

**SATISFACTION OF UUM E-MAIL SERVICE AMONG
ACADEMICIAN**

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ABSTRACT

The absence of the necessary infrastructure forms a barrier to institutions providing ICT enabled information sharing. This study focuses on UUM academics satisfaction of UUM email service. The questionnaire was adopted from Doll & Torkzadah (1988) and Seddon & Kiew (1996). The data collection has been done through direct interview and email. The aim of this study is to access the degree of satisfaction email service among academics in UUM. Specifically, the objective of this study are develop a theoretical framework of UUM email service satisfaction among academics in UUM and evaluate the academics' satisfaction towards the UUM email service. The results have been analyzed using SPSS. Overall, UUM email service satisfies UUM academicians where the score is more than the average.

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LIST OF ABBREVIATIONS

ICT	Information and Communication Technology
MS	Microsoft
CSV	Community Service
GB	Gigabyte
ID	Investigation Discovery
UUM	Universiti Utara Malaysia
COB	College of Business
CAS	College of Arts and Sciences
CUS	Computer User Satisfaction
UIS	User Information Satisfaction
EDP	Electronic data processing
SPSS	Statistical Package for the Social Sciences
EUCS	End User Computing Satisfaction
EUC	End User Computing
SSS	System Satisfaction Schedule
STM	Science, Technology and Medicine
AISH	Academia Information Sharing

IS	Information System
IT	Information Technology
ISH	Information Sharing

CHAPTER 1: INTRODUCTION

1.1 Introduction

With rich histories and vast cultural heritages, Malaysia have own scholarly communication traditions distinct from other countries. However, as part of the international community in the information era, Malaysia shares many common characteristics in scholarly communication with the rest of the world. Knowledge exchange is no longer undertaken within the limits of country boundaries. Rather, communication at the international level is facilitated by the advances in modern technologies. Similarly, Malaysia now face the same challenge: an increasing reliance on information and communication technology (ICT). Undeniably, the development of ICT has dramatically altered the landscape of scholarly communication in recent years. Now, not only print publications serve as vehicles to convey information, but electronic resources have also become increasingly popular in preserving and delivering research ideas and results. However, because ICT

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REFERENCES

- Abdinnour-Helm, Chaparro, & Farmer (2005). *Using the End-User Computing Satisfaction (EUCS) Instrument to Measure Satisfaction with a Web Site*. *Decision Sciences*, 36(2).
- ALLEN (1977). *Managing the flow of technology: technology transfer and the dissemination of technical information within the R & D organization*. Cambridge, MA: MIT Press.
- American Library Association (2008). *Scholarly communication toolkit*. <http://www.ala.org/ala/acrl/acrlissues/scholarlycomm/scholarlycommunicationtookit/toolkit.htm>.
- Ang & Koh (1997). "Exploring the relationships between user information satisfaction and job satisfaction" *International Journal of Information Management* (17:3), pp 169-177.
- Ang & Soh (1997). "User information satisfaction, job satisfaction and computer background: An exploratory study" *Information & Management* (32:5), pp 255-266.
- Asian Campus Computing Survey (2003). *Asian Campus Computing Survey (ACCS): Survey [online]*.

- Bailey & Pearson (1983). "*Development of a tool for measuring and analysing computer user satisfaction*" *Management Science* (29:5), May, pp 530-545.
- Bargas-Avila, Loetscher, Orsini, & Opwis (2008). "*Intranet Satisfaction Questionnaire: Development and Validation of a Questionnaire to Measure User Satisfaction with the Intranet*" Paper submitted to *Information & Management*.
- Barone (2001). *Conditions for Transformation: Infrastructure is Not the Issue*. *EDUCAUSE Review [online]*, May/June.
- Baroudi & Orlikowski (1988). "*A Short-Form Measure of User Information Satisfaction: A Psychometric Evaluation and Notes on Use*" *Journal of Management Information Systems* (4:2), Spring, pp 44-58.
- Benson (1983). "*A Field Study of End-User Computing: Findings and Issues*" *MIS Quarterly* (7:4), December, pp. 35-45.
- Bircham-Connolly, Corner, & Bowden (2005). '*An Empirical Study of the Impact of Question Structure on Recipient Attitude During Knowledge Sharing*' *Electronic Journal of Knowledge Management*, Vol 32, Issue 1, pp 1-10.
- Blumenthal, David, Causino, Campbell, & Louis (1996). "*Relationships between Academic Institutions and Industry in the Life Sciences.*" *The New England Journal of Medicine*, 334: 368-374.
- Bock & Kim (2002). *Breaking the myths of rewards: an exploratory study of attitudes about knowledge sharing*. *Information Resources Management Journal*, 15, 2, 14-21.
- Bourdieu (1986). *The forms of capital*. In: Richardson, J.G. (ed.), *Handbook of theory and research for the sociology of education*. New York: Greenwood, 241-258.

