

Research on the Construction of a Relationship Model for Research Users' Selection and Evaluation of Online Academic Information: Postprint

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Abstract

Purpose/Significance: Online academic information resources are vital for researchers in the digital environment, and user information selection and evaluation behavior represents a critical component of researchers' academic information practices. Investigating the key factors and their interrelationships in researchers' online academic information selection and evaluation will help elucidate the characteristics and patterns of this behavior from a behavioral modeling perspective.

Method/Process: Using questionnaire survey data, this study employs structural equation modeling to test and refine the research hypotheses and model.

Results/Conclusion: Researchers' online academic information selection and evaluation behavior underscores the distinctive nature of their online academic information practices. It is a bounded rationality behavior influenced by multiple factors, including user-related, social, and task-contextual elements, and plays a central role in researchers' information seeking, utilization, and information needs fulfillment.

Full Text

Preamble

Information seeking behavior represents the process through which users actively engage with information systems to address their information needs, involving the identification, retrieval, and utilization of valuable information or information pathways [?]. This behavior is simultaneously constrained by both problem objectives and task contexts [?]. J. W. Payne and colleagues further note that such behavior represents an organic integration of task and contextual elements under conditions of bounded rationality [?]. During this process, user cognition

evolves along with the leapfrog search chains in information seeking behavior, while the cognitive context and knowledge environment of thought naturally extend, resulting in “cognitive shifts” [?]. S. Kulviwat et al. emphasize that perceived benefits, perceived costs, search abilities, contextual factors, and personality traits are all key drivers influencing users’ online information search and related behaviors [?].

Regarding online academic information selection and evaluation, C. C. Tsai points out that the identification and judgment of information accuracy and value constitute the critical aspects of information selection and judgment for researchers during online academic information seeking and utilization [?]. User attitudes and emotions may vary due to contextual differences in the information seeking process, further influencing users’ attitudes and intentions toward information behavior [?]. Gan Liren and colleagues indicate that user, system, and environmental factors in this process exhibit both independence and mutual interaction [?]. Based on the two key factors of cognition and context, K. Bystrom et al. note that work tasks can only partially determine the nature and characteristics of search tasks, while user individual characteristics and system features also play crucial roles in shaping search task characteristics [?]. When users differ in motivation and/or ability, their criteria for evaluating online academic information also vary [?]. Researchers’ evaluation standards for academic information in online searching change according to different search motivations [?]. In this process, tasks serve as the core driving force and, as an important contextual integration variable, influence user needs and behavioral processes [?]. J. Kim [?] observes that users exhibit different information selection behaviors based on the types of tasks they need to complete.

In summary, existing research has conducted relatively systematic analyses of the factors affecting information selection and evaluation among researchers in online academic information seeking and utilization from multiple perspectives including users, tasks, systems, and environments. However, it is evident that most current studies treat information selection and judgment as merely one component of the user information seeking and utilization process, analyzing it in conjunction with the overall process. There is a lack of separate systematic analysis and discussion, and even more so, a lack of in-depth examination of the relationships among influencing factors.

Relationship Model Construction and Research Hypotheses

3.1 Research Variables

C. W. Choo et al. macroscopically divide user information behavior into three stages: information needs, information seeking, and information utilization, with user behaviors in each stage being subject to both internal and external interference factors, based on which they construct an information seeking process model [?]. Gan Liren and colleagues further note in their proposed

three-stage model of researchers' information seeking behavior that user needs are task-driven, and information selection and evaluation run through the entire process of information seeking and acquisition, representing a key component of this process [?]. B. Dervin emphasizes the importance of "context" in users' information acquisition and utilization processes within sense-making theory [?]. Based on the above fundamental models, combined with E. C. Tolman's behavior and influencing factors relationship function [?] and the characteristics of research users' online academic information behavior, we propose a basic relationship model composed of variables including "information needs," "user factors," "social influencing factors," "task context," "information selection and evaluation," "information seeking results," and "information utilization results," as shown in Figure 1 [Figure 1: see original paper].

