Open Materials Discourse: Consumer Acceptance of Personal Cloud: Integrating Trust and Risk with the Technology Acceptance Model

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Abstract:

This paper provides the materials used to collect survey data for the conceptual replication of Pavlou (2003) by Moqbel and Bartelt (2015). This replication paper used trust and perceived risk, in addition to the technology acceptance model (TAM) factors of perceived usefulness and perceived ease of use, to determine how consumer's behavioral intentions affect online transactions (Moqbel & Bartelt, 2015). Two hundred forty participants took part in the 15-minute survey, with the option of choosing either online or paper format. This paper provides additional materials and details on how the survey was conducted. Step-by-step explanations are provided for the design, procedures, consent form, survey instructions, and the survey questions. We hope that this background paper will allow others a better understanding of our replication research and will also enable others to adapt our methodological techniques into their research.

Keywords: replication, methodology, materials, trust, perceived risk, ease of use, usefulness, familiarity, satisfaction

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1 Participants

We were interested in male and female participants over 18 years of age, who were either students or employees. We successfully recruited a diverse population. Two hundred forty participants from a Southwest Texas University filled out the questionnaires, with 55.8% of the responses from females. The average age was 23.7 years old, and the standard deviation was 8.44 years. Most of the respondents were Hispanic (65%), with white (26%), and other (9%), comprising the next highest categories. Only 18.75% of the respondents had only completed high school, 20.42% completed a 2-year college degree, 51.25% completed a 4-year college degree, 5% completed a master's degree, 2% completed a doctoral degree, and 2.5% were missing. Concerning employment, 20% were full time, 49% were part-time, and 31.3% were unemployed. On average, most participants had worked 5.6 years. Gender, race, educational level, and age served as control variables.

2 Procedure

The recruiting method and consent form were the same for all participants. Participants were recruited from classes at a Southwest Texas University. The recruiter would enter the class and explain to the participants that participation was completely voluntary, and they could stop taking the survey at any time. The participants were told that the estimated time to complete the survey was 15 minutes. The recruiter ensured the participants anonymity of their responses due to the data being de-identified before it was analyzed. Additionally, participants were told that the data would be stored on a secure database that was password protected and could only be accessed by the principal investigator. They were invited to contact the principal investigator and IRB if they had any questions. Once the participants signed the consent form, they were given a copy for their records.

Participants then were asked to fill out a survey to answer questions about their perceptions on personal cloud computing. The definition of personal cloud computing was provided, along with an example of it being similar to their Dropbox or Google Drive experiences. They were invited to fill out the survey in either paper or online formats. We found that participants' responses increased if the survey was conducted in paper format because they were a captive audience with less potential for distractions in comparison to the online environment.

3 IRB Approval

The IRB approval verification was written as follows: This research study has been reviewed and approved by the Institutional Review Board (IRB) at XXXXXXX. For questions regarding your rights as a research participant, or if you have complaints, concerns, or questions about the research, you may contact XXXXXXXX Institutional Review Board director Dr. XXXXXX at XXXX@ollusa.edu, XXX-XXX-XXXX ext. XXXX. Thank you for all your help.

4 Instructions

The instructions for the survey were written as follows: The following survey is going to ask you questions concerning your personal cloud computing use such as Dropbox. This survey is completely anonymous and no personal identifiable information will be reported. Please answer each question as honestly as you can, there are no right or wrong answers. If you have any questions or concerns, please feel free to contact, Dr. Moqbel at XXX-XXX-XXXX (email: XXXXXXX@XXX.edu).

5 Survey

The measures for perceived ease of use and usefulness were validated from prior studies (Venkatesh & Morris, 2000; Wu & Wang, 2005). The items for trust, perceived risk, and familiarity were based on Gefen, Karahanna, and Straub (2003). The intention to use constructs were from (Agarwal & Karahanna, 2000) and Davis, Bagozzi, and Warshaw (1992). Satisfaction with personal cloud were based on Bhattacherjee (2001). Below are the survey constructs that were used (Note that items for additional constructs that were tested for the purposes of other research have been removed to avoid confusion).

The items below were answered on a Likert-type scale ranging from "1 – Very strongly disagree" to "7 – Very strongly agree". The intervening points were also anchored.

Trust

TRUST1: Based on my experience, personal cloud computing companies are honest
TRUST2: Based on my experience, personal cloud computing companies care about their customers
TRUST3: Based on my experience, personal cloud computing companies provide good service
TRUST4: Based on my experience, personal cloud computing companies are trustworthy

5.1 Perceived Familiarity

FAM1: I am familiar with personal cloud computing (such as Dropbox).
FAM2: I know personal cloud computing because I use it.
FAM1: I am aware of cloud computing.