- Byrd (2006). *Relating prosody and dynamic events: Commentary on the papers by Cho, Navas, & Smiljanic* Papers in Laboratory Phonology 8. Goldstein, L, Whalen, D. H, Best, C (Eds.) Mouton de Gruyter, 549-561.
- Campbell, Weissman, Causino, & Blumenthal (2000). *Data-withholding in academic medicine: Characteristics of faculty denied access to research results and biomaterials*. Research Policy 29, 303-312.
- Carr, Morrison, Cox, & Deacon (2007). Weathering wikis: *Net-based learning meets political science in a South African university*. Computers and Composition, 24, 266–284.
- Cheung & Lee (2005). "The Asymmetric Effect of Website Attribute Performance on Satisfaction: An Empirical Study" 38th Hawaii International Conference on System Sciences, IEEE Computer Society Press, Hawaii, pp. 175-184.
- Cheyney, Mann, & Amoroso (1986). "Organisational factors affecting the success of end-user computing" Journal of Management Information Systems 3(1), pp 65-80.
- Cohen, Wesley, & John Walsh (2008). "Real Impediments to Academic Research.". Innovation Policy and the Economy 8: 1-30.
- Coopee (2000). *The Internet Today*. InfoWorld (22:39), September, pp. 52.
- Crane (1972). *Invisible colleges: diffusion of knowledge in scientific communities*. University of Chicago Press.
- Cross & Baird (2000). *Technology Is Not Enough: Improving Performance by Building Organizational Memory*, Sloan Management Review, 41, 3, 69-78.

- Dasgupta & David (1994). *Toward a new economics of science*. Research Policy 23, 487-521.
- Dasgupta, Partha, & David (1987). "Information Disclosure and at the Economics of Science and Technology." In Arrow and at the Ascent of Modern Economic Theory, ed. George R. Feiwel, 519-542. New York: University Press, New York.
- Davenport & Probst (2002). *Knowledge Management Case Book – Best Practices*, 2nd ed, Wiley, New York, NY.
- DeLone & Mclean (1992). "Information Systems Success: The Quest for the Dependent Variable" Information Systems Research (3:1), March, pp 60-95.
- DeLone & Mclean (2002). "Information Systems Success Revisited" 35th Hawaii International Conference on System Sciences, IEEE Computer Society Press, Los Alamitos, CA, pp. 238-248.
- DeLone & Mclean (2003). "The DeLone and McLean Model of Information Systems Success: A Ten-Year Update" Journal of Management Information Systems (19:4), Spring, pp 9-30.
- Doll & Torkzadeh (1988). "The Measurement of End User Computing Satisfaction", MIS Quarterly (12:2), June, pp 258-274.
- Doll & Torkzadeh (1991). "The measurement of end-user computing satisfaction: theoretical considerations" MIS Quarterly (15:1), March, pp 5-10.
- Doll, Xia, & Torkzadeh (1994). *A Confirmatory Factor Analysis of the End-User Computing Satisfaction Instrument*. MIS Quarterly, 18(4).
- Erdelez (1997). *Information encountering: a conceptual framework for accidental information discovery*. In: P. Vakkari, R. Savolainen, and B. Dervin, eds. Information seeking in context: proceedings of an international conference on

research in information needs, seeking and use in different contexts, 14-16 August, Tampere, Finland. London: Taylor Graham, 412-421.

Gans, Joshua, Fiona Murray, & Scott Stern (2008). "*Patents, Papers, Pairs & Secrets: Contracting Over the Disclosure of Scientific Knowledge.*" MIT Sloan Working Paper.

Hagström (1965). *The scientific community*. New York: Basic Books.

Hendrickson (1994). "*Community supported agriculture.*" Direct Marketing, Number 41, (May), Madison, WI: University of Wisconsin-Extension.

Herzberg (1966). *Work and the nature of man* World Publishing, Cleveland, p. 203.

Herzberg (1968). "*One more time: How do you motivate employees?*" Harvard Business Review (46:1), January-February, pp 53-62.

Herzberg, Mausner, & Snyderman (1959). *The motivation to work*. Wiley, New York, p. 257.

Idrus, Ubuh, & Sukisno (1998). *Instruments and Procedures to Measure Quality Assurance*, QA Report, EEDP, Jakarta.

Igersheim (1976). "*Management response to an information system*" Proceedings AFIPS National Computer Conference, pp 877-882.

Islam, Najmul, Koivulahti-Ojala, & Käkölä (2010). "*A lightweight, industrially-validated instrument to measure user satisfaction and service quality experienced by the users of a UML modeling tool*" Proceedings AMCIS.

