply emotions increase, generating impulse and intention to continue answering [29]. Any user behavior originates from intention—the stronger the intention, the more frequent the continuous behavior [37]. Feedback serves as motivation for continuous answering, and strong feedback in social Q&A communities enhances users’ action orientation [8]. Based on these findings, this study hypothesizes:

- **H6:** Perceived feedback usefulness has a positive influence on continuous answering intention.

2.3.7 Influence of Feedback Satisfaction on Continuous Answering Intention For social Q&A community users, satisfaction with feedback results indicates that users feel recognized and respected by others. Social Q&A community users satisfy their desire for honor while providing effective knowledge to others through high-quality answers [8]. L. Jeppesen et al., studying electronic instrument communities, found that the more satisfied users are with the responses to their works, the stronger their intention to create again [38]. Based on these findings, this study hypothesizes:

- **H7:** Feedback satisfaction has a positive influence on continuous answering intention.

2.4 Theoretical Model

Based on the above hypotheses, this study introduces concepts from social capital theory—interactive connection from the structural dimension, identification from the relational dimension, and common language from the cognitive dimension—as external variables for analyzing the influence on users’ continuous answering intention in social Q&A communities. Referencing the expectation-confirmation model, feedback expectation and perceived usefulness are treated as independent variables, feedback satisfaction as a mediating variable, and continuous answering intention as the dependent variable to construct the influence analysis model. The hypothesized model is shown in Figure 2 [Figure 2: see original paper].

3. Empirical Research

3.1 Data Collection

This study employs empirical research methods to verify the proposed model and hypotheses. Drawing on domestic and international scholars' research findings, a questionnaire was designed based on previous studies and pre-tested. The questionnaire consists of two parts: the first part includes six questions on basic sample information for screening purposes; the second part contains variable items. With seven variables in this study, each variable was measured by 3-4 items, totaling 23 questions using a 5-point Likert scale. Each item comprises a statement with response options ranging from "strongly agree" to "strongly disagree." To enhance content validity, a small-scale pre-test was conducted with 36 questionnaires, based on which some variable items were revised. The final questionnaire design and sources are shown in Table 2 .

Table 2. Questionnaire Design and Sources

Variable	Item	Description	Source
Interactive Connection Feedback	Q1	In the questions I participate in answering, I maintain close online contact with some users	J. Nahapiet et al. [19], J. Wu et al. [29]
	Q2	In the questions I participate in answering, I have frequent exchanges with some users	
	Q3	In the questions I participate in answering, I spend substantial time communicating with some users	
Common Language Feedback	Q4	In the questions I participate in answering, replying users are from the same field	M. K. Cheung et al. [34], J. Zhou et al. [6]
	Q5	In the questions I participate in answering, some users have transitioned from "questioner" to "answerer" roles	

Variable	Item	Description	Source
Identification Feedback	Q6	In the questions I participate in answering, the participating reply user group is fixed	M. H. Hsu et al. [5], Y. Kim et al. [30]
	Q7	In the questions I participate in answering, users can respect individual characteristics	
	Q8	In the questions I participate in answering, users can find like-minded individuals	
	Q9	In the questions I participate in answering, users can obtain satisfactory answers	
Feedback Expectation Confirmation	Q10	The answers I provide can receive many replies	C. Shah et al. [36], X. Zhang et al. [9]
	Q11	The answers I provide can offer me opportunities to meet friends in the same field	
	Q12	The answers I provide can receive many upvotes	
Perceived Feedback Usefulness	Q13	I believe replies to my provided answers are useful	K. E. Kolekofski et al. [37], M. Mouaket et al. [31]
	Q14	I believe friend requests initiated regarding my provided answers have discussion purposes	
	Q15	I believe upvotes for my provided answers are meaningful	

Variable	Item	Description	Source
Feedback Satisfaction	Q16	User replies to my provided answers are all meaningful	H. H. Chang et al. [8], J. Wu et al. [29]
	Q17	My provided answers can trigger discussions among users with common topics	
	Q18	My provided answers can receive more upvotes, replies, and shares	
	Q19	I am very satisfied with the responses my provided answers receive	
Continuous Answering Intention	Q20	In the questions I participate in answering, I am willing to help others answer questions multiple times	L. Jeppesen et al. [38], H. H. Chang et al. [8]
	Q21	In the questions I participate in answering, I have successfully helped others answer questions multiple times	
	Q22	In the questions I participate in answering, there are many participating reply members	
	Q23	In the questions I participate in answering, answers are continuously updated	

The sampling frame was limited to Zhihu community users and disseminated through topic groups accessible to the research team, covering statistical software topic groups such as Amos, SPSS, SAS, Matlab, and SmartPLS. For data collection, the authors first contacted Zhihu topic group members via phone, WeChat, and QQ groups, explaining the purpose and survey requirements, and entrusted communicated friends to forward the questionnaire. The formal survey primarily used online channels such as WeChat and QQ. To improve response rates and accuracy, modest compensation was provided to respondents

who participated seriously. A total of 391 questionnaires were collected. To ensure validity, obviously invalid questionnaires and those completed in less than 60 seconds were excluded, resulting in 286 valid questionnaires (73.1% validity rate).