Perceived Risk

RISK1: In general, it would be risky to keep my personal information on personal cloud
RISK2: There would be high potential for loss associated with keeping personal information on personal cloud
RISK3: There would be too much uncertainty associated with keeping personal information on personal cloud
RISK4: Keeping my personal information on personal cloud would involve many unexpected problems

Intention to Use

INTENT1: I intend to continue keeping my personal information on personal cloud
INTENT2: I plan continuing to use personal cloud to keep my files
INTENT3: I expect my keeping of personal information in the personal cloud to continue in the future

Perceived Ease of Use

PEOU1: I think learning to use personal cloud computing tools is easy
PEOU2: I think becoming skillful at using personal cloud computing tools is easy
PEOU3: I think using personal cloud computing tools is easy

Perceived Usefulness

PU1: Using personal cloud computing tools would improve my performance
PU2: Using personal cloud computing tools would increase my productivity
PU3: Using personal cloud computing tools would enhance my effectiveness
PU4: Using personal cloud computing tools would make it easier for me to do my work
PU5: I think using personal cloud computing tools is very useful for me

Satisfaction

The question "How do you feel about your overall experience with personal cloud computing tools' use?" was provided, based on differing Likert-type scales ranging from:

SAT1: "1 = Very dissatisfied" to "7 = Very satisfied"
SAT2: "1 = Very displeased" to "7 = Very pleased"
SAT3: "1 = Very frustrated" to "7 = Very contented"
SAT4: "1 = Absolutely terrible" to "7 = Absolutely delighted"

The additional questions below were not answered on a Likert-type scales.
- Age: Years
- Ethnicity: (White, Hispanic [Hisp], Asian [Asia], African American [Afric] - dummy variables were created for each group where the existence of the variable = 1 and the absence = 0)
- Gender: (Male = 1/Female = 0)
- Education: (High School, 2-year college, 4-year college, Master, Doctorate)
- Years of Work Experience [Exper]: Years
- Job Type: (Full-time [FulTim]/Part-time [PartTim]/Unemployed [NoWork]- dummy variables were created for each group where the existence of the variable = 1 and the absence = 0)

References

Agarwal, R., & Karahanna, E. (2000). Time flies when you're having fun: Cognitive absorption and beliefs about information technology usage. *MIS Quarterly, 24*(4), 665-694.

Bhattacherjee, A. (2001). Understanding information systems continuance: an expectation-confirmation model. *MIS Quarterly, 25*(3), 351-370.

Davis, F. D., Bagozzi, R., & Warshaw, P. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology, 22*(14), 1111-1132.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly, 27*(1), 51-90.

Moqbel, M., & Bartelt, V. (2015). Consumer acceptance of personal cloud: integrating trust and risk with the technology acceptance model. *AIS Transactions on Replication Research, 1*(1), 1-5.

Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce, 7*(3), 101-134.

Venkatesh, V., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly, 24*(1), 115-139.

Wu, J., & Wang, S.-C. (2005). What drives mobile commerce?: An empirical evaluation of the revised technology acceptance model. *Information & management, 42*(5), 719-729.

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Murad Moqbel is Assistant Professor of Health Information Management and Health Informatics at the University of Kansas Medical Center. He holds a Ph.D. degree in International Business Administration and Management Information Systems from Texas A&M International University. He received both a B.S. degree with honors in Business Administration and Computer Information Systems and a MBA with Information Systems concentration from Emporia State University. He is in the editorial board of the *International Journal of e-Collaboration* and *Information Processing & Management Journal*. He won best student paper award at the *Southwest Decision Science Conference* 2012. He has authored and co-authored several papers that appeared in: *IEEE Transactions on Professional Communication Journal, Journal of Systems and Information Technology, Information Technology and People, AIS Transaction on Replication Research, International Journal of Virtual Communities and Social Networking,* the proceedings of the *International Conference in Information Systems (ICIS),* and *Americas Conference on Information Systems (AMCIS).* His research interests focus on the interaction between human behavior and information technologies including social media, emerging technologies and Health IT, information security and privacy, and international business.

Valerie Bartelt is an Assistant Professor in the Business, Information, and Analytics Department at the University of Denver. She received a Ph.D. in information systems, a M.S. in business, and a M.S. in immersive mediated environments from Indiana University. She is a recipient of a $775,775 Human Resources and Services Administration (HRSA) grant for implementing an health information exchange system in rural health care facilities located in South Texas. Her work has been published in several journals including *MIS Quarterly, Proceedings of the National Academy of Sciences, and Journal of Management Information Systems.* Her research has also been noted in several media outlets including *Reuters, Financial Times, The New York Times, Forbes,* and *Bloomberg.* Valerie's research interests primarily involve information communication technologies in virtual teams, neuro-IS, and issues surrounding technology use and adoption.