3.2 Research Hypotheses

As previously mentioned, user factors interfere with and influence all stages of user information behavior. From a process perspective, Gan Liren and colleagues note that researchers' knowledge backgrounds not only affect the cognitive process of screening and acquiring needed information [?], but also influence their selection and evaluation behaviors during information seeking [?]. Interactive information retrieval emphasizes users' investment in and control over search behavior and processes, where users' cognitive states affect their needs and selection-evaluation behaviors [?]. Hu Lei finds that motivation is a key driving factor in users' academic information seeking behavior, with online academic information evaluation criteria varying according to search motivations [?]. Differences in user motivation and/or ability lead to differences in their information judgment criteria [?]. N. J. Belkin, in a retrieval model based on the "anomalous state of knowledge" hypothesis, states that user goals, problems, and intentions determine user information interaction and selection behaviors during information seeking [?]. Based on this, we propose the following hypotheses:

Hypothesis 1 (H1): Researcher user factors have a significant influence on their online academic information needs.

Hypothesis 2 (H2): Researcher user factors have a significant influence on their online academic information selection and evaluation.

C. W. Choo et al. [?] and Gan Liren et al. [?] both clarify the relationships between external environmental factors and information needs, seeking, and utilization in their constructed models. Based on stress/coping theory, Gan Liren further notes in subsequent research that researchers experience certain pressures when undertaking research tasks, and whether they can complete tasks and the quality of completion affect their status and reputation in the organizational environment, making organizational and social environment important variables influencing user information behavior [?, ?]. Meanwhile, T. D. Wilson also identifies interpersonal roles and social environment as important interfer-

ing variables in user information behavior models, directly influencing decision-making processes in user information seeking behavior [?]. V. Venkatesh et al. incorporate social factors as direct influencing factors of user behavioral intentions in their integrated model [?]. Based on this, we propose the following hypotheses:

Hypothesis 3 (H3): Social influencing factors have a significant influence on researchers' online academic information needs.

Hypothesis 4 (H4): Social influencing factors have a significant influence on researchers' online academic information selection and evaluation.

T. D. Wilson introduces “context” as an important variable in his general model of information behavior, noting that information needs are triggered by context [?]. L. Freund et al. clarify that work tasks represent one important type of information behavior context [?]. Research tasks and search tasks constitute important content generated by organizational environments, with information needs arising from the research task contexts that researchers need to explore [?], and the importance and urgency of research tasks directly affecting researchers' information needs [?]. C. W. Choo et al. elaborate in greater detail in their information search process model that when facing different contexts, information users develop cognitive gaps due to differences in personal experience and knowledge levels, forming a “cognitive gap-uncertainty pressure-search task” cycle that drives new information needs. They further note that while tasks drive user needs, they also influence users' information selection and evaluation, thereby affecting information utilization and ultimately influencing user absorption and action transformation [?]. E. Toms finds that user information motivation and seeking behavior are closely related to task goals as key driving factors of user information behavior [?]. On the basis of tasks, user information seeking behavior results from the combined effects of multiple factors including users' knowledge and experience [?]. Based on this, we propose the following hypotheses:

Hypothesis 5 (H5): Task context has a significant influence on researchers' online academic information needs.

Hypothesis 6 (H6): Task context has a significant influence on researchers' online academic information selection and evaluation.

Information needs represent both the starting point and the endpoint of information behavior. Information evaluation constitutes an important component of satisfying user information needs [?]. C. W. Choo et al. note that information needs directly influence user information seeking and utilization behaviors, which essentially represent information selection and evaluation processes based on user needs [?], particularly in the information utilization stage where needs affect users' re-evaluation and selection of information [?]. J. T. Cacioppo et al. indicate that cognitive needs reflect individual differences in cognitive motivation during information behavior processes, representing a bipolar variable where individuals with high cognitive needs tend to actively explore, think about, and

accurately reflect information, while those with low cognitive needs rely more on heuristic cognition or social comparison from others (such as celebrities, scholars, experts, etc.) [?]. Different user information needs lead to psychological gaps in user information behavior and psychology, affecting both information retrieval methods and strategies, as well as information evaluation and selection criteria [?]. Based on this, we propose the following hypothesis:

Hypothesis 7 (H7): Researchers' academic information needs have a significant influence on their online academic information selection and evaluation.