The descriptive statistics of the sample are shown in Table 3. The sample size meets the requirement of more than 150 samples for stable models as proposed by E. E. Rigdon [41] and the optimal sample size requirement of more than 10 samples per observed variable as proposed by P. M. Bentler [40].

Table 3. Sample Descriptive Statistics

Characteristic	Category	Frequency	Percentage
Gender	Male	121	42.3%
	Female	165	57.7%
Age	18-24 years	158	55.2%
	25-33 years	98	34.3%
	34-45 years	25	8.7%
	Over 45 years	5	1.7%
Education	High school or below	12	4.2%
	Junior college	45	15.7%
	Bachelor's degree	169	59.1%
	Master's degree or above	60	21.0%
Zhihu usage duration	Less than 1 year	35	12.2%
	1-2 years	78	27.3%
	2-3 years	118	41.3%
	More than 3 years	55	19.2%
Daily Zhihu usage frequency	1-2 times	35	12.2%
	3-4 times	142	49.7%
	5-6 times	78	27.3%
	More than 6 times	31	10.8%

3.2 Reliability and Validity Tests

This study uses SPSS 22.0 software to conduct reliability and validity tests and exploratory factor analysis through principal component factor analysis. For reliability testing, Cronbach's α is used to analyze data reliability. Cronbach's α measures the internal consistency of scores across questionnaire items, with $\alpha > 0.7$ used as the reliability standard. Results show good reliability (see Table 4).

For validity testing, Bartlett's spherical test ($P < 0.05$) and KMO value (test coefficient > 0.6) are used. Principal component factor analysis is employed to test construct validity, extracting factors with eigenvalues greater than 1 using varimax rotation. Results show seven extracted factors corresponding to the research constructs, with significant Bartlett's test, KMO = 0.926, and

cumulative variance contribution rate of 80.53%, indicating good validity (see Table 4).

Table 4. Reliability and Validity Analysis Results

Variable	Cronbach's α	Bartlett's Test	Cumulative Variance KMO Explained (%)	Standard Deviation
Interactive Connection Feedback	0.85	0.000	0.926 27.41	10.22
Common Language Feedback	0.88	0.000	41.52	11.32
Identification Feedback	0.87	0.000	36.78	10.64
Feedback Expectation Confirmation	0.91	0.000	54.29	11.16
Perceived Feedback Usefulness	0.89	0.000	48.29	10.58
Feedback Satisfaction	0.93	0.000	64.27	11.47
Continuous Answering Intention	0.90	0.000	85.05	10.64

3.3 Confirmatory Factor and Model Testing

This study uses Amos for confirmatory factor analysis to obtain factor loadings and t-values. Results show that standardized loadings of observed variables on corresponding endogenous variables are all above 0.5 and significant at the 0.01 level ($t > 2.58$) (see Table 4).

Amos 22.0 is used for structural modeling and testing of the theoretical model. The measurement model has been analyzed through confirmatory factor analysis, showing credibility. This section focuses on analyzing the structural model, primarily examining whether path coefficients between endogenous variables pass significance tests. P-P and Q-Q plots in SPSS 22.0 show that sample data meet multivariate normality requirements. Amos 22.0's Assessment of Normality is used to test sample data according to the "38 principle," showing that variable skewness < 3 and kurtosis < 8 , satisfying multivariate normality requirements.

Model fit indices are analyzed based on existing research. Since the χ^2 statistic in model fit testing is sensitive to sample size, other fit statistics must be referenced. J. B. Schreiber et al. recommend focusing on TLI, CFI, and RMSEA when using Amos for fit testing [41]; C. Wai et al. consider GFI, TLI, CFI, and RMSEA as commonly selected indicators [42]. This study calculates major model fit indices using Amos 22.0, showing overall ideal model fit (see Table 5).

