REFERENCES

Aïmeur, E., Hage, H., & Onana, F. S. M. 2012. "Anonymous credentials for privacy-preserving e-learning". *Proceedings of International MCETECH Conference on e-Technologies*. IEEE. p 70-80

Ajzen, I. 1991. "The theory of planned behavior". *Organizational behavior and human decision processes*. Vol. 50. No. 2. P. 179-211.

Akande, A. O., & Van Belle, J.-P. 2014. "Cloud computing in higher education: a snapshot of software as a service". *Proceedings of the 6th International Conference on Adaptive Science & Technology (ICAST)*. IEEE. p. 1-5

Al-Jaber, Z. 1996. "The leadership requirements of secondary school principals in Kuwait: a post-invasion analysis". *Journal of Educational Administration*. Vol. 34. No. 4. p. 24-38.

Alharthi, A., Yahya, F., Walters, R. J., & Wills, G. 2015. "An overview of cloud services adoption challenges in higher education institutions". *Emerging Software as a Service and Analytics 2015 Workshop (ESaaSA 2015)*. p. 102-109.

Alsaeed, N., & Saleh, M. 2015. "Towards Cloud Computing Services for Higher Educational Institutions" Concepts & Literature Review". *Proceedings of the Cloud Computing (ICCC), 2015 International Conference*. IEEE. p. 1-7.

Alwi, N. H. M., & Fan, I.-S. 2010. "E-learning and information security management". *International Journal of Digital Society (IJDS)*. Vol. 34. No. 4p 1. 148-156.

Anderson, J. C., & Gerbing, D. W. 1988. "Structural equation modeling in practice: A review and recommended two-step approach". *Psychological bulletin*. Vol. 103. No. 3. p. 411-423.

Arpaci, I., Kilicer, K., & Bardakci, S. 2015. "Effects of security and privacy concerns on educational use of cloud services". *Computers in Human Behavior journal (Elsevier)*. Vol. 45. No. 2015. p. 93-98.

Awang, Zainudin. 2011. *A handbook on SEM: Structural equation modeling*. Malaysia, Kelantan. Universiti Teknologi MARA.

Babu, S. R., Kulkarni, K. G., & Sekaran, K. C. 2014. "A generic agent-based cloud computing architecture for e-learning". *Proceedings of the 48th Annual Convention of Computer Society of India*. Springer. p. 523-533

Bachman, Lyle F. 2004. *Statistical analyses for language assessment*. United Kingdom; Cambridge. the press syndicate op the university of Cambridge.

Badie, N., Che Hussin, A., & Yadegaridehkordi, E. 2013. "The policy as repudiation factors of adopting cloud computing in university administration". *Journal of Research and Innovation in Information Systems*. Vol. 3 No. 1. p.54-63

Bagozzi, R. P., Yi, Y., & Phillips, L. W. 1991. *"Assessing construct validity in organizational research". Journal of Administrative science quarterly*. Vol. 36. No. 3. p.421-458.

Ball, A. L., Ramim, M. M., & Levy, Y. 2015. "Examining users' personal information sharing awareness, habits, and practices in social networking sites and e-learning systems". *Online Journal of Applied Knowledge Management*. Vol. 3. No. 1. p.180-207.

Banisar, D. 2011. "The right to information and privacy: balancing rights and managing conflicts". World Bank Institute Governance Working Paper. ARTICLE 19, Global Campaign for Free Expression. 10 March 2011.

Baumeister, H. 2006. "Networked Learning in the Knowledge Economy-A Systemic Challenge for Universities". *European Journal of Open, Distance and E-Learning*. Vol.8 No.1 p. 2-22

Begum, S. H., Sheeba, T., & Rani, S. N. 2013. "Security in cloud based e-learning". *International Journal of Advanced Research in Computer Science and Software Engineering*. Vol.3. No.1. p. 270-278.

Bélanger, F., & Crossler, R. E. 2011. "Privacy in the digital age: a review of information privacy research in information systems". *MIS quarterly*. Vol.35. No.4. p. 1017-1042.

Bentler, P. M. 1990. "Comparative fit indexes in structural models". *Psychological bulletin*. Vol.107. No.2. p 238-246.

Bentler, P. M., & Bonett, D. G. 1980. "Significance tests and goodness of fit in the analysis of covariance structures". *Psychological bulletin Journal*. Vol.88. No.3. p 588.

Bollen, K. A. 1989. "A new incremental fit index for general structural equation models". *Sociological Methods & Research journal*. Vol.17. No.3. p. 303-316.

Bollen, K. A., & Long, J. S. 1993. "Testing structural equation models". *Sage focus editions*. Vol.154. p 294-294

Browne, M. W., Cudeck, R., Bollen, K. A., & Long, J. S. 1993. Alternative ways of assessing model fit. *Sage focus editions*. Vol. 145. p. 136-136.

Bryman, A. 2003. *Quantity and quality in social research*. Canada: Routledge.

Buchanan, T., Paine, C., Joinson, A. N., & Reips, U. D. 2007. "Development of measures of online privacy concern and protection for use on the Internet". *Journal of the American Society for Information Science and Technology*. Vol.58. No.2. p. 157-165.

Burda, D., & Teuteberg, F. 2014. "The role of trust and risk perceptions in cloud archiving—Results from an empirical study". *The Journal of High Technology Management Research*. Vol. 25. No.2. p. 172-187.

Butler, B. 2016. accessed: 8 July 2017. "Which is cheaper: Public or private clouds?" Network World. <https://www.networkworld.com/article/3131942/cloud-computing/which-is-cheaper-public-or-private-clouds.html>.

Byrne, B. M. 1998. *Structural equation modeling with LISREL, PRELIS, and SIMPLIS: Basic concepts, applications, and programming*. Personnel Psychology: Durham. Vol. 52. (3).

Carson, J. S. 1986. "Simulation series. 2. Convincing users of models validity is challenging aspect of modelers job". *Industrial Engineering journal*. Vol.18. No.6. p.74-78.

Cattell, R. B. 1966. "The scree test for the number of factors". *Multivariate behavioral research*. Vol.1. No. 2. p. 245-276.

Cespedes, F. V., & Smith, H. J. 1993. "Database marketing: New rules for policy and practice". Sloan Management Review. Vol.34. No. 4. p. 7.

Chau, P. Y. 1997. "Reexamining a model for evaluating information center success using a structural equation modeling approach". *Decision Sciences*. Vol.28. No. 2. p. 309-334.

Chen, D., & Zhao, H. 2012. Data security and privacy protection issues in cloud computing. *Proceedings of the International Conference on Computer Science and Electronics Engineering*. IEEE. p. 647-651.

Chen, Y., & He, W. 2013. "Security risks and protection in online learning: A survey". *The International Review of Research in Open and Distributed Learning*. Vol.14. No. 5. p. 107-129.

Chen, Z., & Yoon, J. 2010. "IT auditing to assure a secure cloud computing". *Proceedings of the 6th World Congress on Services (SERVICES-1)*. IEEE. p. 253-259.

Chow, R., Golle, P., Jakobsson, M., Shi, E., Staddon, J., Masuoka, R., & Molina, J. 2009. "Controlling data in the cloud: outsourcing computation without outsourcing control". Proceedings *of the 2009 ACM workshop on Cloud computing security*.

Chuang, I., Li, S.-H., Huang, K.-C., & Kuo, Y.-H. 2011. "An effective privacy protection scheme for cloud computing". *Proceedings of the 13th International Conference of Advanced Communication Technology (ICACT)*. p. 260-265

Clarke, R. 1999. "Internet privacy concerns confirm the case for intervention". *Communications of the ACM*. Vol.42. No. 2. p. 60-67.

Cooper, D. R., & Schindler, P. S. 2003. *Business research methods*. New York: McGraw-Hill Irwin.

John W, Creswell. 2012. *Educational research: Planning, conducting, and evaluating quantitative*. United States of America. Prentice Hall Pearson Education.

Creswell, J. W. and Plano Clark. 2007. "*Designing and conducting mixed methods research*". Czech Republic: Wiley Online Library. ISBN 1 74175 017 2.

De Vaus, D. 2013. *Surveys in social research*. Australia: Routledge.

Denzin, N. K., & Lincoln, Y. S. 2011. The SAGE handbook of qualitative research. United States of America: SAGE Publications. p. 3

Diamantopoulos, A. 1999. "Viewpoint-Export performance measurement: Reflective versus formative indicators". *International Marketing Review*. Vol.16. No. 6. p. 444-457.

Dinev, T., & Hart, P. 2006. "An extended privacy calculus model for e-commerce transactions". *Information Systems Research*. Vol.17. No. 1. p. 61-80.

Dunfee, T. W., Smith, N. C., & Ross Jr, W. T. 1999. "Social contracts and marketing ethics". *The Journal of Marketing JSTOR*. Vol.63. No. 7. p. 19.

Embi, M.A., 2011. *E-Learning in Malaysian higher education institutions: Status, trends, & challenges*. Malaysia: Department of Higher Education Ministry of Higher Education

Erturk, E., & Iles, H. R. E. 2015. "Case study on cloud based library software as a service" *Journal of Emerging Trends in Computing and Information Sciences*. October 2015. ISSN 2079-8407

Fernandez, A., Peralta, D., Herrera, F., & Benítez, J. M. (2012). "An overview of e-learning in cloud computing". *In Workshop on Learning Technology for Education in Cloud (LTEC'12)*. Springer Berlin Heidelberg. p. 35-46.