Islam & Najmul (2011). "*Information Systems Post-adoption Satisfaction and Dissatisfaction: A Study in the E-Learning Context*" Proceedings PACIS .

- Ives, Olson, & Baroudi (1983). "*The measurement of user information satisfaction*" Communications of the ACM (26:10), October, pp 785-793.
- Jayawardhena (2004). "*The Hierarchical Influence of Personal Values on e-shopping Attitude and Behaviour*" Internet Research: Electronic Networking Applications and Policy. Vol 14, No. 2, pp. 127-138
- Jiang, Olson, & Chun (2000). *Organization of visual short-term memory*. Journal of Experimental Psychology: Learning, Memory, & Cognition, 26, 683-702.
- Joshua, Murray, & Stern (2008). "*Patents, Papers, Pairs & Secrets: Contracting Over the Disclosure of Scientific Knowledge*." MIT Sloan Working Paper.
- Kankanhalli, Tan, & Kwok-Kee (2005). *Contributing Knowledge to Electronic Knowledge Repositories: An Empirical Investigation*. MIS Quarterly, 29, 1, 113-143.
- Kettinger, & Lee, (1994), *Perceived Service quality and User Satisfaction With the Information Services Function*, Decision Sciences, Vol. 25 (5/6), pp. 737-766.
- Kotler & Keller (2006). *Marketing Management*, 12th Edition, Pearson Education Inc, New Jersey.
- Larcker & Lessig (1980). "*Perceived usefulness of information: a psychometric examination*" Decision Science (11:1), pp 121-134.
- Maish (1979). "*A user's behavior towards his MIS*" MIS Quarterly (3:1), , pp 37-52.
- McArthur & Lewis (1997). *Untangling the Web: Applications of the internet and other information technologies to Higher Education*, Santa Monica: Institute of Education and Training.

- McCain (1991). *Communication, competition, and secrecy: The production and dissemination of research-related information in genetics*. Science, Technology & Human Values 16, 491-516.
- McCredie (2003). *Does IT Matter to Higher Education*. EDUCAUSE Review [online], November/December.
- McDermott (1999). *Why Information Technology Inspired but Cannot Deliver Knowledge Management*. California Management Review, 41, 4, 103-117.
- McDermott & O'Dell (2001). 'Overcoming culture barriers to sharing knowledge' Journal of Knowledge Management, Vol.5, No.1, pp.76-85.
- Merton & Robert (1973). *The Sociology of Science: Theoretical and Empirical Investigations*. Chicago: University of Chicago Press.
- McHaney & Cronan (1998). *Computer simulation success: On the use of the end-user computing satisfaction instrument: A comment*. Decision Sciences, 29(2), 525-536.
- Mokhtar, Alias, & Abdul Rahman (2006). *Evaluation of Academic Computing Assessment Frameworks*. Proceedings of the Knowledge Management Internal Conference and Exhibition, Kuala Lumpur.
- McKinney, Yoon, & Zahedi (2002). "The measurement of web-customer satisfaction: An expectation and disconfirmation approach" Information Systems Research (13:3), September, pp 296-315.
- Mullany, Michael John, & Auckland (2006). University of Technology. "The use of Analyst-User Cognitive Style Differentials to Predict Aspects of User Satisfaction with Information Systems". Print.

Mullany, Tan, & Gallupe (2006). "*The S-Statistic: a measure of user satisfaction based on Herzberg's theory of motivation*" Proceedings of the 17th Australasian Conference on Information Systems (ACIS), Adelaide.

Mullany, Tan, & Gallupe (2007). "*The Impact Of Analyst-User Cognitive Style Differences On User Satisfaction*" Proceedings of the 11th Pacific-Asia Conference on Information Systems (PACIS), Auckland.

Murray (2009). "*The OncoMouse that Roared: Hybrid Exchange Strategies as a Source of Productive Tension at the Boundary of Overlapping Institutions.*" American Journal of Sociology, forthcoming.

Murray & O'Mahoney (2007). "*Exploring the Foundations of Cumulative.*

Nuttall (1994). *Choosing Indicators. In: Riley, K. A. and Nuttall, D. L. Measuring Quality: Education Indicators – United Kingdom and International Perspectives.* London: The Falmer Press. 17-40.

O'Dell & Grayson (1998). *If Only We Knew What We Know: Identification and Transfer of Internal Best Practices.* California Management Review, 40, 3, 154-174.

Parasuraman, Zeithaml, & Barry (1985). *A Conceptual Model of Service Quality and its Implications for Future Research*, Journal of Marketing, Vol. 49 (4), pp. 41-50.

