

Voice of Academia

Academic Series of Universiti Teknologi MARA Kedah

Special Issue: Information Management

VoA
Volume 12 (1)
2017

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Influence of Personality on Digital Library Continuance

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ARTICLE INFO

Article history:
Received 10 January 2017
Received in revised form
16 March 2017
Accepted 3 April 2017
Published 1 June 2017

Keywords:

digital library, acceptance, continued use, conceptual framework

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ABSTRACT

Digital library brings many benefits to the users. Users can use the digital library at anytime and anywhere. Users' personality of digital library is important to be studied to understand the personality of users while using the digital library. They included agreeableness, extroversion, conscientiousness, openness to experience and neuroticism. To understand user's personality on digital library continuance, Technology Continuance Theory (TCT) was adopted to fulfill the purpose of the study. This study proposed a theoretical framework where it can help other organizations in determining the users' personality on their continuance use of services or information technology provided for them.

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1. Introduction

Digital library is a new information system or technology that have started to be capitalised by libraries around the world to enhance their information service provisions for their users. Although this information system or technology is still evolving, libraries have already offered this product for their clientele to use. Naturally for new information system or technology that is beginning to take shape in an organization, in this case the library, the issue of its acceptance and continued usage is of importance toward the advancement of the digital library. Therefore, this situation has attracted researchers from a variety of background such as information system management and library science to study its acceptance and continued usage of digital library by the library community at large.

Most of the psychologists agreed that human behaviours are related to the personal factors which proposed that personality traits contain five principles, namely replicability, comprehensiveness, external correlates, source traits and multiple levels (Allport, 1961; Endler & Magnusson, 1976). The five principles were then recognized as Five Factor Model (FFM) or Big Five Factors.

Big Five Personality (BFP) Model is a taxonomy of personality that classifies all human personality traits into five dimensions; extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. These dimensions did not represent a particular perspective but were derived from analyses of the natural-language terms people use to describe themselves and others.

Because traits play a ubiquitous role in human cognition and behavior, it is reasonable to

expect that personality will play a part in an array of IS-related processes and outcomes (Devaraj, 2008). Several researches have already begun with the exploration of the relationship between personality traits and Internet usage. Within the digital library context, the relationship of personality and digital library continuance use is still unknown; therefore, there is an urgent need to study the relationship between personality and digital library continuance.

1.1 Definition of key terms

The important key terms for this study are as follows:

1.1.1 Digital library

There are many definitions of digital library that have been defined by previous researchers (Shiri, 2003). Digital Library Federation (1998) described digital library as an “organizations that provide the resources, including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections of digital works so that they are readily available for use by a defined community or set of communities”. Besides that, digital library can be accessed through the library homepage where, it provides information for users. In a digital library also, there are a lot of digital library collections including electronic journals, in-house databases, online databases and so forth. Users can gain information needed by using digital library (Hong, 2002). In addition, Rowlands (1999) mentions that digital library can be accessed virtually and users can search or get the information needed in the digital form.

For the present study, digital library can be defined as a digital library that provides digital information and services to the users for searching, accessing, downloading information as well as for the users to borrow the library resources. Digital library information including online databases, electronic journals, electronic books and so forth where users can search and download it for their learning purposes.

1.1.2 Personality

The Big Five Personality originated from the psychology field where it was used to describe the human behavior. It was developed by Costa and McCrae (1995) in order to give an explanation about the relationship between the big five personalities as well as various academic behavior (Lin & Ong, 2010). The Big Five Personality includes dimensions such as agreeableness, extraversion, conscientiousness, openness and neuroticism.

All five of these factors are expected to be a basic structure behind all personality traits. The big five personality factors were defined and discovered by several different researchers during multiple periods of research. The definition for each dimension is as follows:

1.1.2.1 Agreeableness

Agreeableness refers to a person who tend to be cooperative, compassionate, good nature and has a positive attitude towards social relation (Kwon & Song, 2011). It also reflects the individual difference in concern with cooperation and social harmony. They are optimistic view of human nature. The person with the characteristics of agreeableness are friendly, like to help others and they also willing to negotiation their interests with others.

