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Applying Big Data Technology to University Libraries: A Perspective Based on Service Context

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Abstract: In the era of big data, the construction of university libraries cannot be separated from the support of big data technology. The collection and analysis of data can improve the management efficiency and service quality of university libraries. On the basis of explaining the characteristics of big data and big data related technologies, our study puts forward the application framework of big data technology in university libraries based on the characteristics of university libraries. Based on the perspective of the context, we explore the effects of the application form of big data technology in university libraries on students' perception of the context, and establish a theoretical model of how it will affect students' perceived service quality, perceived value and satisfaction the library. Our research can give suggestions to the service innovation practice of university libraries.

Keywords: Big Data Technology; Libraries; Satisfaction; Service Context

1. INTRODUCTION

In the era of big data, Cloud Computing, Internet of Things, Artificial Intelligence and other technologies have penetrated into all walks of life in society. Big data technology and libraries have a natural fit, which can empower the digital transformation of university libraries, but at the same time, university libraries also face new challenges^[1]. The application of big data technology in university libraries can provide students with better information resource services and non-information resource services, such as providing students with a better learning environment and richer learning tools. In different application context, the services that big data technology can provide to students are also different. However, at present, there is still a lack of research on how the characteristics of services in different context will impact students' satisfaction. We analyzed the impact of big data technology in different service context, and the impact on university students' perceived service quality, perceived value and satisfaction, with a view to providing reference for the service practice of university libraries.

2. THEORETICAL BACKGROUND

University libraries are closely related to social and public cultural services, and are also an important carrier of university information services. Information and communication technology improved the digitization of university libraries, and also changed the service model of university libraries. User satisfaction is the key outcome for measuring marketing process. In the library context, we take the change in user satisfaction with the library as an indicator of the application of big data technology. User satisfaction is closely related to users' perceived service quality and perceived value, perceived service quality and perceived value are two antecedents of user satisfaction^[2].

In our research, because the library's main function is to provide users with information services, we divided the use contexts of the library into two categories: information resource service contexts and non-information resource service contexts.

There are two specific contexts for information resource services, namely the electronic resource service context and the physical resource service context^[3]. Electronic resource service refers to providing users with

bibliographic and newspaper retrieval and reading services on the Internet. Physical resource services refer to the information services of physical books and periodicals of libraries. In non-information resource services, we also divide it into two contexts, namely, instrumental service contexts and humanistic service contexts. In the field of information management, there is research on the potential of instrumentality as a way to improve practical capabilities. In our research, we use instrumentality as the ability to assist user activities. And humanistic services refer to education, consultation, lectures and other humanistic services provided by libraries.

Based on the application context of big data technology, we propose a user satisfaction model for big data library applications. We classify electronic resource services and physical resource services as perceived information service contexts, instrumental services and humanistic services are attributed to the perceived non-information service contexts. Figure 1 shows our model.

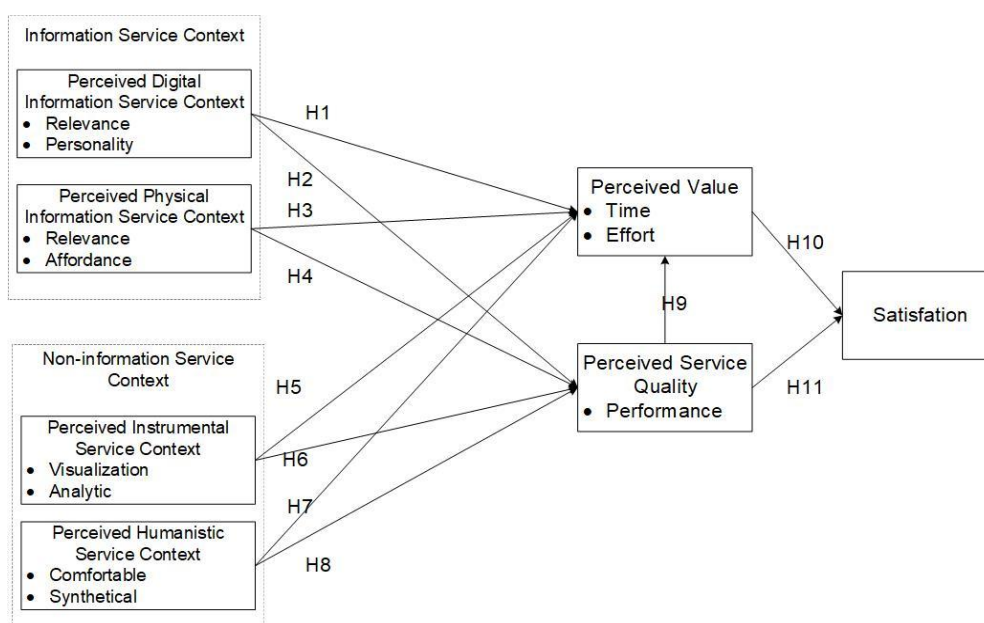


Figure1: Research Model

3. METHODOLOGY

This research mainly uses questionnaires to investigate library users' perceptions of big data technology applications and test our model. Through the questionnaire, we learned that users' perceptions of changes in service quality and value after applying big data technology.

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