Field, A. 2009. *Discovering statistics using SPSS*. United Kingdom: Sage publications.

Fornell, C., & Larcker, D. F. 1981. "Evaluating structural equation models with unobservable variables and measurement error". *Journal of Marketing Research*.Vol.18. No. 1. p. 39-50.

Foster, Ian, Yong Zhao, Ioan Raicu, and Shiyong Lu. *2008.* "Cloud computing and grid computing 360-degree compared." *In Grid Computing Environments Workshop, GCE'08.* pp. 1-10.

Furnell, S., & Karweni, T. 2001. "Security issues in online distance learning". *Journal of Vine, Security issues in Online Distance Learning*. Vol.31. No. 2. p. 28-35.

Gaebel, M. 2013. MOOCs–Massive Open Online Courses EAU Occasional. European University Association (EUA). < http://www. eua. Be>. accessed 21 June 2016.

Gashami, J. P., Chang, Y., Rho, J. J., & Park, M.-C. 2014. "Understanding the Trade-Off between Privacy Concerns and Perceived Benefits in SaaS Individual Adoption". *The Pacific Asia Conference on Information Systems PACIS.*

Gellman, R. 2012. "Privacy in the clouds: risks to privacy and confidentiality from cloud computing". *The Proceedings of the World privacy forum*. 23February 2009.

George, D., & Mallery, P. 2003. "Reliability analysis. SPSS for Windows, step by step: a simple guide and reference". *Boston: Allyn & Bacon*. P. 222-232.

Ghazizadeh, A., 2012. "Cloud computing benefits and architecture in e-learning". *Proceedings of the Seventh International Conference in Wireless, Mobile and Ubiquitous Technology in Education (WMUTE)*. p. 199-201.

Ghorbel, A., Ghorbel, M., & Jmaiel, M. 2017. "Privacy in cloud computing environments: a survey and research challenges". *The Journal of Supercomputing*. Vol.73. No. 6. p. 2763-2800.

Golafshani, N. 2003. "Understanding reliability and validity in qualitative research". *The qualitative report, University of Toronto, Toronto, Ontario, Canada*. Vol.8. No. 4. p. 597-606.

Goodburn, M. A., & Hill, S. 2010. "The Cloud Transforms Business". *Financial Executive IEEE*. Vol. 26. No. 10. p. 34.

Goodhue, D. L., & Straub, D. W. 1991. "Security concerns of system users: a study of perceptions of the adequacy of security". *Information & Management*. Elsevier. Vol.20. No. 1. p. 13-27.

Google. 2015. Google Transparency Report. https://transparencyreport.google.com/ accessed: 14 September 2015.

Grajek, S. 2012. "Top-Ten IT Issues" 2012. EDUCAUSE Review. Vol. 47. No. 3. p. 36

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. 2006. *Multivariate data analysis*: United States of America, New Jersey: Pearson Prentice Hall

Upper Saddle River, NJ.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. 2010. *Multivariate data analysis*. United States of America, New Jersey: Pearson Education

Harb, I. 2008. *Higher Education and the Future of Iraq*. United States. United States Institute of Peace Special Report 195.

Harwell, M. R. 2011. *Research design in qualitative/quantitative/mixed methods*. Los Angeles, CA. The Sage handbook for research in education.

Hinton, P. R., McMurray, I., & Brownlow, C. 2004. *SPSS Explained*. London, UK: Routledge.

Holmes-Smith, P., Coote, L., & Cunningham, E. 2006. Structural equation modeling: From the fundamentals to advanced topics. Melbourne. SREAMS.

Houston, M. B. 2004. "Assessing the validity of secondary data proxies for marketing constructs". *Journal of Business Research*. Vol.57. No. 2. p. 154-161.

Humphreys, S. 2011." Navigating the dataverse: privacy, technology, human rights". Discussion Paper of The International Council on Human Rights Policy (IC HRP).

Hustinx, P. 2010. "Protection of Personal Data in a Digitalized World". *Observateur de Bruxelles*. Vol. 82. October 2010 p. 8-10.

Ibeh, K., Brock, J. K.-U., & Zhou, Y. J. 2004. "The drop and collect survey among industrial populations: theory and empirical evidence". *Industrial Marketing Management*. Vol. 33. No. 2. p. 155-165.

Ibrahim, M. S., Salleh, N., & Misra, S. 2015. "Empirical studies of cloud computing in education: a systematic literature review". *Proceedings of the International Conference on Computational Science and Its Applications*. Springer International Publishing Switzerland. p. 725–737.

ICL, I. C. L. 2014. Students' Data Privacy: How Far it is Protected? (Ethical Perspective). *Proceedings of the International Conference on Interactive Collaborative Learning (ICL)*. IEEE. 03-06 December 2014. P. 619-622

Joreskog, K. G., & Sorbom, D. 1984. "LISREL VI: User's guide". Mooresville, IN: Scientific Software. JoreskogLISREL-VI User's Guide1984.

Kahiigi, E. K., Ekenberg, L., Hanson, H., Danielson, M., & Tusubira, F. 2008. "Explorative Study Of E-Learning in Developing Countries: A Case of The Uganda Education System". *Proceedings of the International Conference e-Learning (IADIS)*. p. 194-199

Kambourakis, G. 2013. "Security and Privacy in m-Learning and Beyond: Challenges and State-of-the-art". *International Journal of u-and e-Service, Science and Technology*. Vol. 6. No. 3. p. 67-84.

Kassim, S. S. M., Salleh, M., & Zainal, A. 2015. *Cloud Computing: A General User's Perception and Security Awareness in Malaysian Polytechnic*. Switzerland. Springer International Publishing 131-140

Katzan Jr, H. 2011. "On the privacy of cloud computing". *International Journal of Management & Information Systems (IJMIS)*. Vol.14 No.2. ISSN 2157-9628

Kawulich, B. B. 2005. "Participant observation as a data collection method". *Proceedings of the Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*. Vol. 6. No.2

Khadijah M. Alzhrani, F. S. A. 2016. "Ensuring Security and Privacy for Cloud-based E-Services". *International Journal of Computer Applications*. September 2016: Vol.149 No.11. p. 0975 – 8887.

Kim, H. 2013. "E-learning Privacy and Security Requirements: Review". *Journal of Security Engineering*. Vol. 10. No. 5. p. 591-600.

Kline, R. B. 2011. Principles and practice of structural equation modeling. United States of America: Guilford publications.

Ko, R. K., Jagadpramana, P., Mowbray, M., Pearson, S., Kirchberg, M., Liang, Q., & Lee, B. S. 2011. "Trust Cloud: A framework for accountability and trust in cloud computing". *Proceedings of the 2nd IEEE Cloud Forum for Practitioners (IEEE ICFP 2011)*. Washington DC, USA. 7-8. July. 2011.

Kshetri, N. 2013. "Privacy and security issues in cloud computing: The role of institutions and institutional evolution. Telecommunications". *Journal of Telecommunications Policy Science Direct, Elsevier Ltd*. 37. No. 4. p. 372-386.

Laisheng, X., & Zhengxia, W. 2011. "Cloud computing: a new business paradigm for E-learning". *Proceedings of the Measuring Technology and Mechatronics Automation (ICMTMA), 2011 Third International Conference*. p. 716-719.

Lamba, H. S., & Singh, G. 2011. "Cloud Computing Future Framework for e-management of NGO's". *International Journal of Advancements in Technology*. Vol. 2. No 3. p. 400-407

Lar, S.-u., Liao, X., & Abbas, S. A. 2011. "Cloud computing privacy & security global issues, challenges, & mechanisms". *Proceedings of the 6th International ICST Conference on Communications and Networking (CHINACOM)*. IEEE. China. P. 1240-1245

Leswing, K. accessed: 20 July 2017 "Yahoo confirms major breach — and it could be the largest hack of all time". Business Insider. <http://uk.businessinsider.com/yahoo-hack-by-state-sponsored-actor-biggest-of-all-time-2016-9?r=US&IR=T>.

Liu, W. 2012. "Research on cloud computing security problem and strategy". *Proceedings of the Consumer Electronics, Communications and Networks 2nd International Conference (CECNet)*. IEEE. p. 1216-1219.

Lu, Q., Xu, Y., Huang, R., Chen, Y., & Chen, G. 2011. "Can cloud computing be used for planning? an initial study". *Proceedings of the Third IEEE International Conference on Cloud Computing Technology and Science (CloudCom)*. IEEE. p. 1-8.

Malhotra, N. K., Kim, S. S., & Agarwal, J. 2004. "Internet users' information privacy concerns (IUIPC): the construct, the scale, and a causal model". *Journal of Information Systems Research*. Vol. 15. No 4. p.337.

Marsh, H. W., & Hocevar, D. 1985. "Application of confirmatory factor analysis to the study of self-concept: First-and higher order factor models and their invariance across groups". *Psychological bulletin Journal*. Vol. 7. No 3. p 562.

Mather, T., Kumaraswamy, S., & Latif, S. 2009. *"Cloud security and privacy: an enterprise perspective on risks and compliance"*. United States of America: O'Reilly Media, Inc.