Parasuraman, Zeithaml, & Barry (1988). *SERVQUAL: A Multiple Item Scale Measuring Consumer Perceptions of Quality*, Journal of Retailing, Vol. 64 (1), Spring, pp. 12- 40.

Pikkarainen et al (2006). *The measurement of end-user computing satisfaction of online banking services: Empirical evidence from Finland.* International Journal of Bank Marketing, v24 i3. 158-172.

- Pitt & Watson (1995). *Service Quality: A Measure of Information Systems Effectiveness*, MIS Quarterly, Vol. 19 (2), pp.173-187.
- Purvis, Sambamurthy, & Zmud (2001). *The assimilation of knowledge platforms in organizations: an empirical investigation*. Organization Science, 12, 2, 117-135.
- Ruppel & Harrington (2001). *Spreading Knowledge through Intranets: An Analysis of the Organizational Culture Leading to Intranet Adoption and Use*. IEEE Transactions on Professional Communications, 44, 1, 37-52.
- Ryu, Ho, & Han (2003). *Knowledge sharing behavior of physicians in hospitals*. Expert Systems with Applications, 25, 1, 113–122.
- Selden (2001). *Academic information seeking - careers and capital types*. New Review of Information Behaviour Research 1(2), 195-215.
- SEDDON & KIEW (1996). *A partial test and development of DeLone and MacLean's model of IS success*. Australian Journal of Information Systems 4(1).
- Shapira, Youtie, Yogeessvaran, & Jaafar (2005). '*Knowledge Economy Measurement: Methods, Results and Insights from the Malaysian Knowledge Content Study*'. Proceedings of the Triple Helix 5 Conference on New Indicators for the Knowledge Economy, Turin, Italy.
- Siu & Mou (2005). *Measuring service quality in internet banking the case of Hong Kong*. Journal of International Consumer Marketing, 17 (4), 99-116.
- Sonnenwald & Liewrouw (1997). *Collaboration during the design process: a case study of communication, information behavior, and project performance*. In: P. Vakkari, R. Savolainen and B. Dervin, eds. *Information seeking in context: proceedings of an international conference on research in information needs, seeking and use in different contexts*, 14-16 August, Tampere, Finland. London: Taylor Graham, 179-204.

- Sonnenwald & Pierce (2000). *Information behavior in dynamic group work contexts: interwoven situational awareness, dense social networks and contested collaboration in command and control*. Information Processing and Management 36(3), 2000, 461-479.
- Stephan & Paula (1996). "The Economics of Science." Journal of Economic Literature, 34: 1199-1235.
- Stoun (1991). *Research and information retrieval among academic researchers: implication for library instruction*. Library Trends 39(3), 238-257.
- Swanson (1974). "Management and information systems: an appreciation and involvement" Management Science (21:2), pp 178-188.
- Tafti (1992). *A Three Dimensional Model of User Satisfaction with Information Systems*. International Journal of Information Resource Management, 3(2), 4-10.
- Torkzadeh & Doll (1991). *Test-retest reliability of the end-user computing satisfaction instrument*. Decision Sciences, 22, 26-37.
- UUM (2002). UUM E-mail Services. Website: <http://umis.uum.edu.my>.
- Van Dyke, Prybutok, & Kappelman (1999). *Cautions on the Use of the SERVQUAL Measure to Assess the Quality of Information System Services*, Decision Sciences, Vol. 30 (3), pp. 877-891.
- Wasko, McLure, & Faraj (2005). *Why should I share? Examining social capital and knowledge contribution in electronic networks of practice*. MIS Quarterly 29(1), 35-57.
- Wesley & Walsh (2008). "Real Impediments to Academic Research." Innovation Policy and the Economy 8: 1-30.

Willem (2003). ' *The Role of Organization Specific Integration Mechanisms in Inter-Unit Knowledge Sharing* ' PhD Dissertation at Vlerick Leuven Gent Management School, Ghent University, Belgium, available online at http://72.14.203.104/search?q=cache:AwAf_ok1x7UJ:www.ofenhandwerk.com/oklc/pdf.

Wixom & Todd (2005). " *A Theoretical Integration of User Satisfaction and Technology Acceptance* " Information Systems Research, 16(1): 85-102.

Yaverbaum (1988). " *Critical factors in the user environment - an experimental study of users, organizations and tasks* " MIS Quarterly (12:1), pp 75-88.

Zack (1999). *Managing Codified Knowledge*, Sloan Management Review, 40, 4, 45-58.

Zeithaml, Parasuraman, & Barry (1990). *Delivering Quality Service: Balancing Customer Perceptions and Expectations*, Free Press, N. York.

Zhang & Von Dran (2000). " *Satisfiers and dissatisfiers: a two-factor model for Website design and evaluation.* " Journal of the American Society for Information Science (51:14), December, pp 1253-1268.