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**THE INFLUENCE OF COLLABORATIVE LEARNING STYLE,
RECIPROCITY AND EXTROVERSION ON KNOWLEDGE SHARING VIA
SOCIAL MEDIA AMONG UUM UNDERGRADUATES**



By
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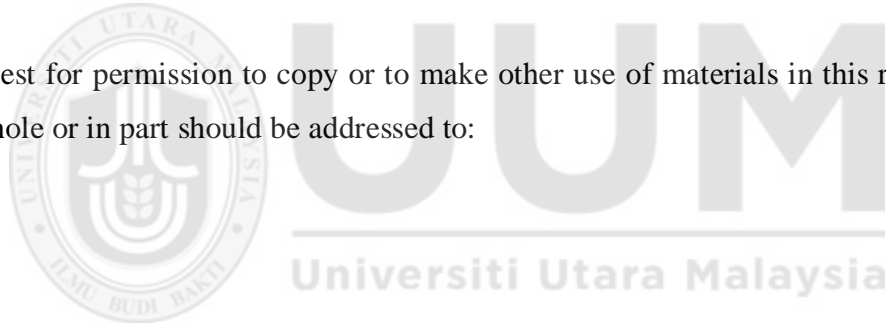
Universiti Utara Malaysia

**Thesis Submitted to
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(Management)**

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ABSTRACT

This quantitative study is aimed to study the relationship between collaborative learning style, reciprocity and extroversion on knowledge sharing via social media in Universiti Utara Malaysia (UUM). A total of 400 set of questionnaires were distributed to undergraduate students from three (3) academic colleges which are College of Business (COB), College of Arts and Sciences (CAS) and College of Law, Government and International Studies (COLGIS). However, only 363 set of questionnaires were return and usable for analysis. Regression analysis was performed to tests the hypotheses of the study. The result indicated that collaborative learning, reciprocity and extroversion were positively significant to knowledge sharing behavior via social media. The findings were discussed and recommendations for the future research were also addressed.

Keywords: Knowledge sharing, collaborative learning style, reciprocity, extroversion.



ABSTRAK

Kajian kuantitatif ini bertujuan untuk mengkaji hubungan antara gaya pembelajaran kolaboratif, salingan dan extroversion kepada perkongsian pengetahuan melalui media sosial di Universiti Utara Malaysia (UUM). Sebanyak 400 set soal selidik telah diedarkan kepada pelajar-pelajar sarjana muda dari tiga (3) kolej akademik iaitu Kolej Perniagaan (COB), Kolej Sastera dan Sains (CAS) dan Kolej Undang-undang, Kerajaan dan Pengajian Antarabangsa (COLGIS). Walau bagaimanapun, hanya 363 set soal selidik kembali dan boleh digunakan untuk analisis. Analisis regresi yang dilakukan untuk menguji hipotesis kajian. Hasilnya menunjukkan bahawa pembelajaran kolaboratif, timbal balik dan extroversion adalah positif signifikan kepada gelagat perkongsian ilmu melalui media sosial. Hasil kajian tersebut telah dibincangkan dan cadangan diberi untuk kajian akan datang.

Katakunci: Perkongsian pengetahuan, gaya pembelajaran kolaboratif, salingan, extroversion.



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List of Abbreviations

UUM	Universiti Utara Malaysia
COB	College of Business
CAS	College of Arts and Sciences
COLGIS	College of Law, Government and International Studies
KM	Knowledge Management
KS	Knowledge sharing
KSB	Knowledge Sharing Behavior
CLS	Collaborative learning style
REC	Reciprocity
EXT	Extroversion
GEN Y	Generation Young

List of Appendices

Appendix A Letter of Application to Collect Data

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In today economy, physical or tangible assets no longer measure an organization's strength or success. Experiences and insights in other words called knowledge are not housed in the 'organization' but knowledge lives in the people. Knowledge is something subjective that majority of people know and every individual have different kind of knowledge. However, organization gathered the knowledge either from the internal (within organization) and external (outside organization) sources for years. Organizations had been struggled with the knowledge and skills that they have to stay competitiveness in the market or industry. According to World Economic (2016), businesses today had gone through three different stages of industrial revolution which are mechanical production, mass production and automated production

Organizations started to realize that there is a huge undiscovered asset in the organization, which called knowledge. Knowledge becomes one of the most powerful assets in any organizations or enterprise, but very few are adopting and managing it. The problem is that most people don't know who has what information, or how to connect the dots and enable the knowledge to flow through into organizations or enterprises.

