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Psychological Contract Between Users and Librarians—A Questionnaire-Based Empirical Study

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Abstract

This study surveyed graduate students of the Graduate School of the Chinese Academy of Sciences regarding their perceptions of digital libraries. Through Pearson correlation coefficient analysis, the results revealed two significant correlations: between “digital library provides data” and “digital library provides literature downloads,” and between “digital library provides data” and “digital library provides problem solutions.” It was concluded that users exhibit strong purposiveness when accessing library websites, expecting digital libraries to offer services such as information analysis, communication with research collaborators, and problem-solving models. It is recommended that a psychological contract between users and librarians be established based on these digital library services.

Full Text

The Psychological Contract Between Users and Librarians: An Empirical Study Based on Questionnaire Survey

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Abstract

This study investigates graduate students’ perceptions of digital libraries at the Chinese Academy of Sciences through a questionnaire survey. Pearson correlation coefficient tests reveal two significant correlations: between “digital library provides data” and “digital library provides document downloads,” and between

“digital library provides data” and “digital library provides problem-solving solutions.” The findings indicate that users access library websites with strong purpose-driven intentions, expecting digital libraries to offer services such as intelligence analysis, communication with research collaborators, and problem-solving frameworks. The study recommends establishing a psychological contract between users and librarians based on these digital library services.

Keywords: user behavior, digital library, information service, information retrieval, Chinese Academy of Sciences

Classification: G250

1. Introduction

In organizational behavior, the psychological contract refers to an unwritten agreement between employees and management. It can denote tacit understanding among group members, implicit rules within large corporations, or corporate culture and ethics [1-3]. In library science, this concept can be applied to examine internal library management issues or to describe the trust relationship between libraries and their patrons in university or campus settings. The former approach is exemplified in Pan Chengyun’s (2007) research [4], while the latter can be found in He Xiaohong’s (2007) study [5]. Lei Liang (2008) provides a review of customer psychological contracts and enterprise value chain applications in Chinese society [6], offering a reference for applying psychological contract theory in library science.

In 1987, Professors James C. Brancheau and Thomas R. Hoffmann proposed using psychological contracts to balance efficiency and humanization in management information systems (MIS) [7]. Given substantial changes in today’s user-participatory information environments, integrating this theory with the Persona Model (which emphasizes the integration of engineering, social sciences, and arts in computational information behavior modeling) presents a challenge: determining how to empirically validate user group models that guide system engineering and assess actual user feedback [8]. This study explores the application of psychological contracts to the relationship between users and librarians. The results provide preliminary solutions for refining Persona theory and offer implementable recommendations for library and information work. Incorporating psychological contract research into theoretical discussions and empirical studies of mental models and mind maps will enhance the effectiveness of library and information services.

2. Theoretical Introduction and Research Framework

2.1 Western Empirical Studies G. Quimet et al. (2005) found that younger generations integrate psychological contracts into transactional exchanges of

contribution and reward [9] (original text: “Les baby-busters apparaissent plutôt confortables au sein de rapports transactionnels où les termes de l’échange (contribution-rétribution) sont explicites et respectés” ; note: baby-busters refers to the generation born during the demographic trough, the first in modern history to have a lower average living standard than their parents). Jacqueline A-M et al. (2006) analyzed the coexistence of psychological contracts and employment contracts [10]. Russel P.J.K. (2006) developed a model linking supply-demand relationships, psychological contracts, and enterprise contracts [11]. Francine K.S. et al. (2007) established a model connecting organizational transformation (market orientation), psychological contracts, and learning strategies [12]. Victoria Bellou (2008) tested hypotheses on the effects of psychological contracts, organizational commitment, and adaptability on employee turnover [13]. Stephanie (C) Payne et al. (2008) found psychological contracts useful for studying employee perceptions of imbalance [14]. Kate J. McInnis et al. (2009) examined the relationship between long-term/short-term contracts and psychological contracts [15]. Orlando (C) Richard et al. (2009) discussed the limitations of psychological contracts for contracts and attitudes [16].

2.2 Eastern Empirical Studies Ho V.T. (2004) found that university students experienced stronger negative emotions but weaker negative attitudes when psychological contracts were violated [17]. Thomas W.H. Ng (2008) discovered that young employees valued psychological contracts more than newcomers, while senior employees placed less emphasis on them [18]. Chiu S.F. et al. (2008) found that psychological contracts in Taiwanese electronics companies had less impact than interpersonal relationships, though they still played a role [19]. Wang Lin et al. (2009) tested hypotheses showing that: (1) distributive and procedural justice significantly affected psychological contract breach; (2) interpersonal and informational justice significantly influenced leader-member exchange; and (3) employee work attitudes were primarily affected by leader-member exchange, with psychological contracts serving as a mediator [20]. Chen Wensheng et al. (2009) surveyed knowledge workers in 11 university libraries in Tianjin to identify causes of organizational distrust [21]. Chiu C.M. (2009) studied psychological contracts in repeat purchases on Yahoo-mio online auctions [22].

2.3 Research Topic Selection The aforementioned empirical studies from both Western and Eastern contexts demonstrate that young people hold psychological contract perspectives regarding knowledge services and knowledge management. Applying psychological contract theory to library science can be divided into two areas: librarian-library director relationships and librarian-patron/user relationships. The latter has received less research attention and lacks empirical theoretical results or specific recommendations, making it a worthwhile area for exploration. The application framework is shown in Table 1 .