Information selection and evaluation behavior is intertwined with user information seeking behavior. Information seeking results stem from the differentiation, extraction, and verification processes during information seeking [?]. S. Y. Ho et al., studying the dual-path model composed of central and peripheral paths, find that information selection and judgment during the information seeking and acquisition process directly influence cognitive judgments and behavioral attitudes toward target behaviors [?]. Gan Liren et al. further clarify that user information seeking and utilization begins with information selection, with the seeking stage focusing on information source selection and the utilization stage focusing on selection of seeking stage results [?]. Information seeking result output is inseparable from information source quality control [?]. Based on this, we propose the following hypothesis:

Hypothesis 8 (H8): Researchers' academic information selection and evaluation have a significant influence on their online academic information seeking results.

T. D. Wilson notes that information utilization behavior represents users' integration and reconstruction of existing knowledge bases, including the evaluation process of both inherent knowledge and newly acquired information [?]. C. W. Choo et al. also indicate that information utilization refers to information that has undergone selection and evaluation, which ultimately transforms into different user actions due to different user understandings. The screening, selection, digestion, and absorption of acquired information constitute generalized information utilization behavior [?], involving users' judgments regarding the usefulness and ease of use of information resources to decide whether to accept and use these resources [?]. Based on this, we propose the following hypothesis:

Hypothesis 9 (H9): Researchers' online academic information selection and evaluation have a significant influence on their online academic information utilization results.

3.3 Variable Selection and Hypothesis Model Construction

Based on the basic constructs proposed in the above hypotheses and the inherent relationships among their elements, and referencing relevant domestic and international research findings, our research team determined the observed variables and measurement indicators for each construct through repeated deliberation

and consultation with relevant experts, as shown in Table 1 .

Based on the basic relationship model, research hypotheses, and observed variables and measurement indicators, the hypothesized relationship model of researchers' online academic information selection and evaluation is shown in Figure 2 [Figure 2: see original paper].

Data Acquisition

Based on the above hypothesized model, measurement indicators, and operational definitions, the research team designed and developed a pre-survey questionnaire after multiple rounds of discussion and revision. According to the pre-survey data analysis results, some items were deleted or merged, and some item expressions were modified and improved to form the formal survey questionnaire. The main part of the questionnaire adopted a five-point Likert scale.

Since the research subjects of this study are researcher users, primarily composed of university teaching and research staff, research institution personnel, and graduate students, targeted random sampling was employed. Through multiple channels including Wenjuanxing, email, and paper questionnaires, a total of 385 questionnaires were collected, of which 373 were valid, yielding an effective response rate of 96.88%. The basic characteristics of the survey sample are shown in Table 2 .

As can be seen from the distribution of age, professional technical positions, job positions, disciplinary fields, and other aspects in Table 2, the survey sample possesses certain representativeness and can adequately represent the basic characteristics of researcher users.

Model Testing and Discussion

5.1 Model Testing and Hypothesis Verification

Using AMOS 17.0 to conduct model fit analysis, the model fit indices are shown in Table 3 . As shown in Table 3, except for GFI, all other indices meet the requirements. Although the GFI value is less than 0.9, for complex models, a GFI value greater than 0.8 is generally considered acceptable [?]. Therefore, considering all fit indices, the model fit of this study is satisfactory.

Based on this, the path analysis yielded the latent variable correlation coefficients shown in Table 4 . As shown in Table 4, in the model path analysis, the standardized path coefficient between social influencing factors and the information needs variable is 0.096, with $P = 0.193$, $P > 0.050$, indicating no significant correlation between the two variables. This suggests that social influencing factors have no significant effect on information needs, and Hypothesis H3 is not supported. The correlation coefficients for all other latent variables are significant, and the hypotheses are supported. The generated path coefficients are shown in Figure 3 [Figure 3: see original paper].

The hypothesis verification results are shown in Table 5 . Based on the above path analysis and hypothesis testing results, the verified and revised relationship model of researchers' online academic information selection and evaluation is shown in Figure 4 [Figure 4: see original paper].