May, M., & George, S. 2011. "Using students' tracking data in E-learning: Are we always aware of security and privacy concerns?". *Proceedings of the 3rd International Communication Software and Networks Conference (ICCSN)*. IEEE. p.10-14

Mell, P., & Grance, T. 2011. "The NIST definition of cloud computing". The National Institute of Standards and Technology Computer Security Division, Information Technology Laboratory,National Institute of Standards and Technology,Gaithersburg.

Meske, C., Stieglitz, S., Vogl, R., Rudolph, D., & Öksüz, A. 2014. "Cloud Storage Services in Higher Education – Results of a Preliminary Study in the Context of the Sync & Share-Project in Germany". *Proceedings of the International Conference on Learning and Collaboration Technologies*. Springer-Verlag Berlin Heidelberg. p. 161-171

Milberg, S. J., Smith, H. J., & Burke, S. J. 2000. "Information privacy: Corporate management and national regulation". *Organization science Journal*. Vol. 11. No 1. p. 35-57.

Milne, G. R., & Gordon, M. E. 1993."Direct mail privacy-efficiency trade-offs within an implied social contract framework". *Journal of Public Policy & Marketing*. P. 206-215.

MOHE. 2015. Public Institutions of Higher Education (PIHE). Malaysia. < http://www.mohe.gov.my/portal/en/institusi/ipta.html>. accessed: 30 September 2015

Mokhtar, S. A., Ali, S. H. S., Al-Sharafi, A., & Aborujilah, A. 2014. "Organizational Factors in the Adoption of Cloud Computing in E-Learning". *Proceedings of the 3rd International Conference on Advanced Computer Science Applications and Technologies.* p. 188-191

Moore, G. C., & Benbasat, I. 1991. "Development of an instrument to measure the perceptions of adopting an information technology innovation". *Information systems research Journal*. Vol. 2. No 3. p. 192-222.

Mouratidis, H., Islam, S., Kalloniatis, C., & Gritzalis, S. 2013. "A framework to support selection of cloud providers based on security and privacy requirements". *Journal of Systems and Softwar*e. Vol. 86. No 9. p. 2276-2293.

Mowbray, M., & Pearson, S. 2012. "Protecting personal information in cloud computing". *Proceedings of the OTM Confederated International Conferences on the Move to Meaningful Internet Systems".* Springer-Verlag Berlin Heidelberg. p. 475–491

Mowbray, M., Pearson, S., & Shen, Y. 2012. "Enhancing privacy in cloud computing via policy-based obfuscation". *The Journal of Supercomputing*. Vol. 62. No 2. p.267-291.

Myers, M. D. 1997. "Qualitative research in information systems". *Management Information Systems Quarterly Journal*. Vol. 21. p. 241-242.

Netemeyer, R. G., Bearden, W. O., & Sharma, S. 2003. *Scaling procedures: Issues and applications*. International Educational and professional. Sage Publications.

Norusis, M. J. 1992. *SPSS for Windows: Professional Statistics User's Guide*. The ACM Digital Library

Bernstein,I.H. and Nunnally, J.C., 1994. "Psychometric theory". Journal of Marketing. New York: Vol.56. p.83-95

Olokunde, T., & Misra, S. 2015. "Towards a Cloud-Based Data Storage Medium for E-learning Systems in Developing Countries". *Proceedings of the Intelligence in the Era of Big Data: 4th International Conference on Soft Computing, Intelligent Systems, and Information Technology (ICSIIT)*. Bali, Indonesia. March 11-14, 2015. Vol. 516. p. 457.

Open-Learning. 2016. Malaysia MOOCs. < https://www.openlearning.com/malaysiamoocs>. accessed 17August 2017

Oppenheim, A. 1992. *Questionnaire Design, Interviewing and Attitude Measurement.* London: Wiley Online Library. p. 38

Pearson, S. 2009, May. "Taking account of privacy when designing cloud computing services". *Proceedings of the Workshop on Software Engineering Challenges of Cloud Computing*. IEEE Computer Society. p. 44-52.

Peter, J. P. 1981. "Construct validity: A review of basic issues and marketing practices". *Journal of marketing research*. Vol. XVIII. May 1981. p. 133-145.

Peter, J. P., & Churchill Jr, G. A. 1986. "Relationships among research design choices and psychometric properties of rating scales: a meta-analysis ". *Journal of Marketing Research*. JSTOR. Feb 1986. p. 1-10.

Phelan, C., & Wren, J. 2006. Exploring reliability in academic assessment. UNI Office of Academic Assessment.

Pocatilu, P., Alecu, F., & Vetrici, M. 2010. "Measuring the efficiency of cloud computing for e-learning systems". *WSEAS Transactions on Computers Journal*. Vol. 9, No 1. p. 42-51.

Google. 2015. Google Privacy Policy. <https://www.google.com/policies/privacy/>. accessed 19 August 2015

Polit, D. F., & Beck, C. T. 2004. *Nursing research: Principles and methods*. United States of America: Lippincott Williams & Wilkins.

Popović, K. 2010. "Cloud computing security issues and challenges". *Proceedings of the 33rd international convention*. IEEE. 24 May 2010. p. 344-349.

Puthal, D., Sahoo, B., Mishra, S., & Swain, S. 2015. "Cloud computing features, issues, and challenges: a big picture". *Proceedings of the International Conference on Computational Intelligence & Networks (CINE 2015)*. IEEE. p. 116-123.

Quah, A. M. Y., & Röhm, U. 2013. "User awareness and policy compliance of data privacy in cloud computing". *Proceedings of the First Australasian Web Conference (AWC 2013)*. Adelaide, Australia. Vol. 144. p. 3-12.

Razak, S. A. 2009. "Cloud computing in Malaysia universities". *Proceedings of the* Conference on Innovative Technologies in Intelligent Systems and Industrial Applications (CITISIA). Monash University. Malaysia, 25th & 26th July 2009.

Rezaei, H., Karimi, B., & Hosseini, S. J. 2016. "Effect of cloud computing systems in terms of service quality of knowledge management systems". *Lecture Notes on Software Engineering*. Feb 2016. Vol. 4. No 1. p. 73.

Sahu, S. R., & Singhal, M. 2002. "E-learning: A Myth or Reality". Workshop on Information Resource Management. Bangalore. 13th-15th. March. 2002.

Salleh, M. F. M. 2008. E-learning issues in Malaysia higher education. Malaysia. Fakulti Pendidikan Kolej Sains & Teknologi Universiti Teknologi Malaysia International Campus.

Sandeen, C. 2013. " Assessment's place in the new MOOC world". Research & practice in assessment Journal. Vol. 8.

Sasikala, P. 2013. "Research challenges and potential green technological applications in cloud computing". *International Journal of Cloud Computing*. Vol. 2. No 1. p. 1-19.

Sasikala, S., & Prema, S. 2011. "Massive centralized cloud computing (MCCC) exploration in higher education". *Proceedings of the International Conference on e-resources in higher education*. Bharathidasan University. Tiruchirappalli. 19th & 20th Feb. 2010.

Saunders, M. L., & Lewis, P. 2000. P. and Thornhill, A. 2009. *Research Methods for Business Students. London*. Financial Times Prentice Hall Inc.

Sekaran, U., & Bougie, R. 2011. *Research methods for business: A skill-building approach*. United States of America Taylor & Francis.

Shakeabubakor, A. A., Sundararajan, E., & Hamdan, A. R. 2015. "Cloud Computing Services and Applications to Improve Productivity of University Researchers". *International Journal of Information and Electronics Engineering*. Vol. 5. No 2. p. 153

Shankarwar, M. U., & Pawar, A. V. 2015. "Security and Privacy in Cloud Computing: A Survey". *Proceedings of the 3rd International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA)*. Springer International Publishing Switzerland. Vol. 2.

Sheehan, K. B., & Hoy, M. G. 2000. "Dimensions of privacy concern among online consumers". *Journal of public policy & marketing*. Vol. 19. No 1. p. 62-73.

Shimba, F. 2010. "Cloud computing: Strategies for cloud computing adoption". (Master Thesis). Dublin Institute of Technology.

Singh, S., & Goel, N. 2015. "Efficient Framework Approach to Extract Privacy Issues in Cloud Computing". *Proceedings of the Fifth International Conference on Communication Systems and Network Technologies (CSNT)*. IEEE. 2015. p. 698-701.

Smith, H. J., Dinev, T., & Xu, H. 2011. "Information privacy research: an interdisciplinary review". MIS quarterly. Vol. 35. No 4. p. 989-1016.

Smith, H. J., Milberg, S. J., & Burke, S. J. 1996. "Information privacy: measuring individuals' concerns about organizational practices". *MIS quarterly*. June 1996. p. 167-196.

Stamatis, D. H. 2002. *Six sigma and beyond: design for six sigma*. United States of America: CRC Press. p. 164

Stewart, K. A., & Segars, A. H. 2002. "An empirical examination of the concern for information privacy instrument". *Journal of Information Systems Research*. Vol. 13. No 1. p. 36-49.