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REFERENCES

- Abidin, M. J. Z., Rezaee, A. A., Abdullah, H. N., & Singh, K. K. B. (2011). Learning Styles and Overall Academic Achievement in a Specific Educational System. *International Journal of Humanities and Social Science*, 1(10), 143–152.
- Agyemang, F. G., Dzandu, M. D., & Boateng, H. (2016). Knowledge sharing among teachers: the role of the Big Five Personality Traits. *VINE Journal of Information and Knowledge Management Systems*, 46(1), 64–84.
<http://doi.org/10.1108/VJIKMS-12-2014-0066>
- Ahmad, F. (2003). Tacit Knowledge Dissemination among UUM Lecturers. Unpublished Master degree dissertation, Universiti Utara Malaysia, Malaysia
- Ain Zuraini Bt. Zin Aris. (2014). Examining Relationships Between Individual, Organizational Factor & Knowledge Sharing Behavior. *Universiti Utara Malaysia*. Retrieved from http://etd.uum.edu.my/4128/13/s811009_abstract.pdf
- Alavi, M. & Leidner, D. E. (2001) Review: Knowledge Management and Management Systems: Conceptual Foundations and Research Issues. *MIS Quarterly*, 25(1), 107-136.

Alavi, M. and Leidner, D. E. (2001). Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues, *MIS quarterly*, pp. 107-136.

Al-Alawi, A. I., Al-Marzooqi, N. Y., & Mohammed, Y. F. (2007). Organizational culture and knowledge sharing: critical success factors. *Journal of Knowledge Management*, 11(2), 22–42. doi:10.1108/13673270710738898

Al-Hawamdeh, S. (2003). *Knowledge management cultivating knowledge professionals*. Oxford: Chandos Publishing.

Amayah, A. T., & Nelson, F. F. (2010). Knowledge Sharing – Types of Knowledge Shared and Rewards.

Amayah, A. T. (2013). Determinants of knowledge sharing in a public sector organization. *Journal of Knowledge Management*, 17(3), 454–471. doi:10.1108/JKM-11-2012-0369

Bakhuizen, N. (2012). Knowledge Sharing using Social Media in the Workplace: A chance to expand the organizations memory, utilize weak ties, and share tacit information?

Bartol, K.M. and Srivastava, A. (2002), “Encouraging knowledge sharing: the role of organizational reward systems”, *Journal of Leadership and Organization Studies*, 9, 64-76

Bellefroid, B. (2012) The new way of knowledge sharing a thesis research about the effects of NWOW on knowledge sharing, [Online], Available: <http://www.cs.uu.nl/education/scripties/pdf.php?SID=INF/SCR-2012-009>

Bennett, S., Maton, K. and Kervin, L. (2008), “The ‘digital natives’ debate: a critical review of the evidence”, *British Journal of Educational Technology*, 39(5), 775-786.

Brosdahl, D.J. and Carpenter, J.M. (2011), “Shopping orientations of US males: a generational cohort comparison”, *Journal of Retailing and Consumer Services*, 18, 548-554.

Bock, G. W. & Kim, Y. G. (2002). Breaking the Myths of Rewards: An Exploratory Study of Attitudes about Knowledge Sharing. *Information Resources Management Journal*, 15(2), 14-21.

Bolton, R. N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., ... Solnet, D. (2013). Understanding Generation Y and their use of social media: a review and research agenda. *Journal of Service Management*, 24(3), 245–267.

Boyd, danah m., & Ellison, N. B. (2012). A Conceptual Analysis of Social Networking and its Impact on Employee Productivity. *Journal of Business and Management*,

1(2), 48–52. <http://doi.org/10.9790/487X-0124852>

Burns, M., Pierson, E., & Reddy, S. (2014), “Working together: How teachers teach and students learn in collaborative learning environments”, *International Journal of Instruction*, 7(1), 17-32

Cabrera, A., Collins, W. C., & Selgado, J. F. (2006). Determinants of individual engagement in knowledge sharing. *International Journal of Human Resources Management*, 17(2), 245-264. <http://dx.doi.org/10.1080/09585190500404614>

Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2001). *Applied Business Research*. Theoretical framework. New York. Prentice Hall.

Chai, S., Das, S., & Rao, H. R. (2011). Factors Affecting Bloggers’ Knowledge Sharing: An Investigation Across Gender. *Journal of Management Information Systems*, 28(3), 309–342. <http://doi.org/10.2753/MIS0742-1222280309>

Chen, Irene YL, & Chen, Nian-Shing. (2009). Examining the Factors Influencing Participants' Knowledge Sharing Behavior in Virtual Learning Communities. *Journal of Educational Technology & Society*, 12(1).

- Chennamaneni, A. (2006). Determinants of Knowledge Sharing Behavior: Developing and Testing an Integrated Theoretical Model. Unpublished doctoral dissertation, University of Texas, Arlington.
- Chong, Y. W. (2013). *Formulating an integrated framework for conceptualizing, operationalizing and advancing knowledge management*. PhD, Universiti Malaya, Kuala Lumpur.
- Chong, C. W., & Besharati, J. (2014). Challenges of knowledge sharing in the petrochemical industry. *Knowledge Management & E-Learning: An International Journal (KM&EL)*, 6(2), 171–187. Retrieved from <http://kmel-journal.org/ojs/index.php/online-publication/article/view/256>
- Chong, C., Teh, P., & Tan, B. (2014), “Knowledge sharing among Malaysian universities” students: Do personality traits, class room and technological factors matter?”, *Educational Studies*, 40(1), 1-25.
- Christine Tan, N. L. (2011). Culture and trust in fostering knowledge-sharing. *Journal of Knowledge Management*, 9(4), 328–339. <http://doi.org/10.1057/kmrp.2011.37>
- Connelly, C. E., & Kelloway, K. (2003). Predictors of employees’ perceptions of knowledge sharing cultures. *Leadership & Organizational Development Journal*, 24(5/6), 294-301.