1.1.2.2 Extraversion

Extraversion refers to a person who is active, sociable, assertive, talkative, energetic and cheerful (Eysenck, 1991). This kind of person like to be engaged with the external world and full of energy and has positive emotion. They are excited, and they also individual who always say “Yes!” in whatever situation they are in. While, in a group, they are talkative as well as draw attention to themselves.

1.1.2.3 Conscientiousness

Conscientiousness refers to an individual who is efficient in his/her works and ensures the work is successful without any failure (Norsaremah, 2010b). It also refers to the degree where people are responsible, have self-discipline, well-organised as well as always careful in any situation. People who are high in conscientiousness can organise and be responsible in any situation.

1.1.2.4 Openness

Openness refers to a person who has an interest and brave to take risks when dealing with something. They are also flexible where they are able to work in an environment that is constantly changing and still want to innovate (Eswaran, Amirul Iman & Dayang Hasliza, 2011).

1.1.2.5 Neuroticism

Neuroticism refers to an individual who has negative feeling such as feeling of anxiety or hostility and his/her emotional is unstable (Norsaremah, 2010a). Besides that, neuroticism refers to the overall degree of emotional stability that a person demonstrates. More specifically, it is about how calm and collected someone is which also reflected in his/her degree of self-confidence and self-fulfilment. People who score high on scales of neuroticism generally report more negative emotional reactions. Another definition for neuroticism is an individual who is negative feeling such as feeling anxiety or hostility and their emotional unstable failure.

2. Problem Statements

Big five Personality which includes five dimensions such as agreeableness, extraversion, conscientiousness, openness and neuroticism also play a significant role in Information System related process and outcomes (Devaraj, 2008). There are a few studies that have investigated the influence of the big five personality on internet usage. The context of the continued usage of digital library is still unknown; therefore, it is urgent to investigate the role of the Big Five Personality on continued usage of digital library.

It is important to understand the user's personality towards the continued usage of information system (Eysenck & Eysenck, 1985; Lin & Ong, 2010) and the user's personality should be significant with the activities in the information system (Devaraj, 2008). The user's personality is different from each other. The digital library must be developed where it can fulfil the users need and it must also have the characteristics which can meet the user's requirement. Devaraj (2008) mentioned that personality plays a significant role in determining the continuance use of the information system process and outcomes.

Personality can also determine the user's motivation in engaging or continuing in an act (Barrick, 2002). Big five personalities are useful predictors in exploring user behaviours towards the continued usage of digital library (Lin & Ong, 2010).

3. Purposes of the Study

The purpose of the study is to investigate whether the user's personality toward digital library will influence them to continue using digital library. Besides, it is important to know the user's personality and until now, there is limited study that investigate the user's personality on continuance digital library.

4. Significance of the Study

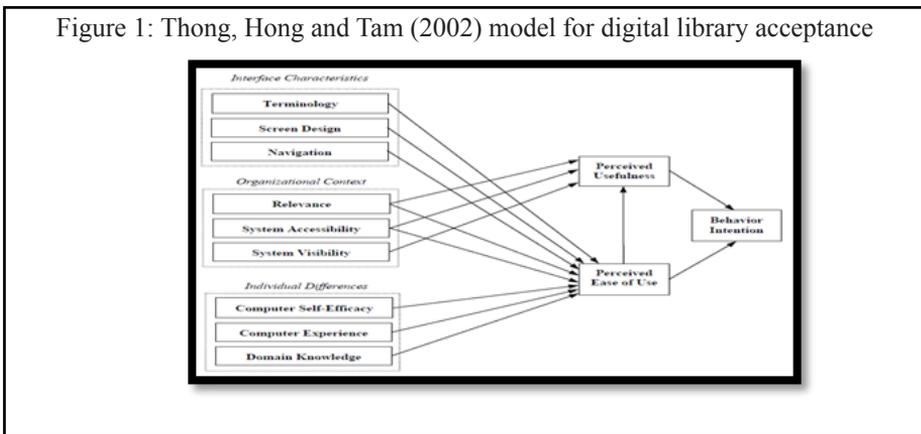
The significance of the study is, first, a new theoretical framework will be developed for personality on continuance digital library. This theoretical framework will be used for other domain such as e-learning, e-shopping and so forth. This study adopted Technology Continuance Theory where it can give a clear understanding to the digital librarians.