StudyMalaysia. 2015. "The Malaysian Higher Education System - An Overview". Study malaysia.com. https://www.studymalaysia.com/education/higher-education-in-malaysia/the-malaysian-higher-education-system-an-overview. accessed: 16 September 2016

Svantesson, D., & Clarke, R. 2010. "Privacy and consumer risks in cloud computing". *Computer Law & Security Review, Bond University*. Vol. 26. No 4. p. 391-397.

Tabachnick, B. G., Fidell, L. S., & Osterlind, S. J. 2001. *Using multivariate statistics*. Pearson.

Tan, D. R. 1999. *Personal privacy in the information age: Comparison of internet data protection regulations in the United Stats and European Union*". Loyola Marymount University and Loyola Law Schoo lDigital Commons at Loyola Marymount University and Loyola Law School. LJ, 21: 661

Tanaka, J. S., & Huba, G. J. 1985. "A fit index for covariance structure models under arbitrary GLS estimation". *British Journal of Mathematical and Statistical Psychology*. Vol. 38. No 2. p. 197-201.

Tashkandi, A. N., & Al-Jabri, I. M. 2015. "Cloud computing adoption by higher education institutions in Saudi Arabia: an exploratory study". *Cluster Computing Springer*. Vol. 18. No 4. p. 1527-1537.

UN , A. 1948. *Universal declaration of human rights. United Nations*. <http://www.un.org/en/udhrbook/pdf/udhr_booklet_en_web.pdf>. accessed 22 February. 2016.

Vaquero, L. M. 2011. "EduCloud: PaaS versus IaaS cloud usage for an advanced computer science course". *IEEE Transactions on Education*. Vol. 54. No 4. p. 590-598.

Waqar, A., Raza, A., Abbas, H., & Khan, M. K. 2013. "A framework for preservation of cloud users' data privacy using dynamic reconstruction of metadata". *Journal of Network and Computer Applications*. Vol. 36. No 1. p. 235-248.

Weippl, E. R., & Tjoa, A. M. 2005. "Privacy in e-learning: how to implement anonymity". Vienna. Institute of Software Technology, Vienna University of Technology.IEEE

Wellington, J. 2015. *Educational research: Contemporary issues and practical approaches*. London Bloomsbury Publishing. p. 33

Westin, A. F. 1968. "Privacy and freedom". *Washington and Lee Law Review*". Vol. 25. No1. p. 166.

Wheaton, B., Muthen, B., Alwin, D. F., & Summers, G. F. 1977. "Assessing reliability and stability in panel models". *Sociological methodology Journal*. Vol. 18. No 1. p.84-136.

Widjaja, A. E., & Chen, J. V. 2012. "Using cloud computing service: a perspective from users' information security, privacy concern, and trust". Institute of International Management, National Cheng Kung University.

World-Education-Network. 2016. Malaysia as an International Educational Destination, World Education Network (WEN). http://www.malaysiaeducation.info/International-Students/index.html>. accessed 27 August 2016.

Xu, H. 2007. "The effects of self-construal and perceived control on privacy concerns". *Proceedings of the Twenty Eighth International Conference on Information Systems*. Montreal. 31. Dec 2007

Xu, H., Dinev, T., Smith, J., & Hart, P. 2011. "Information privacy concerns: linking individual perceptions with institutional privacy assurances". *Journal of the Association for Information Systems*. 1 Dec 2011. Vol. 12. No 12. p. 798.

Yahia, M., & Butler, D. 2015. "After the ARAB SPRING". Macmillan Publishers Limited. Vol. 520. No 7549. p. 604-607.

Yang, H.-L., & Miao, X.-M. 2008. Concern for information privacy and intention to transact online. *Proceedings of the 4th International Conference of Wireless Communications, Networking and Mobile Computing, 2008. WiCOM'08.*

Yousef, A. M. F., Chatti, M. A., Schroeder, U., & Wosnitza, M. 2014. "What drives a successful MOOC? An empirical examination of criteria to assure design quality of MOOCs". *Proceedings of the 14th International Conference on Advanced Learning Technologies (ICALT). IEEE.* p 44-48.

Zhang, N., Wang, C., & Xu, Y. "Privacy in online social networks." *Proceedings of the International Conference on Information Systems (ICIS 2011)*. p. 2252.

Zheng, S., Shi, K., Zeng, Z., & Lu, Q. 2010. The exploration of instrument of users' privacy concerns of Social Network Service. *Proceedings of the Industrial Engineering and Engineering Management Conference (IEEM)*, IEEE.

Zhao, G., Li, Z., Li, W., Zhang, H., & Tang, Y. 2012. "Privacy enhancing framework on PaaS". *International Conference on Cloud Computing and Service Computing*. IEEE. p. 131-137.

Zhou, M., Zhang, R., Xie, W., Qian, W., & Zhou, A. 2010. "Security and privacy in cloud computing: A survey". *Proceedings of the Sixth International Conference on Semantics, Knowledge and Grids*. IEEE. p. 105-112.

Zikmund, W., Babin, B., Carr, J., & Griffin, M. 2012. *Business research methods*. United States of America South-Western, Cengage Learning.

APPENDIX A:
QUESTIONNAIRE

UNIVERSITI SAINS ISLAM MALAYSIA
FACULTY OF SCIENCE AND TECHNOLOGY
Fakulti Sains dan Teknologi

An invitation to participant in a survey on

"Cloud-Based E-Learning Users' Information Privacy Concerns"

Dear Valued Respondent,

I am a PHD student of Faculty of Science & Technology, Islamic Science University of Malaysia (USIM), Nilai, Negeri Sembilan.

For your information, using cloud-based e-learning on universities has many benefits such as reducing IT complexity and cost, accessing the file storages, databases, educational resources, research applications and tools anywhere, anytime on demand. However, as more and more information of education institutions is dispersed in many locations even across the national borders. Concerns are beginning to grow about the privacy. Privacy is one of the main issues that delay the adoption of cloud computing technologies.

Therefore, my study intends to identify respondents' perception about factors that influence the privacy of cloud-based e-learning in Malaysian public universities. The findings from this study shall benefit to reduce the drawbacks of cloud computing and to express cloud-based e-learning adoption. The finding will also act as a guideline for cloud-based e-learning system adopting in education institutions. This research will encourage public universities in Malaysia to implement cloud-based e-learning system in order to minimize most of their IT issues. .
I would be very grateful if you could spare a few minutes of your valuable time to fill in the questionnaire since successful completion of this study is largely dependent upon obtaining an adequate and representative sample. Please be assured that any information provided in the survey will be strictly confidential and used for research purposes only.

If you have any inquiries, please do not hesitate to contact myself or my supervisor for further clarification.

THANK YOU VERY MUCH FOR YOUR PRECIOUS TIME AND CO-OPERATION

Researcher
Maher Abdulla AlmahdiAlghali
PhD Candidate
Faculty of Science & Technology, USIM
Mobile 0142239140
Email : maher.alghali@yahoo.com

Supervisor
Dr NajwaHayaatiMohdAlwi
Senior Lecturer
Faculty of Science & Technology, USIM
Tel : 606 7986423
Email : najwa@usim.edu.my

Consent Form
Study Title: Privacy in Cloud-based E-learning
Researcher: Maher Abdulla Almahdi Alghali

I have read the information contained in the letter/memo about the above titled study, which describes what I will be asked to do if I wants to participate in the study; and,

□ Yes – I would like to participate in the study

-OR-

□ No – I do not want to participate in the study.

Name _____ Date _____

Signature _____

Institution Name _____

This questionnaire attempts to identify factors that influence the privacy of cloud-based e-learning in Malaysian public universities.

Instructions: Please answer all questions below:

1	Gender	○ Male ○ Female
2	Qualification	○ Bachelor ○ Master ○ PHD
4	Job title	○ Staff ○ Lecture

I am interested in your opinion and perception on the privacy of cloud-based e-learning. Your participation in this study is appreciated.

Circle the Most Suitable Number to Your Opinion from the Following Scale **1 – Strongly disagree 2 – Disagree 3 – Somewhat disagree 4 – Neither agree or disagree 5 – Somewhat agree 6 – Agree 7 – Strongly agree**								
6	**Data Collection (Malhotra et al., 2004)**							
DC1	It will bother me if cloud-based e-learning system of my university asks me for personal information.	1	2	3	4	5	6	7
DC2	If cloud-based e-learning system asks me for personal information, I will think twice before providing it.	1	2	3	4	5	6	7
DC3	It will bother me to give personal information so many times to cloud-based e-learning system.	1	2	3	4	5	6	7
7	**Control (Malhotra et al., 2004)**							
CO1	User cloud-based e-learning privacy is really a matter of users' right to exercise control and autonomy over decisions about how their information is collected, used, and shared.	1	2	3	4	5	6	7
CO2	I believe that controlling of personal information lies at the main of my privacy.	1	2	3	4	5	6	7
CO3	I believe that cloud computing privacy is invaded when control is lost or unwillingly reduced as a result of a marketing transaction.	1	2	3	4	5	6	7
8	**Awareness (Malhotra et al., 2004)**							
AW1	My university should disclose the way the data are collected, processed, and used on the cloud-based e-learning system.	1	2	3	4	5	6	7
AW2	A good user cloud-based e-learning privacy policy should have clear and conspicuous disclosure.	1	2	3	4	5	6	7