Table 5. Model Fit Indices Analysis

Fit Index	χ^2/df	RMSEA	GFI	TLI	CFI	PGFI	PNFI	PCFI
Value	636 (P = 0.000)	P < 0.01	< 0.08	≥ 0.9	> 0.9	> 0.9	> 0.5	> 0.5
Acceptable Range								

3.4 Parameter Estimation and Hypothesis Testing

Based on the previous data, this study further examines the internal relationships in the structural model, i.e., path coefficients between variables, and tests whether the theoretical model's hypotheses are supported (see Figure 3 [Figure 3: see original paper]).

Hypothesis testing results are shown in Table 6 . All proposed hypotheses are supported by the data.

Table 6. Hypothesis Verification Results

Hypothesis	C.R. (t-value)	Standardized Estimate β	P-value	Result
H1a: Interactive connection feedback → Feedback expectation confirma- tion	5.436	0.32	0.003	Supported
H1b: Common language feedback → Feedback expectation confirma- tion	11.247	0.66	< 0.001	Supported
H1c: Identi- fication feedback → Feedback expectation confirma- tion	8.482	0.45	< 0.001	Supported
H2a: Interactive connection feedback → Perceived feedback usefulness	5.765	0.35	< 0.001	Supported
H2b: Common language feedback → Perceived feedback usefulness	9.881	0.52	< 0.001	Supported
H2c: Identi- fication feedback → Perceived feedback usefulness	6.484	0.34	0.021	Supported

Hypothesis	C.R. (t-value)	Standardized Estimate β	P-value	Result
H3: Feedback expectation confirma- tion → Perceived feedback usefulness	9.653	0.53	< 0.001	Supported
H4: Feedback expectation confirma- tion → Feedback satisfaction	8.467	0.47	0.002	Supported
H5: Perceived feedback usefulness → Feedback satisfaction	9.236	0.56	< 0.001	Supported
H6: Perceived feedback usefulness → Continuous answering intention	11.479	0.62	< 0.001	Supported
H7: Feedback satisfaction → Continuous answering intention	13.627	0.78	< 0.001	Supported

Note: significant at 0.05 level; ** significant at 0.01 level; *** significant at 0.001 level*

4. Discussion and Analysis

4.1 Results Analysis

4.1.1 Analysis of Answer Quality Feedback Influence on Feedback Expectation Confirmation The standardized estimate for the influence of interactive connection feedback on feedback expectation confirmation is 0.32 ($P = 0.003 < 0.01$). The standardized estimate for common language feedback is 0.66 ($P < 0.001$). The standardized estimate for identification feedback is 0.45 ($P < 0.001$). These results indicate that answer quality feedback positively influences feedback expectation confirmation, supporting the hypotheses. Among these, common language feedback has the strongest influence, followed by identification feedback, while interactive connection feedback has the weakest effect.

The data suggest that discussion groups in social Q&A communities are primarily composed of user groups with common language. Users from the same domain can provide more effective feedback that better matches answering users' expected standards. Additionally, users who identify with the answer can provide feedback that meets answering users' expectations. Users with close relationships are more likely to provide thoughtful feedback due to their relationship [19, 29]. Therefore, social Q&A communities should focus more on users' feedback reception channels and filter negative or useless feedback to reduce the risk of decreased feedback expectation confirmation.

4.1.2 Analysis of Answer Quality Feedback Influence on Perceived Feedback Usefulness The standardized estimate for interactive connection feedback's influence on perceived feedback usefulness is 0.35 ($P < 0.001$). The estimate for common language feedback is 0.52 ($P < 0.001$). The estimate for identification feedback is 0.34 ($P = 0.021 < 0.01$). These results demonstrate that answer quality feedback positively influences perceived feedback usefulness. Consistent with previous findings, common language has the strongest effect, identification feedback ranks second, and interactive connection feedback has the weakest effect.

In social Q&A communities, the reach of users with relevant professional expertise determines the size of user communities in that domain [6]. Users with common language can provide more useful feedback due to their high cognitive alignment with answering users. User identification with answers indicates alignment with answering users' thinking, making their feedback more valuable. Answering users' communication breadth increases channels and probabilities for obtaining useful feedback [33]. Therefore, social Q&A communities should push questions matching users' professional knowledge or domains to increase the quantity and quality of feedback, ensuring users continuously receive effective feedback.

4.2 Analysis of Feedback Expectation Confirmation Influence on Perceived Feedback Usefulness The standardized estimate for feedback expect-

tation confirmation's influence on perceived feedback usefulness is 0.53 ($P < 0.001$), confirming the hypothesis. The data indicate that when answer quality feedback meets answering users' expected standards, users perceive higher feedback credibility and usefulness, and have stronger feedback acceptance intention [30]. For Q&A communities, displaying excellent answers on the homepage or pushing high-quality Q&A can expand the dissemination area of quality answers, enabling outstanding answerers to obtain more useful feedback and enhancing their continuous answering intention, thereby increasing user stickiness.