Besides that, this study can also help the digital librarians on how they can treat the users of digital library based on their personality. If a digital librarian does not know the user's personality, then how can they offer their services to the users? It is important to know the users' personality. If a neuroticism user wants to use the digital library, but they feel anxious or worried to use the digital library in terms of wrong links given, cannot get the information easily and so forth, then, the digital librarians can facilitate the users by offering the best services to the users.

5. Researches on Acceptance of Digital Library

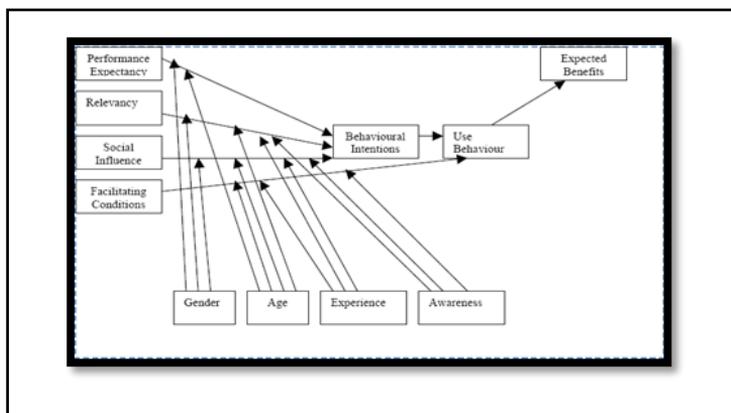
There are a few studies that have investigated the acceptance as well as continuance used of digital library. Most of the researchers use Technology Acceptance Model (TAM) developed by Davis (1989) and Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh (2003).

Thong, Hong and Tam (2002) had used and modified Technology Acceptance Model (TAM) to their model. They investigated three factors which are interface characteristics, organizational context and individual differences. The model is as below:



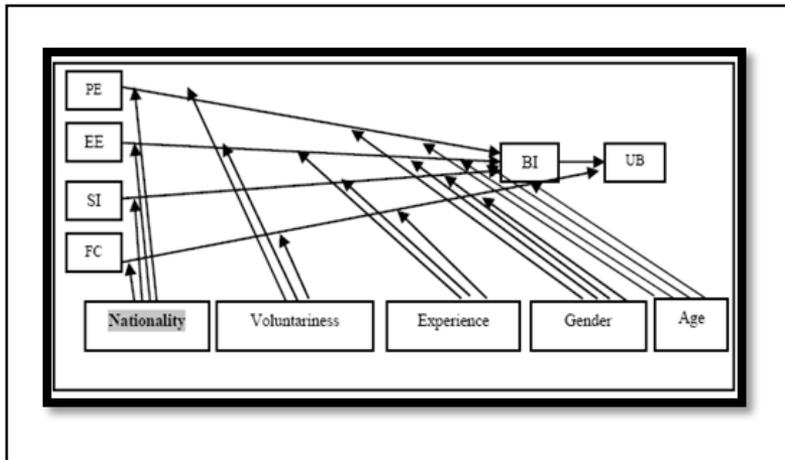
For the interface characteristics, the elements are terminology, screen design and navigation. While, for the organizational context they include relevance, system accessibility and system validity. Individual differences are also included in their study where the elements are computer self- efficacy, computer experience and domain knowledge.

Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh (2003) has been used by many researchers to investigate the acceptance and continuance usage of digital library. Tibenderana et al. (2010) used UTAUT and modified it for their study which they called it as Service Oriented Unified Theory of Acceptance and Use of Technology (SOUTAUT). Their model is as follows:



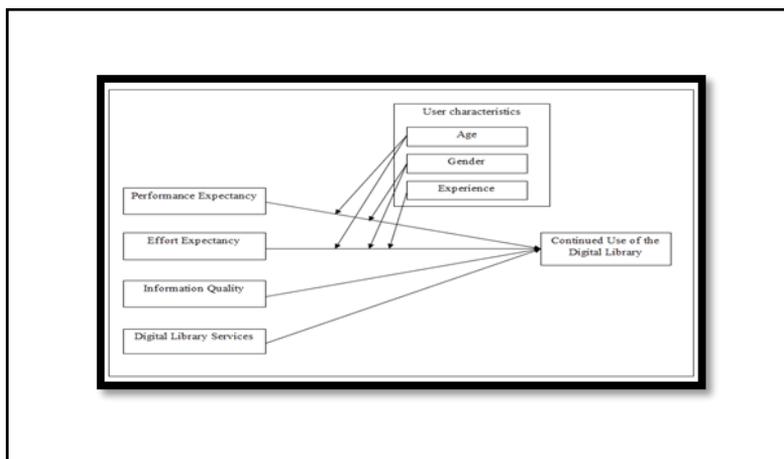
Tibenderana et al. (2010) replaced the effort expectancy to relevancy and they also dropped voluntariness of use to awareness. Based on their study, it shows that 30% of the end- users have the intention to use the electronic library services.

Besides, Orji (2010) also used the Unified Theory of Acceptance and Use of Technology on their models and they modified it to the Nationality Based Unified Theory of Acceptance and Use of Technology (NUTAUT) model. In their model, they included Nationality to investigate the acceptance of the digital library. The NUTAUT model is as below:



Based on the findings, it shows that, nationality has a positive influence on the use of digital library.

Other than that, Abd Latif, Adnan and Zamalia (2011) investigated continued usage of digital library (CUDL) based on UTAUT model. They used the model from Information System Success introduced by Delone and McLean (2003) in their study. The model is as follow:



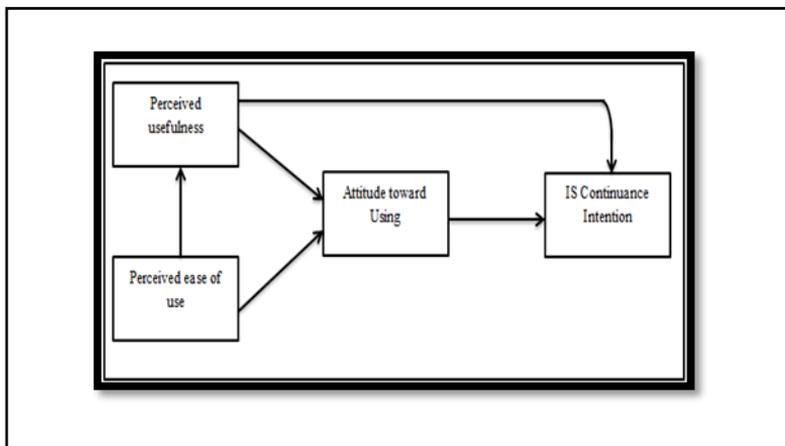
In their study, they only used performance expectancy and effort expectancy from the UTAUT independent variables. They also used two important keys in Information System Success by DeLone and McLean (2003) which are information quality and service quality. They also used age, gender and experience as their moderators. The results show that, performance expectancy, effort expectancy and information quality have positive influence to continued usage of digital library.

6. Model/ Frameworks

The models that will be used for this study are briefly explained below:

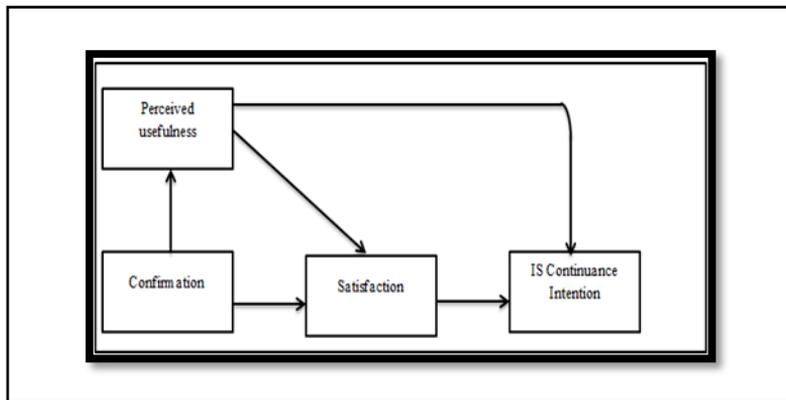
6.1 Technology Acceptance Model (TAM)

There are two models that are used by the researchers for the IS research which are Technology Acceptance Model (TAM) developed by Davis (1989) and Expectation Continuance Model (ECM) developed by Bhattacharjee (2001). TAM was developed to know the initial acceptance of the IS, intention to use the system as well as motivated user’s attitude towards the system use.