5.2 Discussion

5.2.1 Relationship Between User Factors and Information Needs/Selection-Evaluation

Hypothesis testing indicates that knowledge level and experience, as the foundation of researcher information behavior, directly determine the content and expression of their needs and influence the efficiency and effectiveness of their information selection and judgment. The data analysis results show that during online academic information seeking, researchers with positive and optimistic attitudes express their needs more proactively and clearly, and demonstrate more rigorous and rational thinking in information selection and evaluation. While verifying the research conclusions of J. T. Cacioppo et al. [?], this study further discovers that in the process of online academic information seeking and utilization, researchers with high cognitive abilities are more willing to accept and learn new knowledge, possess stronger information needs, and demonstrate greater proactivity in conducting more systematic and comprehensive information selection and evaluation, whereas those with low cognitive abilities show the opposite pattern.

5.2.2 Relationship Between Task Context and Information Needs/Selection-Evaluation

Hypothesis testing reveals that task context, as the original driving force of user information behavior, is closely related to the characteristics and attributes of research tasks and researcher information needs and selection-evaluation behaviors. The hierarchical structure, clarity, and complexity of users' research tasks affect their needs and information selection-evaluation. The clearer and more concise the structure, the clearer the expression of user needs and the more explicit and rapid the evaluation. However, as task structure becomes increasingly complex, need expression becomes correspondingly more complex and less clear, making the selection-evaluation process more difficult. The research results also indicate that task-subject relationships similarly influence researchers' information needs and selection-evaluation. As the degree of user independence in task completion increases, both the quantity and quality of information needs increase; during information seeking and utilization, their selection-evaluation requirements also improve, demanding higher quality information, systems, and services, and users become more rational.

5.2.3 Relationship Between Social Influencing Factors and Information Needs/Selection-Evaluation

The hypothesis that social influencing factors significantly affect researcher information needs was not supported, indicating that social influencing factors lack significant impact on user information needs. This result differs considerably from existing research perspectives

on other types of information needs, reflecting the unique characteristics of researcher online academic information needs and their close relationship with their generation context. During scientific research, user information needs arise from the “knowledge gap” between their own knowledge storage and research tasks. Unlike other information needs, these needs relate primarily to research task contexts and users’ own knowledge reserves, being rarely influenced by organizational and interpersonal environments or public impression. On the other hand, research results indicate that social factors (such as others’ evaluations, disciplinary development frontiers and hotspots, source authority, etc.) exert broad influence on researchers’ information selection-evaluation behaviors during information seeking and utilization.

5.2.4 Relationship Between Information Needs and Information Selection-Evaluation Research hypotheses confirm that information needs, as the core driving force of researcher information behavior, form the foundation of user information selection-evaluation behavior. In the process of online academic information acquisition and utilization, researcher selection-evaluation behavior exhibits certain contextual characteristics and irrational factors, being related to user information quantity, quality, and service needs, as well as to the clarity of needs. Information selection-evaluation standards improve with increasing user demands for information quality and service quality. Meanwhile, the clearer the researcher information needs, the more rational the user information selection-evaluation becomes.

5.2.5 Relationship Between Information Selection-Evaluation and Information Seeking Results/Utilization Results Research findings indicate that selection-evaluation constitutes an important component of user scientific research, with selection-evaluation standards and quality directly determining the quality of information seeking results and effectively satisfying user needs. The information utilization process represents researchers’ re-screening, comparison, and judgment of search results. High-quality selection-evaluation provides effective guarantees for information utilization and lays the foundation for scientific research. On the other hand, the establishment of research hypotheses further confirms that, unlike other types of user information behavior, in researchers’ online academic information behavior, although information selection-evaluation is also organically integrated with information seeking and utilization behaviors, its independence becomes more prominent.

Conclusion

Searching for and utilizing online academic information resources constitutes an important behavior and core content of researchers’ scientific activities. During this process, user information selection-evaluation behavior, which is integrated with these activities, represents a key behavioral process that deserves attention but is often overlooked. Focusing on researchers’ academic information selection-evaluation behavior in the process of online informal academic communication,

this study uses questionnaire survey data and structural equation modeling to analyze and discuss the proposed main influencing factors, relevant variables, and inherent relationship hypotheses, yielding the following conclusions:

First, researchers' online academic information seeking and utilization can be abstractly summarized as a process of "task context driving—information needs generation—selection and evaluation—information seeking and acquisition—re-selection and re-evaluation—information utilization." Building upon the three-stage models of C. W. Choo and Gan Liren et al., the connections between various stages in researchers' online academic information seeking and utilization processes during informal information communication become more closely integrated, with more pronounced parallel or nonlinear characteristics. User information selection-evaluation emerges as the core component of this process, warranting greater attention to its importance.

