User Preference Towards Digital Library and Virtual Community from the Perspectives of E-Quality in Tertiary Education

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Abstract: In today’s trend, digital libraries and virtual communities applied information and communication technologies (ICT) in the effort to better disseminate information and services, facilitating users with accurate and reliable information. The development of digital library and virtual communities has gone from curiosity to mainstream nowadays used among students and public intellectuals mostly, in order to replace the long and weary traditional library, supporting them with fast retrieval of information and online services, as a result, increase the population of users preferring and accepting to both of these systems. This paper aims to propose a framework for further study in the future, to see if both of these systems are affected by the aspects of ‘e-quality’, on the context of user preference.

Key words: Digital library • E-quality • User acceptance • Virtual community

INTRODUCTION

Over the years, academic libraries had sought to made changes in its managerial aspects, utilizing complex technologies and system in its administration and for the services provided. In administration, manual filing system for library’s operations are replaced with new system famously known as Library Management System (LMS) in which it can integrate huge amount of data in a short period of time giving the staff instant and thorough access to the library resources. And as for the service, libraries have been competing with each others to create the best digital library that can offers users with online services which are both interactive as well as reliable information.

Many academic libraries are actively involved in developing digital repositories to store resources such as papers, theses and other works which can be digitized or created digitally. Majority of these system created, are made available to the general public with few boundaries, follow up with the common objective of open access software, in contrast to the publication of research in commercial journals, where the access is limited. Organizational, free access and digital repositories reflect the system known to people as ‘Digital Libraries’. An important advantage to digital conversion is that it has effectively increases access point to users. In fact, it also increases accessibility to the public who may or may not be a user, due to geographic boundary or organizational association. Availability of information in digital library is one of the contributing factors to the increasing of users accepting to utilize the information and services exist.

And as for virtual communities, its development is tally with the enhancement of social networking. Virtual communities have been popularly used among savvy people with knowledge handling open source system [1]. Increase of high class profiles of students and grants, as well as the increasing of technology implementation in the use of educational purposes will alter the learning paradigm to be more flexible in the use of online learning for both pupils and for those who are pursuing their studies in further and higher education (HE) level. Mostly universities students are the one with the advantage to utilize virtual communities, for instance 'BaiduKnow' and 'ScienceBlogNet', it offers a wider platform for data sharing allows them to share big data, plus some of them even provide instant online communication among its users.
The study of user preference towards both digital libraries and virtual communities has been conducted by many researchers, organization or even educational institutions today pursuing the effort of improving information systems, simply by using methods such as the Information System (IS) Success Models to study and evaluate information systems by certain qualities. User Acceptance Test (UAT) for system beta testing or Quality Assurance (QA) used to find defects on the quality of the system by market research. For this research, the ‘Delone-McLean (2004) Model of Information System (IS) Success’ will be refer to as the basis in order to find out and explore user’s perception and preference, towards the systems by characterizing ‘e-quality’ as an apparatus for measuring both digital library and virtual community.

Hence, this paper would serve the purpose of determining on how ‘e-quality’ aspects, which are information, system and service quality, affect on consumer preference and acceptance towards the existing digital library and virtual community. Users perspective can be explore, giving insight for information providers on the exact nature of ‘e-quality’ as perceived by users plus, comparison on the two systems can be made to find out which one preferred more.

Furthermore, the concept laid in this paper may be of use to savvy researchers to better steer them in constructing their research models, plus encouraging others to do more research in this respective subject.

**Problem Statements:** Some qualities reflected by digital libraries and virtual communities are directly proportional to the state where user preferred to use it [2,3,4,5]. Common problems arise as each user generally compares the tangible system with their own high expectations towards the quality of the system itself. If the tangibles services one falls below their expectations, the users generally will be disappointed and that will definitely affects on his or her loyalty towards the company or in this case the information providers [6,7,8,9,10,11]. This statement refers to the context on which users’ preference towards digital library and virtual community are influenced by the certain qualities possessed by each system and those qualities are information quality, service quality and system quality.

Information quality provided may sometimes influence on the users desired to use them. The general issue regarding to information quality is that nowadays information are disseminated massively without the concerned on either the information is accurate or reliable to be digest by the public [10,12,13,14,15]. Same issue implies on the information quality provided by digital library and virtual community. Some believe that information on virtual community has less degree of reliability compared to the information provided by digital library which are well structured, authorized and secured from alteration. These few distinctions between the two systems may affect on user prefer to use any of them.

In fact, majority of the users today have the basic understandings on computer system hence allows them to evaluate the system quality independently [16,17,18]. Usually, people prefer to make evaluation without a proper basis or the proper reference to do so. Most users simply evaluate system quality by its interfaces and special features which all of those are expected to benefit them during data browsing, instead of evaluate the systems design thoroughly [19]. The problem related to this matter is that different people have different perspectives towards anything, making the task of developing the best system sometimes to be distracted, for instance developers tried too hard on making the system looks attractive resulting colors block which cause difficulties in viewing.