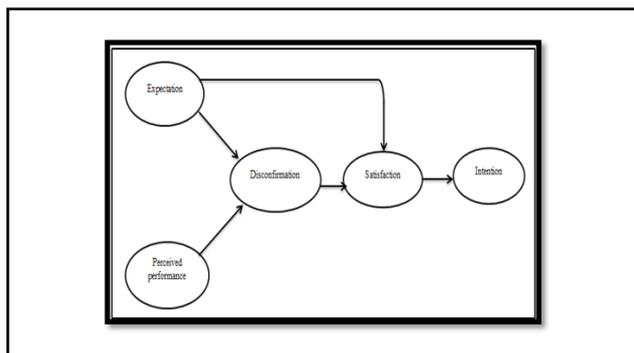
6.2 Expectation Continuance Model (ECM)

ECM is used for the user’s behaviour in continuation to use of the information system. ECM is derived from consumer satisfaction/ dissatisfaction model (CS/D) where it is to look at the consumers repurchase behaviour. Based on the CS/D, user’s expectation must be measured before the system use and for the perceived performance to be measured after the experience. However, there are some questions regarding these models which are; Which model is powerful? It is appropriate to use TAM to predict and explain user’s behaviour toward technology continuance?



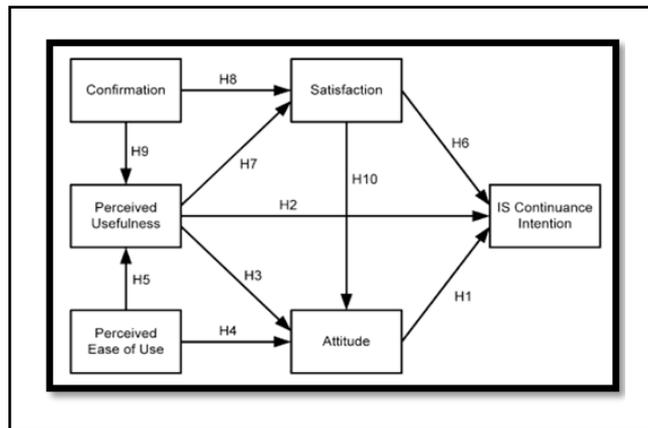
6.3 Consumer satisfaction/ dissatisfaction model (CS/D)

The CS/D model assumes that an individual's usage behaviour is a series of acceptance, experiences, verification and continued use process. The first is external variable which can cause individuals to believe to use the system. Second is the individual's outcome expectation which lead to the positive or negative feeling about the systems which then influence the individual's actual acceptance. Then, after a certain period of individual's experience using the system, the perceived performance of the Information System is compared with the pre-adoption expectation. The evaluation can either be confirmation or disconfirmation which then can lead to the satisfaction level and will give an impact to the IS intention for Information System continuance. However, CS/D is not dedicated to modelling the IS continuance, but used to describe the individual's reiterative behaviour in performing a certain task.



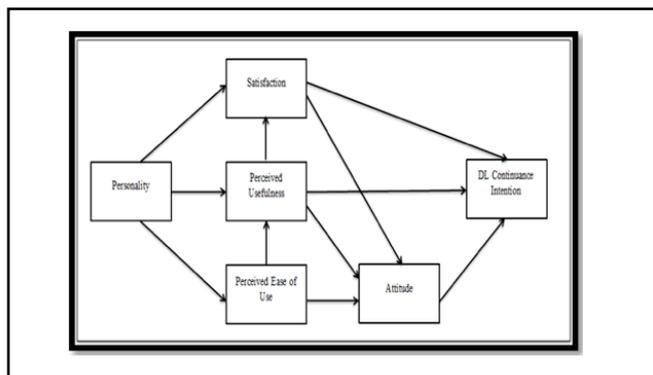
6.4 Technology Continuance Theory (TCT)

The Information System (IS) usage has been a prominent topic in IS research. many researchers have proposed the model for the IS adoption as well as model for the IS continued use. It is widely agreed that the IS adoption will influence the successful use of the system. Other researchers have also investigated the predicting user's behaviour towards IS adoption at the individual level (Bhattacharjee, 2001). The model of Technology Continuance Theory (TCT) is as follows:



7. Proposed Research Framework

The proposed research has been adapted from Technology Continuance Theory (TCT).