Second, the independent characteristics of user information selection-evaluation become prominent. Unlike the continuity demonstrated in other user information behaviors, researchers' online academic information seeking and utilization exhibit discontinuous and nonlinear features with obvious separability. In this context, researcher selection-evaluation behavior is organically integrated with information seeking and utilization behaviors, yet its influence and role become more independently prominent, forming an indispensable key connection point between the two. Information seeking behavior and selection-evaluation behavior, as well as information utilization behavior and selection-evaluation behavior, actually present as intertwined concurrent behaviors, highlighting the unique characteristics of researchers' online academic information behavior.

Finally, researchers' online academic information selection-evaluation behavior represents a bounded rational behavior influenced and acted upon by multiple factors. In the network environment, internal and external factors from users, society, and context all exert multi-faceted, multi-level, and multi-directional influences and constraints on the entire process of researchers' online academic information selection-evaluation, serving as important antecedent variables. During this process, as the effects of various factors strengthen, researchers' selection-evaluation behaviors in online academic information seeking and utilization tend toward rationality. Notably, unlike existing related research findings, social factors do not influence researchers' information needs, with need rationality laying the rational foundation for researchers' overall information behavior.

This study focuses only on the inherent relationships among various factors in researchers' online academic information selection-evaluation, without deeply examining and explaining the degree of influence of each factor on users' academic information selection-evaluation processes or specific influence mechanisms, which represent worthwhile directions for future research.

References

- [1] Fang Qing. On the integration of scientific information communication carri-

- ers in the network environment [J]. *Journal of Intelligence*, 2001, 20(3): 290-294.
- [2] Liu Jia. *Research on methods and models of academic information communication based on networks* [D]. Changchun: Jilin University, 2007.
- [3] Liu Bing, Lu Qingbi. Bounded rationality experimental research on researchers' online academic information seeking behavior: Based on task context analysis [J]. *Library and Information Service*, 2017, 61(19): 32-40.
- [4] Dervin B. On studying information seeking methodologically: the implications of connecting metatheory to method [J]. *Information Processing & Management*, 1999, 35(6): 727-750.
- [5] Choo CW, Detlor B, Turnbull D. Information seeking on the Web: an integrated model of browsing and searching [J]. *First Monday*, 2000, 5(2): 1-18.
- [6] Wang P, Hawk WB, Tenopir C. Users' interaction with World Wide Web resources: an exploratory study using a holistic approach [J]. *Information Processing & Management*, 2000, 36(2): 229-251.
- [7] Makri S, Warwick C. Information for inspiration: understanding architects' information seeking and use behaviors to inform design [J]. *Journal of the American Society for Information Science and Technology*, 2010, 61(9): 1745-1770.
- [8] Ren Lixiao, Tan Baihong. Construction of a model for network users' information search behavior [J]. *Library Science Research*, 2010(5): 57-61.
- [9] Li Jing. *Modeling information quality in virtual communities and comparative study of perceived differences* [D]. Wuhan: Wuhan University, 2013.
- [10] Song Xueyan. *Research on the construction and application of a user information adoption behavior model* [D]. Changchun: Jilin University, 2010.
- [11] Kovacs DK, Robinson KL, Dixon J. Scholarly E-conferences on the academic networks: how library and information science professionals use them [J]. *Journal of the American Society for Information Science*, 1995, 46(4): 244-253.
- [12] Wang Yan, Deng Xiaozhao. Discussion on basic issues of network user information behavior [J]. *Library and Information Service*, 2009, 53(16): 35-39.
- [13] Payne JW, Bettman JR, Johnson EJ. Adaptive strategy selection in decision making [J]. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 1988, 14(3): 534-552.
- [14] Ding Ren. *Research on network information search behavior: Taking Chinese university students as an example* [M]. Wuhan: Wuhan University Press, 2013.
- [15] Kulviwat S, Guo C, Engchanil N. Determinants of online information search: a critical review and assessment [J]. *Internet Research*, 2004, 14(3): 245-253.
- [16] Tsai CC. Information commitments in Web-based learning environments [J]. *Innovations in Education and Teaching International*, 2004, 41(1): 105-112.