AW3	It is very important that I am aware and knowledgeable about how my personal information will be used on the cloud-based e-learning system.	1	2	3	4	5	6	7
9	**Access (Smith et al., 1996)**							
AC1	My university should provide the users with access to all personal information on cloud-based e-learning system.	1	2	3	4	5	6	7
AC2	Cloud-based e-learning system of my university should comply with all user requests (Add, Modify, and Delete).	1	2	3	4	5	6	7
AC3	My university should ensure that all of users' information has been deleted in the cloud-based e-learning system.	1	2	3	4	5	6	7
10	**Compliance (New Development)**							
CM1	There are clear privacy compliance requirements govern the personal information in cloud-based e-learning system of my university.	1	2	3	4	5	6	7
CM2	There are clear applicable laws, regulations, standards, and contractual commitments that govern personal information in cloud-based e-learning system of my university.	1	2	3	4	5	6	7
CM3	The existing privacy compliance requirements in my university impacted by the move to the cloud.	1	2	3	4	5	6	7
11	**Storage (New Development)**							
ST1	I am concerned about where is the data of cloud-based e-learning system of my university stored in the cloud.	1	2	3	4	5	6	7
ST2	I am concerned if the data of cloud-based e-learning system of my university transferred to another cloud centre in another country.	1	2	3	4	5	6	7
ST3	I am concerned if the data of cloud-based e-learning system transferred without the knowledge of my universities.	1	2	3	4	5	6	7
ST4	I am concerned if the data of cloud-based e-learning system of my university commingled with data from other organizations that use the same cloud services provider.	1	2	3	4	5	6	7
12	**Retention (New Development)**							
RE1	It will be important to me how long cloud-based e-learning system data retained on the cloud is.	1	2	3	4	5	6	7
RE2	It is very important to me which retention policy governs personal information in the cloud-based e-learning system of my university.	1	2	3	4	5	6	7
RE3	It will be important to me who own the data; my university or the cloud services providers.	1	2	3	4	5	6	7
13	**Destruction (New Development)**							
DES1	I am concerned if the cloud services providers destroy my university data at the end of the retention period.	1	2	3	4	5	6	7
DES2	I am concerned that how my university ensures that its data is destroyed by the cloud service providers at the right point and is not available to other cloud users.	1	2	3	4	5	6	7
DES3	I am concerned that how my university know that the cloud service providers didn't retain additional copies.	1	2	3	4	5	6	7
DES4	I am concerned of that the destruction completely erases the data.	1	2	3	4	5	6	7
14	**Audit and monitoring (New Development)**							
AM1	It is very important to me if there are different levels of requirements for different sets of users in cloud-based e-learning system of my university.	1	2	3	4	5	6	7
AM2	It is very important to me what specific regulatory requirements are applicable in cloud-based e-learning system of my university.	1	2	3	4	5	6	7
AM3	It is very important to me how can my university monitor its cloud-based e-learning system and provide assurance to the users that privacy requirements are met.	1	2	3	4	5	6	7
AM4	It is very important to me if my university audits for compliance with privacy and security policies and procedures.	1	2	3	4	5	6	7
15	**Privacy breaches (New Development)**							
PB1	It is very important to me how privacy breaches have occurred in cloud-based e-learning system of my university.	1	2	3	4	5	6	7
PB2	It is very important to me how to ensure that the cloud service provider notifies me or my university when a breach occurs.	1	2	3	4	5	6	7

PB3	It is very important to me who is responsible for managing the breach notification.	1	2	3	4	5	6	7
16	**Privacy Concerns (Smith et al., 1996)**							
PC1	I am concerned that the information I submit to cloud based e-learning system of my university could be misused.	1	2	3	4	5	6	7
PC2	I am concerned that others can find private information about me from cloud based e-learning system.	1	2	3	4	5	6	7
PC3	I am concerned about providing personal information to cloud based e-learning system, because of what others might do with it.	1	2	3	4	5	6	7
PC4	I am concerned about providing personal information to cloud based e-learning system, because it could be used in a way that I did not foresee.	1	2	3	4	5	6	7
17	**Risk Beliefs (New Development)**							
RB1	There would be too much uncertainty associated with giving (the information) to cloud-based e-learning system of my university.	1	2	3	4	5	6	7
RB2	There would be high potential for loss associated with giving (the information) to cloud-based e-learning system.	1	2	3	4	5	6	7
RB3	In general, it would be risky to give (the information) to cloud-based e-learning system.	1	2	3	4	5	6	7
RB4	Providing cloud-based e-learning system with (the information) would involve many unexpected problems.	1	2	3	4	5	6	7
18	**Trusting Beliefs (Malhotra, Kim et al. 2004)**							
TB1	Cloud services provider would be trustworthy in handling the information on cloud-based e-learning system.	1	2	3	4	5	6	7
TB2	My university would tell the truth and fulfil promises related to (the information) provided by me.	1	2	3	4	5	6	7
TB3	I trust that Cloud services provider would keep my best interests in mind when dealing with (the information) on cloud-based e-learning system.	1	2	3	4	5	6	7
TB4	Cloud services provider is in general predictable and consistent regarding the usage of (the information).	1	2	3	4	5	6	7
TB5	Cloud services provider is always honest with me when it comes to using (the information) on cloud-based e-learning system.	1	2	3	4	5	6	7

THANK YOU VERY MUCH

APPENDIX B:

RESULTES OF ANALYSIS

TABLE B.1 Descriptive Statistics

Items	N	Minimum	Maximum	Mean	Std. Deviation
DC1	216	4	7	6.32	.686
DC2	216	4	7	6.19	.711
DC3	216	4	7	6.25	.661
CO1	216	3	7	5.79	.867
CO2	216	3	7	5.76	.876
CO3	216	3	7	5.83	.905
AW1	216	3	7	5.84	.923
AW2	216	3	7	5.81	.928
AW3	216	3	7	5.90	.933
AC1	216	3	7	5.93	.879
AC2	216	3	7	5.90	.873
AC3	216	3	7	5.97	.854
CM1	216	4	7	6.10	.878
CM2	216	4	7	6.12	.838
CM3	216	4	7	6.10	.821
ST1	216	4	7	5.95	.836
ST2	216	4	7	5.91	.776
ST3	216	4	7	6.06	.784
ST4	216	4	7	6.00	.849
RE1	216	3	7	6.01	.900
RE2	216	3	7	5.93	.894
RE3	216	3	7	5.97	.945
DES1	216	4	7	5.69	.809
DES2	216	4	7	5.69	.801
DES3	216	4	7	5.57	.912
DES4	216	4	7	5.74	.782
AM1	216	3	7	6.12	.851
AM2	216	3	7	6.19	.904
AM3	216	3	7	6.00	.928
AM4	216	3	7	6.06	.943

PB1	216	4	7	6.13	.725
PB2	216	4	7	6.11	.717
PB3	216	4	7	6.17	.682
PC1	216	3	7	5.73	1.022
PC2	216	3	7	5.72	.997
PC3	216	3	7	5.70	.982
PC4	216	3	7	5.71	.985
RB1	216	3	7	6.03	.964
RB2	216	3	7	5.79	.970
RB3	216	3	7	5.78	.985
RB4	216	3	7	5.79	.968
TB1	216	1	4	2.17	.873
TB2	216	1	4	2.12	.889
TB3	216	1	4	2.17	.901
TB4	216	1	4	2.15	.943
TB5	216	1	4	2.16	.877

TABLE B.2: Normality Test

Variable	min	max	skew	c.r.	kurtosis	c.r.
TB5	4.000	7.000	-.427	-2.560	-.465	-1.395
TB3	4.000	7.000	-.421	-2.527	-.559	-1.677
TB2	4.000	7.000	-.607	-3.641	-.246	-.739
TB1	4.000	7.000	-.553	-3.317	-.255	-.764
RB4	3.000	7.000	-.775	-4.652	.168	.504
RB3	3.000	7.000	-.694	-4.165	-.031	-.092
RB2	3.000	7.000	-.760	-4.561	.137	.412
RB1	3.000	7.000	-.898	-5.390	.193	.578
PC4	3.000	7.000	-.561	-3.368	-.337	-1.010
PC3	3.000	7.000	-.550	-3.301	-.340	-1.020
PC2	3.000	7.000	-.569	-3.414	-.379	-1.136
PC1	3.000	7.000	-.520	-3.122	-.521	-1.564
PB3	4.000	7.000	-.485	-2.910	.179	.536
PB2	4.000	7.000	-.311	-1.864	.527	1.581
PB1	4.000	7.000	-.429	-2.572	-.306	-.919
AM4	3.000	7.000	-.563	-3.379	-.673	-2.019
AM3	3.000	7.000	-.535	-3.209	-.534	-1.603
AM2	3.000	7.000	-.959	-5.755	.257	.770
AM1	3.000	7.000	-.695	-4.169	-.019	-.057
DES4	4.000	7.000	-.331	-1.987	-.192	-.575
DES2	4.000	7.000	-.322	-1.934	-.277	-.830
DES1	4.000	7.000	-.216	-1.295	-.405	-1.216
RE3	3.000	7.000	-.708	-4.248	-.060	-.180
RE2	3.000	7.000	-.646	-3.876	.130	.390
RE1	3.000	7.000	-.787	-4.720	.329	.986
CM3	4.000	7.000	-.838	-5.026	.428	1.283
CM2	4.000	7.000	-.847	-5.085	.305	.915
CM1	4.000	7.000	-.736	-4.416	-.192	-.576
ST4	4.000	7.000	-.677	-4.060	-.003	-.009
ST3	4.000	7.000	-.454	-2.721	-.363	-1.089
ST2	4.000	7.000	-.627	-3.761	.344	1.031
ST1	4.000	7.000	-.621	-3.727	-.015	-.045
AC3	3.000	7.000	-.702	-4.212	.690	2.070
AC2	3.000	7.000	-.643	-3.860	.660	1.980
AC1	3.000	7.000	-.690	-4.139	.688	2.065
AW3	3.000	7.000	-.668	-4.011	-.027	-.080