Table 1: Framework for Applying Psychological Contracts in Library

Science

Dimension	Application Area
Work/Contract Continuation	Librarian salary and actual work; Librarian service and performance evaluation
Emotional/Attitudinal Connection	Librarian development and team culture; Librarian-user trust relationship

3. Research Design

A questionnaire survey titled “National Science Library User Information Behavior Survey” was administered to the same sample group from a previous study, using purposive sampling from October 10, 2008, to November 1, 2008. The questionnaire consisted of 20 closed-ended questions and 5 open-ended questions. Three hundred copies were distributed by mail, yielding 155 valid responses. Data analysis employed SPSS and MAXQDA software, with grounded theory as the research strategy. Theoretical exploration and practical implementation proceeded simultaneously, completing the one-year study.

4. Findings

4.1 Descriptive Statistics of Closed-Ended Questions Regarding usage purposes, digital library users primarily conducted precise searches (73.6%), subject searches (68.3%), and retrospective searches (56.8%). Searching while thinking was less common (38.1%), and aimless browsing was rare (7.1%). Regarding usage patterns, article catalogs (85.8%), abstracts (89.7%), data downloads (74.2%), and experimental data (54.8%) were frequently accessed, while one-third of users expressed no opinion on reference consultation services (38.7%). User expectations of digital libraries, in descending order, were: reporting on new trends (85.2%), connecting with researchers (80.7%), providing problem solutions (70.3%), and connecting with answer providers (67.1%).

4.2 Correlation Analysis of Closed-Ended Questions Through chi-square analysis, Pearson correlation coefficient tests, and contingency table observation, only two correlations exceeded the 0.5 threshold: “library provides document downloads” and “library provides data” ($r = 0.539$), and “library provides data” and “library provides problem-solving solutions” ($r = 0.554$). All other hypotheses were not supported.

4.3 Feedback from Open-Ended Questions Users expressed needs for non-professional literature, with one bioinformatics modeling respondent noting that humanities and social sciences books were too few and updated too slowly. This

suggests that user needs surveys and digital services should not focus solely on users' "professional" fields and "professional information" requirements, as neglecting cross-disciplinary information needs may erode user trust in library concern for patrons.

Regarding gray literature needs, students researching cloud computing frequently consulted PPT and PDF files rather than just journal articles or books. If libraries only survey journal and book usage to infer service approaches and effectiveness, they may misalign with some users' actual perceptions.

Users held varying definitions of personalized design. One student considered the "find articles" function useless for her needs and suggested adding personalized features such as "frequently used journals" and "frequently used databases." Libraries should consider designing service interfaces based on computational analysis of user behavior.

There were also divergent needs regarding journal currency. A student researching microelectronic digital integrated circuits requested "faster information updates and expanded information collection," while another developing optical probes requested "increased access to older literature, such as Elsevier publications before 2000." Determining which needs require more current versus older materials demands more detailed journal classification, accurate calculation, and expanded user surveys.

Supportive feedback also emerged, including suggestions for clear responses on document delivery availability, PPT downloads explaining database advantages and usage methods, and dedicated hotlines for literature retrieval assistance. Some users even proposed innovative ideas such as "online banking payment for automatic traffic-based billing."

5. Discussion

5.1 Research Contributions The descriptive statistics and correlation analysis from closed-ended questions can serve as references for similar surveys. Notably, a greater proportion of digital library users expect libraries to provide problem-solving solutions than to connect them with answer providers. Possible explanations include: (1) libraries have earned user trust; (2) users are accustomed to solving problems independently; or (3) some questions can be addressed through informal information exchange channels, warranting further investigation. Additionally, in the open-ended questions, all respondents answered the first item, but non-response rates increased for subsequent items (7%, 9%, 12%, and 38%). According to the attitude decrement pattern, the final item's non-response rate should have been 16% rather than 38%, indicating an actual refusal rate of approximately 22% for expressing institutional improvement suggestions. This finding can inform future survey design.

5.2 Theoretical Significance This study addresses the relationship between information system design and user expectations/usage within library and information science. By empirically examining the “trust relationship between librarians and users” (psychological contract), it facilitates deeper exploration of digital library services and user information behavior.

5.3 Practical Implications The findings demonstrate that users access library websites with strong purpose-driven intentions, expecting services beyond general borrowing functions. They anticipate intelligence analysis, assistance in locating and contacting research collaborators, and methodologies for addressing research problems. We recommend establishing a psychological contract between users and librarians based on these digital library services.

5.4 Research Limitations This approach is suitable for observing new phenomena or applying new theories but is not ideal for fully explaining causal relationships. When interpreting and applying these results, note that the study’s definition of “psychological contract between users and librarians” has not been causally validated.

5.5 Future Research Future studies should examine whether concepts such as “user groups,” “user behavior,” “user models,” “online information retrieval,” and “Web 2.0” or “Library 2.0 information behavior” suffer from: (1) conceptual confusion that prevents verification or refutation; (2) ambiguous research scope; or (3) tendencies toward self-experiential reporting. Long-term empirical research should: (1) address credibility issues and causal propositions from current limitations; (2) organize and theorize relevant discussions; and (3) conduct empirical research and generalization of related theories. Most importantly, we must never cease exploring user information behavior and demonstrating care for users.

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