- [17] He W, Wei KK. What drives continued knowledge sharing? An investigation of knowledge-contribution and -seeking beliefs [J]. *Decision Support Systems*, 2009, 46(4): 826-838.
- [18] Gan Liren, Cen Yonghua. Research on influencing factors of scientific and technical users' information search behavior [J]. *Information Studies: Theory & Application*, 2007, 30(2): 156-160.
- [19] Bystrom K, Hansen P. Conceptual framework for tasks in information studies [J]. *Journal of the American Society for Information Science and Technology*, 2005, 56(10): 1050-1061.
- [20] Hu Lei. Research on the credibility of Internet academic information [M]. Beijing: Capital University of Economics and Business Press, 2013.
- [21] Hu Lei. Research on evaluation criteria for Internet academic information credibility [J]. *Acta Scientiarum Naturalium Universitatis Pekinensis*, 2012, 48(5): 712-718.
- [22] Liu J, Liu C, Yuan X, et al. Understanding searchers' perception of task difficulty: relationships with task type [J]. *Proceedings of the American Society for Information Science and Technology*, 2011, 48(1): 1-10.
- [23] Kim J. Describing and predicting information-seeking behavior on the Web [J]. *Journal of the American Society for Information Science and Technology*, 2009, 60(4): 679-693.
- [24] Choo CW, Detlor B, Turnbull D. A behavioral model of information seeking on the Web: preliminary results of a study of how managers and IT specialists use the Web [J]. *Proceedings of the ASIS Annual Meeting*, 1998, 35: 3-9.
- [25] Gan Liren, Cen Yonghua, Li Heng. Analysis of influencing factors of information search based on a three-stage process [J]. *Library and Information Service*, 2007, 51(2): 59-62.
- [26] Dervin B. Sense-making theory and practice: an overview of user interests in knowledge seeking and use [J]. *Journal of Knowledge Management*, 1998, 2(2): 36-46.
- [27] Tolman EC. Principles of performance [J]. *Psychological Review*, 1955, 62(5): 315-326.
- [28] Gan Liren, Gao Yi. Research on characteristics of scientific and technical users' information search behavior [J]. *Journal of Intelligence*, 2005, 24(1): 26-33.
- [29] Leckie GJ, Pettigrew KE, Sylvain C. Modeling the information seeking of professionals: a general model derived from research on engineers, health care professionals, and lawyers [J]. *Library Quarterly*, 1996, 66(2): 161-293.
- [30] Saracevic T. Modeling interaction in information retrieval (IR): a review and proposal [C]//*Proceedings of the ASIS annual meeting*. Baltimore: MD,

1996, 33: 3-9.

[31] Belkin NJ. Intelligent information retrieval: whose intelligence? [C]//Proceedings of the 5th international symposium for information science. Konstanz: Universitätsverlag Konstanz, 1996: 25-31.

[32] Wilson TD. Human information behavior [J]. *Informing Science*, 2000, 3(2): 49-56.

[33] Venkatesh V, Speier C, Morris MG. User acceptance enablers in individual decision making about technology: toward an integrated model [J]. *Decision Sciences*, 2002, 33(2): 297-316.

[34] Freund L, Toms EG, Clarke CLA. Modeling task-genre relationships for IR in the workplace [C]//Proceedings of the 28th annual international ACM SIGIR conference on research and development in information retrieval. Salvador: ACM, 2005: 441-448.

[35] Toms EG. Task-based information searching and retrieval [M]//Ruthven I, Kelly D. *Interactive information seeking, behaviour and retrieval*. London: Facet Publishing, 2011: 43-59.

[36] Pharo N, Järvelin K. The SST method: a tool for analysing Web information search processes [J]. *Information Processing & Management*, 2004, 40(4): 633-654.

[37] Cacioppo JT, Petty RE, Stoltenberg CD. Processes of social influence: the elaboration likelihood model of persuasion [J]. *Advances in Cognitive-Behavioral Research & Therapy*, 1985, 4: 215-274.