AW2	3.000	7.000	-.490	-2.940	-.249	-.748
AW1	3.000	7.000	-.562	-3.374	-.131	-.393
CO3	3.000	7.000	-.497	-2.984	.039	.117
CO2	3.000	7.000	-.439	-2.635	.154	.463
CO1	3.000	7.000	-.530	-3.177	.331	.992
Multivariate					200.697	24.837

TABLE B.3: Reliability

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Data collection: Cronbach's alpha = .633				
DC1	12.43	1.344	.397	.598
DC2	12.57	1.177	.496	.456
DC3	12.51	1.339	.438	.542
Control: Cronbach's alpha =.953				
CO1	11.60	2.977	.898	.934
CO2	11.63	2.961	.891	.939
CO3	11.56	2.816	.916	.921
Awareness : Cronbach's alpha =.959				
AW1	11.71	3.275	.907	.943
AW2	11.74	3.198	.934	.923
AW3	11.65	3.271	.895	.952
Access: Cronbach's alpha = .930				
AC1	11.87	2.666	.879	.881
AC2	11.90	2.771	.835	.917
AC3	11.83	2.784	.858	.898
Compliance: Cronbach's alpha = .934				
CM1	12.22	2.608	.814	.945
CM2	12.20	2.560	.905	.871
CM3	12.22	2.667	.875	.895
Storage: Cronbach's alpha =.892				
ST1	17.97	4.404	.818	.840
ST3	18.00	4.498	.874	.821
ST2	17.86	5.268	.581	.924
ST4	17.92	4.417	.795	.849
Retention : Cronbach's alpha = .957				
RE1	11.90	3.186	.907	.938
RE2	11.98	3.181	.918	.930
RE3	11.94	3.043	.902	.942
Destruction: Cronbach's alpha =..867				
DES1	17.01	4.316	.852	.776
DES2	17.00	4.326	.860	.773
DES3	17.12	5.195	.434	.949
DES4	16.95	4.565	.794	.801
Audit and monitoring: Cronbach's alpha = .869				
AM1	18.26	5.563	.788	.808

AM2	18.19	5.292	.802	.799
AM3	18.38	5.242	.788	.805
AM4	18.32	6.090	.531	.908
Privacy breaches: Cronbach's alpha =.922				
PB1	12.27	1.809	.806	.917
PB2	12.30	1.765	.855	.877
PB3	12.24	1.839	.867	.869
Privacy Concern: Cronbach's alpha =.992				
PC1	17.13	8.622	.974	.990
PC2	17.14	8.725	.983	.988
PC3	17.16	8.822	.981	.988
PC4	17.15	8.824	.976	.990
Risk Beliefs: Cronbach's alpha =.920				
RB1	17.36	8.046	.588	.969
RB2	17.60	6.715	.903	.866
RB3	17.61	6.686	.890	.870
RB4	17.60	6.716	.904	.865
Trusting Beliefs: Cronbach's alpha =.921				
TB1	23.40	9.637	.901	.882
TB2	23.35	9.597	.889	.884
TB3	23.41	9.545	.885	.885
TB4	23.38	11.168	.512	.959
TB5	23.40	9.943	.827	.897

TABLE B.4: Communalities

Communalities		
	Initial	Extraction
CO1	1.000	.892
CO2	1.000	.896
CO3	1.000	.918
AW1	1.000	.907
AW2	1.000	.930
AW3	1.000	.882
AC1	1.000	.896
AC2	1.000	.869
AC3	1.000	.893
CM1	1.000	.855
CM2	1.000	.921
CM3	1.000	.902
ST1	1.000	.840
ST2	1.000	.892
ST3	1.000	.575
ST4	1.000	.817
RE1	1.000	.902
RE2	1.000	.914
RE3	1.000	.911
DES1	1.000	.880
DES2	1.000	.882
DES3	1.000	.478
DES4	1.000	.827
AM1	1.000	.820
AM2	1.000	.832
AM3	1.000	.844
AM4	1.000	.632
PB1	1.000	.837
PB2	1.000	.886
PB3	1.000	.880
PC1	1.000	.822
PC2	1.000	.820
PC3	1.000	.812
PC4	1.000	.804

RB1	1.000	.580
RB2	1.000	.895
RB3	1.000	.881
RB4	1.000	.898
TB1	1.000	.895
TB2	1.000	.886
TB3	1.000	.879
TB4	1.000	.477
TB5	1.000	.824
Extraction Method: Principal Component Analysis.		

TABLE B.5: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	16.692	40.713	40.713	16.692	40.713	40.713
2	2.881	7.028	47.741	2.881	7.028	47.741
3	2.500	6.099	53.840	2.500	6.099	53.840
4	2.216	5.405	59.245	2.216	5.405	59.245
5	1.968	4.801	64.046	1.968	4.801	64.046
6	1.940	4.731	68.777	1.940	4.731	68.777
7	1.702	4.152	72.928	1.702	4.152	72.928
8	1.621	3.953	76.881	1.621	3.953	76.881
9	1.309	3.193	80.074	1.309	3.193	80.074
10	1.234	3.010	83.084	1.234	3.010	83.084
11	1.127	2.748	85.831	1.127	2.748	85.831
12	1.029	2.511	84.353	1.020	2.511	86.353
13	.708	1.726	89.838			
14	.566	1.380	91.218			
15	.446	1.088	92.307			
16	.303	.740	93.047			
17	.292	.712	93.759			
18	.235	.574	94.333			
19	.209	.509	94.842			
20	.197	.482	95.323			
21	.181	.440	95.764			
22	.169	.411	96.175			
23	.160	.390	96.565			
24	.148	.360	96.925			
25	.141	.345	97.270			
26	.135	.328	97.598			
27	.115	.279	97.877			
28	.112	.273	98.150			
29	.101	.247	98.397			
30	.092	.224	98.621			
31	.085	.208	98.829			
32	.075	.183	99.011			

33	.074	.180	99.191			
34	.067	.164	99.354			
35	.061	.150	99.504			
36	.053	.128	99.632			
37	.050	.123	99.755			
38	.041	.100	99.856			
39	.030	.074	99.930			
40	.018	.044	99.974			
41	.011	.026	100.000			
Extraction Method: Principal Component Analysis.						

TABLE B.6: Rotated Component Matrix

	1	2	3	4	5	6	7	8	9	10	11	12
TB1	.807											
TB3	.798											
TB5	.788											
TB2	.767											
RB3		.828										
RB2		.824										
RB4		.806										
RB1		.671										
ST2			.891									
ST1			.884									
ST4			.854									
ST3			.732									
AM2				.870								
AM3				.832								
AM1				.767								
AM4				.668								
CO1					.876							
CO2					.855							
CO3					.848							
AW3						.860						
AW2						.855						
AW1						.841						
RE2							.842					
RE1							.840					
RE3							.827					
AC1								.899				
AC3								.876				
AC2								.859				
PB3									.883			
PB2									.880			
PB1									.859			
CM2										.915		
CM1										.899		
CM3										.873		
DES2											.857	

DES1										.844	
DES4										.801	
PC3											.637
PC2											.635
PC4											.635
PC1											.627

TABLE B.7: Factor loading and R^2

Items	Factor loading	R2
CO1	0.923	0.852
CO2	0.917	0.841
CO3	0.96	0.922
AW1	0.936	0.876
AW2	0.971	0.944
AW3	0.917	0.84
AC1	0.929	0.863
AC2	0.875	0.766
AC3	0.909	0.826
ST1	0.89	0.793
ST2	0.958	0.917
ST3	0.608	0.37
ST4	0.841	0.708
CM1	0.837	0.701
CM2	0.958	0.918
CM3	0.936	0.876
RE1	0.936	0.875
RE2	0.949	0.901
RE3	0.933	0.871
DES1	0.962	0.925
DES2	0.932	0.869
DES4	0.894	0.799
AM1	0.896	0.803
AM2	0.867	0.752
AM3	0.866	0.749
AM4	0.554	0.307
PB1	0.842	0.71
PB2	0.916	0.84
PB3	0.925	0.856
PC1	0.98	0.96
PC2	0.988	0.977
PC3	0.984	0.969
PC4	0.983	0.967
RB1	0.6	0.36
RB2	0.954	0.91
RB3	0.942	0.887

RB4	0.969	0.938
TB1	0.937	0.879
TB2	0.922	0.85
TB3	0.943	0.888
TB5	0.895	0.802

TABLE B.8: The Factor Loadings, (AVE), and (CR)