And lastly, the issue on service quality provided by digital library and virtual community. Generally, Information systems share this one feature which is the ability to provide online services remotely for the public [20]. The common issue that always arises is the availability of the services itself. For instance, some digital libraries have links for customer feedback but the response is never there. Developers tend to procrastinate when it come to subject of responding to users feedback which are usually questions regarding to the system and its resources thus affect on users prefer to chose online resources rather than utilizing the well construct resources which are already available.

**Research Objectives:** To get the right solution on a right problem, clearly defined objectives are very important as it would enlighten the way to research. Henceforth, these are the objectives to this research:

- To find out how information quality in digital libraries and virtual communities affect on users preference
- To identify how service quality in digital libraries and virtual communities affect on users preference
- To find out how system quality of digital libraries and virtual communities affect on users preference
- To determine which of the two systems prefer most by user?
Significance of the Study: This study aims to focus on the three aspects of ‘e-quality’ which are the information quality, service quality and system quality, compare and explore user preference for virtual communities and digital libraries, with the expectation that the results of this study can help information providers, system developers and even other researchers, to better understand on the nature of an effective system, as well as giving them the insight on how to create the most effective system as perceived by users. The significant of this study is to facilitate future researchers whilst examine whether there is a significance relationship between user acceptance and several characteristics of an effective system.

Besides that, this study helps researchers in providing a solution towards the problem that may happen in the research area. This will definitely help them to understand better and enabling them to generate effective solutions that are necessary to counter this problem.

Lastly, this study can be used to help researchers understand the other contributing factors that may or may not affect on the acceptance of user towards utilizing digital library or virtual communities for their reference purposes. By ascertaining all the problems arise, researcher can help information providers to discover on any other contributing factors that may also be contributing to the state where user accept on utilizing any of these system.

Literature Review: A review of literature revealed that most case studies and research papers generally discuss on the developments and practices related to digital library but only few studied the practices on virtual community system. This part of the paper provides a review of the literature on the extent of user preference towards digital library and virtual community and generally discusses on the three independent variables that are noticed, in which they may or may not affect on user preference towards utilizing the system.

In fact, the literature review should provide a clear explanation on the previous studies done by the researchers on the subject of digital library and virtual community, whether in Malaysia or other countries and this surely eases the process of comparing and increasing the findings on the study that is to be conducted. Based on the definitions and findings on previous study, it will help researcher on developing the effective methods thus obtaining the expected results of the research. From reviewing, the most suitable independent variables have been identified which are information quality, service quality and system quality, in which they may or may not influence on the dependent variable which is user preference towards digital library and virtual community.

User Preference: User preference can be define as the state where an individual shows a greater liking and affection towards something. The study of user preference towards information systems has a similar paradigm with the study of user acceptance towards utilizing information system. In order to understand better on the term ‘user preference’, a review of several literatures i.e. [2,21,22] are made on the subject of user acceptance towards information system utilization, just to give a clearer view on this particular variable. User acceptance has been defined as the user’s demonstrable willingness to utilize certain systems in managing their tasks [23]. Users are said to be judgmental when choosing any system that is to be use. Most systems are already made to ease users, but when some of them are not made user-friendly, user tend to refuse on utilizing it. On the other hand, researchers tend to relate user acceptance with the user’s perspectives towards the system itself, commonly by tying some factors that may affect on user acceptance and focusing on user’s perspective on the system, in which how it will give impacts to his or her work [24].

Digital Library: Digital libraries can be consider as one of the important online information system applications as a result from the development of the internet, making it one of the main sources of reliable information for users [25]. In the other hand, digital libraries can also act as an information resource banks with a well-organized and substantive data that can cater the needs of large group of people in different locations via the utilization of enhanced technologies’. In fact, the author also defined digital collection as the abridgment of varied information sources outside the library but can stably be use by patrons via the World Wide Web. Digital Library (DL) is the collection of information that comes with some associated services delivered to certain target audience by implementing Information Technologies (IT) [26]. This information system is made with the objective of providing an organized content space and a series of services that can improves the co relationship between information providers and users, thus maximized the whole knowledge lifecycle [27].
Virtual Communities: Virtual community is a network established in the virtual space by the highly socialize group of people for the purpose of data accessing, sharing and disseminating information, experiences and knowledge via online communication and social interactions [28]. Other perspective on the definition of virtual community, scholars described virtual community as the ‘aggregation of individuals in the cyberspace sharing common likes and interests through electronic communications such as chat portal, online forums, bulletin dashboard and even e-mail perhaps [29]. The vast growth of online virtual communities has made the process of producing and disseminating mass information much easier for users today [30].