4.3 Analysis of Feedback Expectation Confirmation Influence on Feedback Satisfaction The standardized estimate for feedback expectation confirmation's influence on feedback satisfaction is 0.47 ($P = 0.002 < 0.01$), showing a positive influence consistent with previous research. The data demonstrate that answering users' satisfaction with feedback gradually increases with the number of upvotes, replies, and thanks. Positive feedback from other users positively influences answering users' feedback satisfaction [36]. When other users believe the knowledge they obtain is valid and accurate, this feedback strengthens answerers' willingness, and sincere mutual assistance promotes users' continuous answering intention [9]. Communities should establish reward levels for answer feedback, providing corresponding rewards when feedback reaches certain levels to help answerers achieve higher feedback satisfaction.

4.4 Analysis of Perceived Feedback Usefulness Influence on Feedback Satisfaction The standardized estimate for perceived feedback usefulness's influence on feedback satisfaction is 0.56 ($P < 0.001$), indicating a strong positive influence. In social Q&A communities, users' perceived usefulness is continuously influenced by interactive connection feedback, common language feedback, and identification feedback. Higher feedback usefulness leads to higher answering users' satisfaction with feedback.

The results suggest that improving user satisfaction with feedback requires delivering high-value, meaningful feedback. Excessive useless feedback inevitably affects users' feedback acquisition experience, reducing their enthusiasm for continuous participation in Q&A activities and affecting their continuous answering intention [37]. Social Q&A communities should optimize push algorithms or improve community friend systems to increase communication opportunities between users with shared interests or topics, thereby enhancing pathways and probabilities for obtaining positive feedback and improving user feedback satisfaction.

4.5 Analysis of Perceived Feedback Usefulness Influence on Continuous Answering Intention The standardized estimate for perceived feedback usefulness's influence on continuous answering intention is 0.62 ($P < 0.001$), showing a strong positive influence and representing a key factor affecting continuous answering intention. After providing answers, social Q&A community users who receive useful feedback reflect on answer content and think about

other questions, continuing to participate in answering more questions [29]. Social Q&A communities can provide a complete answer reward mechanism to enhance user enthusiasm for participation. Setting certain rewards for users' initial answers can stimulate their answering passion and stronger intention after obtaining positive feedback, forming a virtuous cycle of continuous answering behavior and enhancing overall community vitality.

4.6 Analysis of Feedback Satisfaction Influence on Continuous Answering Intention The standardized estimate for feedback satisfaction's influence on continuous answering intention is 0.78 ($P < 0.001$), showing the strongest positive influence. In social Q&A communities, feedback usefulness and expectation confirmation indirectly influence continuous answering intention through feedback satisfaction, which plays an excellent mediating role.

The data indicate that when users are satisfied with answer quality feedback, they feel their answer content or viewpoints are supported and recognized by other users. Answering users' confidence and interest in answering behavior increase due to good feedback, enhancing their continuous answering intention [38]. From the user perspective, users should provide high-quality answers to obtain high response rates and positive feedback. Therefore, social Q&A communities should encourage users to actively and seriously answer others' questions and strengthen their professional expertise, enabling them to receive answer feedback that meets their expected satisfaction level and enhancing their answering intention for other questions.

5. Research Conclusions

At the theoretical level, this study proposes a model of users' continuous answering intention in social Q&A communities based on the integration of social capital theory and the expectation-confirmation model. This model examines the influence of answer quality feedback on continuous answering intention from a social capital theory perspective while introducing the expectation-confirmation model to measure the relationship between answer quality feedback and continuous answering intention. Real data obtained through questionnaires and structural equation modeling verify the model's feasibility, providing new theoretical models and methodological support for research on users' continuous answering intention in social Q&A communities.

At the practical level, this study empirically investigates influencing factors of users' continuous answering intention in social Q&A communities. Drawing on previous research experience, the answer quality feedback variable is extracted from theory to construct and verify the model. The model analyzes the relationship and degree of influence between answer quality feedback and users' continuous answering intention, providing more feasible management approaches for social Q&A community operators and administrators to correctly

guide community development and enhance user stickiness.

This study has certain limitations. To ensure authenticity and validity, the survey scope was limited to certain domain discussion groups within the Zhihu community, resulting in a relatively homogeneous sample. Additionally, the model does not cover all variables involved in social capital theory. Future research should diversify survey sources and more comprehensively and systematically improve the study of influencing factors on users' continuous answering intention in social Q&A communities.

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