NO	Paragraph		Items	Factor loading	AVE (above 0.5)	CR (above 0.6)
1.	Control	CO	CO1	0.923	0.871	0.953
			CO2	0.917		
			CO3	0.96		
2.	Awareness	AW	AW1	0.936	0.887	0.959
			AW2	0.971		
			AW3	0.917		
3.	Access	AC	AC1	0.929	0.818	0.931
			AC2	0.875		
			AC3	0.909		
4.	Compliance	CM	CM1	0.837	0.831	0.937
			CM2	0.958		
			CM3	0.936		
5.	Storage	ST	ST1	0.896	0.807	0.926
			ST2	0.952		
			ST4	0.843		
6.	Retention	RE	RE1	0.935	0.882	0.957
			RE2	0.949		
			RE3	0.933		
7.	Destruction	DES	DES1	0.962	0.864	0.950
			DES2	0.932		
			DES4	0.894		
8.	Audit and monitoring	AM	AM1	0.903	0.767	0.908
			AM2	0.862		
			AM3	0.862		
9.	Privacy breaches	PB	PB1	0.842	0.801	0.923
			PB2	0.916		
			PB3	0.925		
10.	Privacy Concern	PC	PC1	0.98	0.968	0.992
			PC2	0.988		
			PC3	0.984		
			PC4	0.983		
11.	Risk Beliefs	RB	RB2	0.953	0.912	0.969
			RB3	0.941		
			RB4	0.97		
12.	Trusting Beliefs	TB	TB1	0.937	0.855	0.959
			TB2	0.922		
			TB3	0.943		
			TB5	0.895		

TABLE B.9: Factor Correlation Matrix with Square Roots of AVE

	TB	RB	PC	PB	AM	DES	RE	CM	ST	AC	AW	CO
TB	**0.924**											
RB	0.648	**0.955**										
PC	0.725	0.654	**0.984**									
PB	0.454	0.383	0.464	**0.895**								
AM	0.458	0.412	0.548	0.318	**0.876**							
DES	0.522	0.469	0.609	0.31	0.428	**0.930**						
RE	0.512	0.471	0.615	0.415	0.466	0.562	**0.939**					
CM	0.436	0.325	0.432	0.3	0.311	0.297	0.275	**0.912**				
ST	0.359	0.337	0.449	0.192	0.253	0.273	0.294	0.097	**0.898**			
AC	0.396	0.389	0.496	0.132	0.38	0.362	0.48	0.186	0.017	**0.905**		
AW	0.494	0.467	0.618	0.362	0.422	0.515	0.431	0.292	0.348	0.291	**0.942**	
CO	0.488	0.445	0.615	0.256	0.296	0.421	0.37	0.336	0.351	0.406	0.512	**0.934**

APPENDIX C:

EXPERT REVIEW QUESTIONNAIRE

"INFORMATION PRIVACY FRAMEWORK FOR CLOUD BASED E-LEARNING USERS"

VALIDATION SURVEY

Dear Valued Respondent,

I am a PHD student in the Faculty of Science & Technology, Islamic Science University of Malaysia (USIM), Nilai, Negeri Sembilan.

The main aims of the research are to develop users' information privacy framework for cloud based e-learning to improve the privacy implementation of cloud based e-learning system. The findings from this research are expected to improve the information privacy protection of cloud based e-learning system. The finding will also act as a guideline for cloud based e-learning system adopting in education institutions.

This research requires a panel of experts to validate the sufficiency of the proposed research framework to ensure the information privacy of cloud based e-learning users. I would be very grateful if you could spare a few minutes of your valuable time to fill in the survey since successful completion of this study is largely dependent your cooperation.

If you have any inquiries, please do not hesitate to contact me or my supervisor for further clarification.

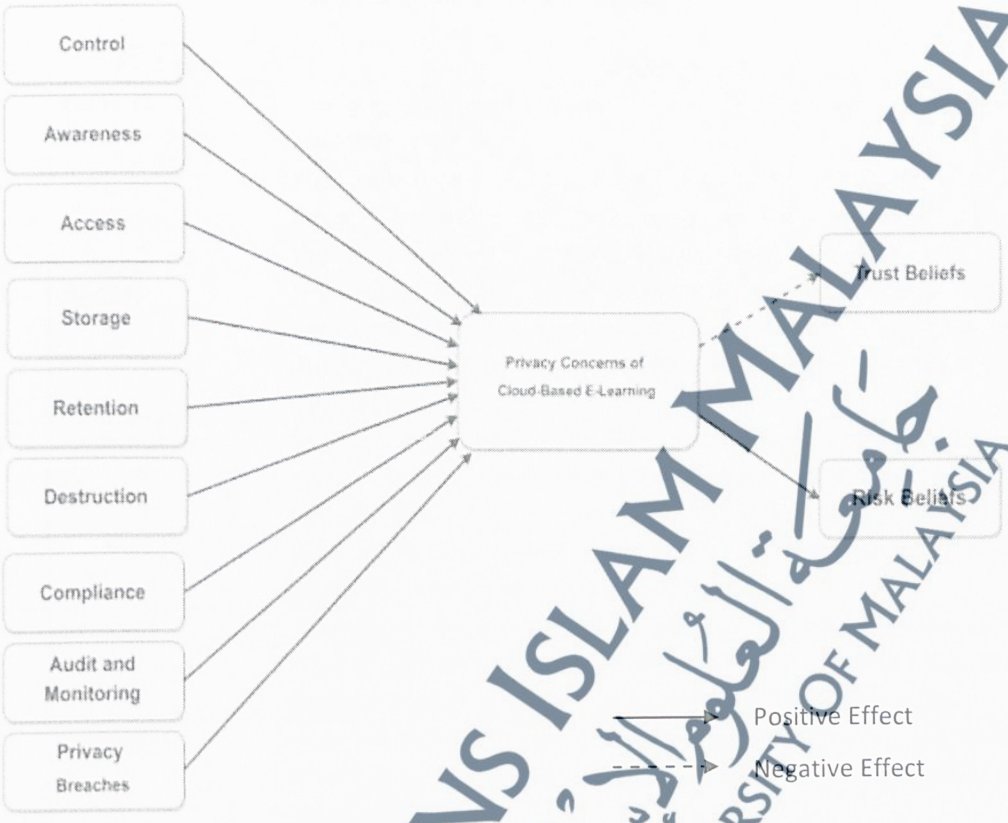
THANK YOU VERY MUCH FOR YOUR PRECIOUS TIME AND COOPERATION

Researcher
Maher Abdulla Almahdi Alghali
PhD Candidate
Faculty of Science & Technology, USIM
Mobile 0142239140
Email : maher.alghali@yahoo.com

Supervisor
Dr Najwa Hayaati Mohd Alwi
Senior Lecturer
Faculty of Science & Technology, USIM
Tel : 606 7986423
Email : najwa@usim.edu.my

INFORMATION PRIVACY FRAMEWORK FOR CLOUD BASED E-LEARNING USERS

The information privacy framework of cloud based e-learning users is constructed based on Internet Users Information Privacy Concerns framework (IUIPC) (Malhotra et al., 2004) and based on a broad literature review that has identified the information privacy issues of cloud computing. The literature identifies nine factors. These factors were clarified by exploratory factor analysis and measured again by confirmatory factor analysis to validate the framework. Structural equation modeling was used to test pathways between the factors. The analysis result shows the factors showed a high degree of the unidimensionality, convergent validity, discriminant validity, and reliability. The finding indicate that the factors Control, Awareness, Access, Storage, Retention, Destruction, Compliance, Audit and Monitoring, and Privacy Breaches have a positive effect on information privacy concerns of cloud based e-learning users. Besides, information privacy cloud based e-learning concern factor has a positive effect on risk beliefs and negative effect on trust belief. The results present a new contribution to the body of knowledge by validated and reliable *cloud based e-learning* users' information privacy framework to enhance the users' information privacy of cloud based e-learning users. The research framework as the following



Information Privacy Framework for Cloud Based E-Learning Users

The Framework Factors Explanation

No	Factors	Explanation
1	Control	The loss of control of the users' data in the cloud based e-learning system.
2	Awareness	The awareness of the users about the information privacy issues of cloud based e-learning system and their right how their information is collected, used and shared.
3	Access	The access rights of the users to access and comply with the user's request for add, modify and delete their data. Also, prevent the other from unauthorized access and misuse over the data.
4	Compliance	The list of applicable laws, regulations, standards and contractual commitments that govern cloud based e-learning system data. The privacy laws for different jurisdiction may vary so it is required what is the relevant jurisdiction that governs data in the cloud computing.
5	Storage	The physical location where the data is stored. Whether the data is stored locally or on foreign land. Storing data on the different location may lead to the unauthorized access.
6	Retention	How much time a user can have access to the cloud based e-learning system. How long the users' data will stored in cloud computing.
7	Destruction	The process of deleting of personal data at the end of the retention period and to ensure that the personal data is destroyed and is not available to another cloud user.
8	Audit and Monitoring	How users and institutions can monitor the cloud based e-learning system and get the assurance that privacy requirements are met.
9	Privacy Breaches	How the users know about breach has occurred and ensures that the cloud based e-learning system will notify the users when a breach occurs, and who is responsible for managing the process of notifying breaches.