Information Quality: Information quality is defined as ‘the belief about the output provided by information system providers’ [24]. Given that the information available in the system is valuable to any customers; its potential value may be reduced if it is of poor quality [31]. Higher information quality indicates that the customer finds the information system output to be more desirable because it is more useful and thus more valuable. When information quality increases, this causes the perceived value received to increase, resulting in feelings of greater satisfaction. The quality of information provided has always been one of the factors to which users accept to use it. However, problem arises when this particular concept has poor association with the models of evaluating systems.

Service Quality: Service is commonly defined as the work performed for someone else [32]. Service is usually provided to serve others who are in need [33,34,35,36]. And as for quality, it can consists of two parts which are technical and functional quality, in which technical quality defined as the tangible aspects of the service whereas functional quality defined to as the intangible aspects of the service. Exclusively, service quality can be referred to as the effectiveness of the communication between service providers and customers during the ongoing service [37,38,39].

Other than that, in the Harvard Business Review, service quality is seen as the result or output of the services reaching to the level of its user's perspectives and their high expectations [40]. On the other hand however, service quality can also be a prospect resulting from users comparing expectations to their perceptions of the service offered [39,41,42]. In fact, Service quality is the quality of actual results which occur after service providers manage to satisfy customers constantly with dependability and steadiness without fail [43].

System Quality: System quality is defined as a customer's belief about how information is processed and delivered during digitally enabled exchange [24]. Moreover, the users characterized quality of the system as the desired criteria from the information system itself which is expected by savvy users [44]. Experience with a system will affect slightly on user’s attitudes toward that system [45]. System quality includes elements such as ease of use. When a system is easier for the customer to use, it requires less effort or sacrifice. Thus as increasing system quality reduces the sacrifice or cost required from a user, this will result in satisfying the user thus invite more potential users accepting to use the system.

Methodology: In this cross-sectional survey, the data that are to be collected are targeted towards communities within educational institutions where these systems are popularly used among its residence, students and staff if needed, by distributing self-administered questionnaire and the data will be analyzed and produced through Statistical Package for Social Sciences (SPSS), hence determining the relationship involved between the variables. The single cross-sectional design is applied in which the data will be gathered for just once, perhaps over a period of days or weeks, in order to answer research questions and in fact, this design is also known as the one-shot studies [46].

This particular study design is chose because the data that are to be collect is produced at a single point of time from the sample chose, which it is believe to reduce the vulnerability of research result towards inefficiency and also could save the time as well as costs incurred. In fact, cross-sectional study is best to be use in studying certain matter at a particular time for instance issue, problem, attitude and phenomenon, simply by outlining some of the expected findings, identifying the selected population and thus contact them if needed.

The recommended size of the sample for a given population of 5000 required up to 357 respondents in order to get the confidence percentage of 95% and a 5.0 margin error [46]. Hence, the sample probably would come from a single faculty, yet depend on researcher target and the nature of the institution itself.
CONCLUSION

In order to study and understand better on the subject of user preference towards the two information systems which are digital library and virtual community, the conceptual framework below should provide the insight on whether the independent variables; information quality, system quality and service quality have the potential to affect on the dependant variable which is the user preference. This conceptual framework has been personalized specifically to serve the purposes of the study. The framework is shown in the diagram below:

Following the context of user preferences, previous researchers studied more on user satisfaction from evaluating information quality and system quality of that particular system used. Information quality can be refer as the quality of output provided by the information system in which it might be present in the form of report, concerning completeness, accuracy and currency [25]. Completeness as in comprehensiveness refers to users perceptions of the degree to which all the necessary information is provided to the users. As for accuracy, it refers to users perceptions of the degree to which the information is right and correct and as for currency, it refer to the degree as perceived by users to which the information is current and up to date [24]. System quality has been defined as the operational quality of the information system per se [25]. It is used to measure the extent to which the information system is dependable and prompt in terms of software and data components.

Besides that, system quality is characterized by both a system that offers reliable functions and features and software that is easy to learn, user-friendly and easy to maintain made by professionals to professionals [25]. Researchers also stressed on the matter that service quality is an important factor that give impacts towards success [25]. Indeed, academic libraries need to deliver reliable, dependable and effective service [20] given that loyal users may gradually shift from the systems to other information sources on the World Wide Web as a result of their changing needs and experiences with other online service providers [25].

As for the conclusion, this study should has the proper framework design and methodology as long as it is made by following the right and correct references, as most of the methods and designs are made by referring to Kumar’s publication entitled ‘Research Methodology’. With all of these comprehensive details, researcher should be able to proceed effectively.

REFERENCES