7.1 Hypotheses for the Proposed Framework

- H1:** Personality will positively influence satisfaction
- H2:** Personality will positively influence perceived usefulness
- H3:** Personality will positively influence perceived ease of use
- H4:** Perceived ease of use will positively influence perceived usefulness
- H5:** Perceived usefulness will positively influence satisfaction
- H6:** Satisfaction will positively influence attitude
- H7:** Perceived usefulness will positively influence attitude

H8: Perceived ease of use will positively influence attitude

H9: Satisfaction will positively influence DL continuance intention to use

H10: Perceived usefulness will positively influence DL continuance intention to use

H11: Attitude will positively influence DL continuance intention to use

8. Methodology

To suit the purpose of this research, a stratified random sampling technique (for quantitative) will be adopted. The researcher would only disseminate the questionnaire instrument to the university researchers who used the digital library. This is done in such a way that the researcher would be positioned at the digital library workstation. Upon seeing any of the university researchers completed accessing the digital library, a copy of the questionnaire would be given to be completed by them. They would be given the choice to complete the questionnaire and return it immediately or they can return it later to the researcher.

The study will adopt the exploratory mixed methods design using interview (for qualitative) and a questionnaire (quantitative) as data collection instrument. The questionnaire will solicit data pertaining to all the variables depicted in the conceptual framework of the research.

8.1 Population and Sampling Technique

The population for this research is the university researchers and students in Northern Peninsular universities in Malaysia which are the following:

- Universiti INSANIAH
- AIMST University
- Universiti Teknologi MARA Kedah
- Universiti Teknologi MARA Pulau Pinang
- Universiti Sains Malaysia

To suit the purpose of this research, a stratified random sampling technique (for quantitative) will be adopted. The researcher would only disseminate the questionnaire instrument to the university researchers who used the digital library. This is done in such a way that the researcher would position at the digital library workstation. Upon seeing any of the university researchers completed accessing the digital library, a copy of the questionnaire would be given to be completed by them. They would be given the choice to complete the questionnaire and return it immediately or they can return it at a later day to the researcher.

8.2 Data Analysis Technique

In analysing qualitative data, thematic analysis approach using NVIVO would be used. For quantitative data analysis, two stages of analysis techniques will be employed i.e. the descriptive analysis technique, and the inferential analysis technique. In the first stage, general

aspects and main variables will be analysed. While in the second stage, the analysis will be conducted to understand the relationship among the main variables. Factor analysis will be used to group the variables into their specific groups. Partial Least Square technique using SmartPLS 2.0 software will be used to test the relationship among the variables.

9. Limitations and Recommendation for Future Study

The limitation of this study is it only investigated one factor that may influence digital library continuance which is user's personality of the digital library. There may be other factors that can influence users of digital library to continue using it.

Other than that, this study only focused on the Northern Peninsular Universities in Malaysia. Other universities are not included in this study. The use of the digital library is around the country. So, it is necessary to investigate the entire digital library in the country.

Hopefully, in the future, there are researchers that can investigate the other factors that may influenced users to continue using digital library and the investigation must be widely done around Malaysia so that, we can learn and understand the acceptance level and continued usage of digital library among users.

10. Conclusion

Digital library has brought many benefits to the users. So, it is important to know the reasons it is accepted and continued usage by the users. One of the factors that may influence the users to continue using the digital library is by their personality.

Hopefully, this study will help other librarians and information professionals in understanding user's personality and they can provide better services to their users. When librarians understand the user's personality, users will feel free to use the digital library in the future.

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VOA - ISBN: 1985-5079