THE GUIDE OF USING INFORMATION PRIVACY FRAMEWORK FOR CLOUD BASED E-LEARNING USERS

This document demonstrates the guide of using of cloud based e-learning users' information privacy framework to ensure users' information privacy of cloud based e-learning.

a) Control

- Ensure the users' right to exercise control and autonomy over decisions about how their information is collected, used, and shared.
- Maximize effectiveness of secure data transfers.
- Increase control over information disclosure.

b) Awareness

- Disclose the way the data are collected, processed, and used on the cloud based e-learning system.
- increase the clarity and conspicuous disclosure of privacy policy
- Increase the awareness of how the users' information is used on the cloud based e-learning system.
- Ensure the Cloud Service Providers' privacy policy and practices are effectively communicated and understood.
- Increase awareness of data ownership.

c) Access

- Optimize access controls
- Minimize third party access to information
- Minimize unnecessary access to information
- Provide the users with access to all personal information on cloud based e-learning system.
- Comply with all user requests (Add, Modify, and Delete).

- Ensure that all of users' information has been deleted in the cloud based e-learning system.

d) Storage

- Maximize effectiveness of secure data transfers to another cloud centre in another country.
- Disclose where is the data of cloud based e-learning system stored in the cloud.
- Notify the users when their data is transferred
- Minimize the commingle users' data with data from other organizations that use the same cloud services provider.

e) Retention

- Determine retention period.
- Optimize the retention policy that governs users' information in the cloud based e-learning system
- Ensure the ownership of the data.

f) Destruction

- Ensure the destroying of users' data at the end of the retention period.
- Ensure that its data is destroyed at the right point and is not available to other cloud users.
- Ensure the cloud service providers didn't retain additional copies.
- Ensure the destruction completely erases the data.

g) Compliance

- Ensure there are clear privacy compliance requirements govern the information in cloud based e-learning system.
- Ensure there are clear applicable laws, regulations, standards, and contractual commitments that govern information in cloud based e-learning system.
- Optimize the existing privacy compliance requirements to be suitable for by cloud computing environment.

h) Audit and monitoring

- Ensure the different levels of requirements for different sets of users in cloud based e-learning system of my university.
- Optimize the regulatory requirements are applicable in cloud based e-learning system of my university.
- Provide assurance to the users that privacy requirements are met.
- Optimize the audits for compliance with privacy and security policies and procedures.

i) Privacy breaches

- Ensure how privacy breaches have occurred in cloud based e-learning.
- Ensure how the cloud service provider notifies users when a breach occurs.
- Determine who is responsible for managing the breach notification.

VALIDATION SURVEY

Name: _____

Institution name: _____

Duration of working in this area: _____ year/s

1 To what extent do you agree the framework factors define clearly?

[ ] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

2 To what extent do you agree that the elements of the framework are sufficient to ensure the information privacy of cloud based e-learning?

[ ] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

3 To what extent do you agree that the guidelines of the framework represent current information privacy issues of cloud based e-learning?

[ ] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

4 To what extent do you agree that it is appropriate to include these factors in one framework?

[ ] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

5 To what extent do you agree that the framework helps education institutions to increase the information privacy protection of cloud based e-learning users?

[ ] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

6 To what extent do you agree that it is easy to understand the framework guidelines?

[ ] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

7 To what extent do you agree that the framework usable in practice?

[ ] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

8 To what extent do you agree that the given guidelines of the framework are significant and likely to apply to most educational institutions?

[ ] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

Comments and suggestions

THANK YOU VERY MUCH

APPENDIX D:

EXPERTS' RESPONSES

EXPERT 1

Name: Zahiruddin Fitri

Institution name: University of Malaya

Duration of working in this area: 3 years

VALIDATION SURVEY

1 To what extent do you agree the framework factors define clearly?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

2 To what extent do you agree that the elements of the framework are sufficient to ensure the information privacy of cloud based e-learning?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

3 To what extent do you agree that the guidelines of the framework represent current information privacy issues of cloud based e-learning?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

4 To what extent do you agree that it is appropriate to include these factors in one framework?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

5 To what extent do you agree that the framework helps education institutions to increase

the information privacy protection of cloud based e-learning users?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

6 To what extent do you agree that it is easy to understand the framework guidelines?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

7 To what extent do you agree that the framework usable in practice?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

8 To what extent do you agree that the given guidelines of the framework are significant and likely to apply to most educational institutions?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

Comments and suggestions

THANK YOU VERY MUCH

EXPERT 2

Name: Rosseni Din

Institution name: UKM

Duration of working in this area: 10+ years

VALIDATION SURVEY

1 To what extent do you agree the framework factors define clearly?

[ ] Strongly agree [√] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

2 To what extent do you agree that the elements of the framework are sufficient to ensure the information privacy of cloud based e-learning?

[ ] Strongly agree [√] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

3 To what extent do you agree that the guidelines of the framework represent current information privacy issues of cloud based e-learning?

[ ] Strongly agree [√] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

4 To what extent do you agree that it is appropriate to include *these factors in one* framework?

[ ] Strongly agree [√] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

5 To what extent do you agree that the framework helps education institutions to increase the information privacy protection of cloud based e-learning users?

[ ] Strongly agree [√] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

6 To what extent do you agree that it is easy to understand the framework guidelines?

[ ] Strongly agree [√] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

7 To what extent do you agree that the framework usable in practice?

[ ] Strongly agree [√] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

8 To what extent do you agree that the given guidelines of the framework are significant and likely to apply to most educational institutions?

[ ] Strongly agree [ ] Agree [√] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

Comments and suggestions

It may or may not apply to most educational institution depending on confirmatory result of the study.

THANK YOU VERY MUCH

EXPERT 3

Name: PROF MADYA DR. SYED NAJMUDDIN SYED HASSAN

Institution name: UNIVERSITI TEKNIKAL MALAYSIA MELAKA

Duration of working in this area: 3 year/s

VALIDATION SURVEY

1 To what extent do you agree the framework factors define clearly?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

2 To what extent do you agree that the elements of the framework are sufficient to ensure the information privacy of cloud based e-learning?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

3 To what extent do you agree that the guidelines of the framework represent current information privacy issues of cloud based e-learning?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

4 To what extent do you agree that it is appropriate to include these factors in one framework?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

5 To what extent do you agree that the framework helps education institutions to increase the information privacy protection of cloud based e-learning users?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

6 To what extent do you agree that it is easy to understand the framework guidelines?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

7 To what extent do you agree that the framework usable in practice?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

8 To what extent do you agree that the given guidelines of the framework are significant and likely to apply to most educational institutions?

[/] Strongly agree [ ] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

Comments and suggestions

THANK YOU VERY MUCH

EXPERT 4

Name: D'oria *Islamiah Rosli*

Institution name: Faculty Of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia.

Duration of working in this area: 218 days per year/s

VALIDATION SURVEY

1 To what extent do you agree the framework factors define clearly?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

2 To what extent do you agree that the elements of the framework are sufficient to ensure the information privacy of cloud based e-learning?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

3 To what extent do you agree that the guidelines of the framework represent current information privacy issues of cloud based e-learning?

[ ] Strongly agree [ ] Agree [/] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

4 To what extent do you agree that it is appropriate to include these factors in one framework?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

5 To what extent do you agree that the framework helps education institutions to increase the information privacy protection of cloud based e-learning users?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

6 To what extent do you agree that it is easy to understand the framework guidelines?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

7 To what extent do you agree that the framework usable in practice?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

8 To what extent do you agree that the given guidelines of the framework are significant and likely to apply to most educational institutions?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

Comments and suggestions

Should consider also copyright issues. Ownership of the materials or resources available via cloud. Flexible rules or procedures for education purposes should not be jeopardize.

THANK YOU VERY MUCH

EXPERT 5

Name: Assoc. Prof. Dr. Noraida Haji Ali

Institution name: Universiti Malaysia Terengganu

Duration of working in this area: 15 year/s

VALIDATION SURVEY

1 To what extent do you agree the framework factors define clearly?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

2 To what extent do you agree that the elements of the framework are sufficient to ensure the information privacy of cloud based e-learning?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

3 To what extent do you agree that the guidelines of the framework represent current information privacy issues of cloud based e-learning?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

4 To what extent do you agree that it is appropriate to include these factors in one framework?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

5 To what extent do you agree that the framework helps education institutions to increase the information privacy protection of cloud based e-learning users?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

6 To what extent do you agree that it is easy to understand the framework guidelines?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

7 To what extent do you agree that the framework usable in practice?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

8 To what extent do you agree that the given guidelines of the framework are significant and likely to apply to most educational institutions?

[ ] Strongly agree [/] Agree [ ] Neither agree nor disagree [ ] Disagree [ ] Strongly disagree

Comments and suggestions

Good research.

Suggestion for the guidance document, perhaps can state explanation for each factor before you list all the items.

Example:
This document demonstrates the guide of using of cloud based e-learning users' information privacy framework to ensure users' information privacy of cloud based e-learning.

1. **Control**

The loss of control of the users' data in the cloud based e-learning system. Following the list are ....

- Ensure the users' right to exercise control and autonomy over decisions about how their information is collected, used, and shared.
- Maximize effectiveness of secure data transfers.
- Increase control over information disclosure.

THANK YOU VERY MUCH