[38] Pang CI, Verspoor K, Chang S, et al. Conceptualising health information seeking behaviours and exploratory search: result of a qualitative study [J]. *Health and Technology*, 2015, 5(1): 45-55.

[39] Ellis D, Haugan M. Modelling the information seeking patterns of engineers and research scientists in an industrial environment [J]. *Journal of Documentation*, 1997, 53(4): 384-403.

[40] Ho SY, Bodoff D. The effects of Web personalization on user attitude and behavior: an integration of the elaboration likelihood model and consumer search theory [J]. *MIS Quarterly*, 2014, 38(2): 497-520.

[41] Li Baoqiang, Sun Jianjun. The influence of computer self-efficacy and task-technology fit on the utilization of network academic information resources [J]. *Information Science*, 2008(10): 1567-1571.

[42] Wu Liming, Zhang Hui, Yang Xiudan. Construction of an influence model of university teachers' information use behavior based on TAM and TTF models [J]. *Information Studies: Theory & Application*, 2011, 34(5): 78-81.

[43] Wang Wei, Wang Shacheng. Research on influencing factors of researchers' information search behavior based on grounded theory [J]. *Information Studies:*

Theory & Application, 2013, 36(12): 64-67.

[44] Ingwersen P. Cognitive perspectives of information retrieval interaction: elements of a cognitive IR theory [J]. *Journal of Documentation*, 1996, 52(1): 3-50.

[45] Klobas JE, Clyde LA. Adults learning to use the Internet: a longitudinal study of attitudes and other factors associated with intended Internet use [J]. *Library & Information Science Research*, 2000, 22(1): 5-34.

[46] Kuhlthau CC. Investigating patterns in information seeking: concepts in contexts [M]//*Exploring the contexts of information behaviour*. London: Taylor Graham Publishing, 1999: 10-20.

[47] Kim S, Soergel D. Selecting and measuring task characteristics as independent variables [J]. *Proceedings of the American Society for Information Science and Technology*, 2005, 42(1): 1-17.

[48] Leckie GJ, Pettigrew KE. Modeling the information seeking of professionals: a general model derived from research on engineers, health care professionals, and lawyers [J]. *Library Quarterly*, 1996, 66(2): 161-193.

[49] Bystrom K, Järvelin K. Task complexity affects information seeking and use [J]. *Information Processing & Management*, 1995, 31(2): 191-213.

[50] Xie I. Dimensions of tasks: influences on information-seeking and retrieving process [J]. *Journal of Documentation*, 2009, 65(3): 339-366.

[51] Bilal D. Children's use of the Yahoo! search engine: I. cognitive, physical, and affective behaviors on fact-based search tasks [J]. *Journal of the American Society for Information Science*, 2000, 51(7): 646-665.

[52] Wu Minqi. Research on university students' online academic information seeking behavior: based on survey analysis of undergraduate students [J]. *Information Science*, 2013(2): 95-99, 104.

[53] Zhang Yong. Evaluation methods for network information resources [J]. *Library and Information Service*, 2002, 46(10): 41-47.

[54] Shao Bo. User acceptance: an important factor in the development and utilization of network information resources [J]. *Journal of Library Science in China*, 2004, 30(1): 51-54.

[55] Zeller RA, Carmines EG. *Measurement in the social sciences: the link between theory and data* [M]. Cambridge: Cambridge University Press, 1980.

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Abstract: [Purpose/significance] Network academic information resources have become an important academic resource for scientific researchers in the network environment. Users' information selection and judgment behavior is an

important component of scientific researchers' information behavior. Studying the key factors and their relationships of scientific researchers' information selection and judgment behavior will contribute to revealing the characteristics and rules of scientific researchers from the perspective of behavior patterns. [Method/process] Based on the questionnaire survey data, this paper tested and revised the research hypothesis and model by constitutive equations. [Result/conclusion] The results showed that scientific researchers' information selection and evaluation behavior is a bounded rational behavior influenced by users, society, task situation and other factors. It plays a key role in the searching and utilizing of user information and highlights the uniqueness of scientific researchers' academic information behavior.

Keywords: scientific researcher; network academic information resources; information searching and judging behavior

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