Costa, J. R., & McCrae, R. R. (1989). *NEO PI-R professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.

Crawford, C. B (2005). Effects of transformational and learning orientation. *Leadership & Organization Development Journal*, 19(3), 164-172.

Cyr, S., & Choo, C. W. (2010). The Individual and Social Dynamics of Knowledge Sharing – An Exploratory Study, *67(1)*, 1–37.

Dabbagh, N., & Reo, R. (2011a). Back to the future: Tracing the roots and learning affordances of social software. In M. J. W. Lee, & C. McLoughlin (Eds.), *Web 2.0-based e-learning: Applying social informatics for tertiary teaching* Hershey, PA: IGI Global, 1–20.

Davenport, T. H., and De Long, D. W. (1998). Successful knowledge management projects. *Sloan Management Review*, 39(2): 43-57.

Davenport, T. H., & Pruzak, L. (2000). *Working knowledge: How organizations manage what they know*. Boston: Harvard Business Press.

De Vries, R. E., Van Den Hooff, B., & De Ridder, J. A. (2006). Explaining knowledge sharing: The role of team communication styles, job satisfaction, and performance beliefs. *Communication Research*, 33(2), 115–135.

Drucker P.F. (1993). *Post-Capitalist Society*. HarperBusiness: New York.NY

Eid, M. I. M., & Al-Jabri, I. M. (2016). Social networking, knowledge sharing, and student learning: The case of university students. *Computers & Education*, 99, 14–27. <http://doi.org/10.1016/j.compedu.2016.04.007>

Eysenck, H. J. (1970). *The structure of human personality* (3rd ed.). London: Methuen

Falk, A., and Fischbacher (2006). A theory of reciprocity. *Games and Economic Behavior*, 54(2), 293–315.

Frost, A. (2013). *An educational KM site: Knowledge sharing*. Retrieved 13 October 2015, from <http://www.knowledge-management-tools.net/knowledge-sharing.html>

Funder, D. C. (2001). *The personality puzzle* (2nd ed.). New York: Norton.

Furnham, A., Jackson, C. J., & Miller, T. (1999). Personality, learning style and work performance. *Personality and Individual Differences*, 27(6), 1113–1122. [http://doi.org/10.1016/S0191-8869\(99\)00053-7](http://doi.org/10.1016/S0191-8869(99)00053-7)

Gaál Z., Szabó, L. and Obermayer-Kovács, N. (2014) 'Personal knowledge sharing: Web 2.0 role through the lens of Generations', ECKM 2014 – *Conference Proceedings*, 15th European Conference on Knowledge Management, Santarem, 362-370.

Gao, S. (2004). Understanding Knowledge Sharing Behavior. Unpublished Master Degree Dissertation, The Hong Kong University of Science and Technology.

Gao, F., Li, M., & Clarke, S. (2008). Knowledge, management and knowledge management in business operations. *Journal of Knowledge Management*, 12(2), 3-17.

George, D. & Mallery, M. (2010). Using SPSS for Windows step by step: a simple guide and reference. Boston, MA: Allyn & Bacon.

Goldberg, L. R. (1990). An alternative description of personality-the big five factor structure. *Journal of Personality and Social Psychology*, 59(6), 1216-1229.
<http://dx.doi.org/10.1037/0022-3514.59.6.1216>

Goldberg, L.R. (1992), "The development of markers for the big-five factor structure", *Journal of Personality and Social Psychology*, 59(6), 1216-1229.

Graf, S., Kinshuk, & Liu, T. C. (2008). Identifying Learning Styles in Learning Management Systems by Using Indications from Students' Behaviour. *Eighth IEEE International Conference on Advanced Learning Technologies*, 482-486.
<http://doi.org/10.1109/ICALT.2008.84>

- Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, 78(6),1360-1380
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 109–122. <http://dx.doi.org/10.1002/smj.4250171110>
- Grasha, A. F., & Riechmann, H. (1989). Grasha-Riechmann Student Learning Style Scales.
- Gupta, B. (2008). Role of Personality in Knowledge Sharing and Knowledge Acquisition Behaviour. *Journal of the the Indian Academy of Applied Psychology*, 34(1), 143–149
- Hair, J., Money, A., Page, M. & Samuouel, P. (2007). *Research Methods for Business*. Chichester, West Sussex: John Wiley & Sons Inc.
- Halawi, L., Aronson, J., & McCarthy, R. (2005). Resource-Based View of Knowledge Management for Competitive Advantage. *The Electronic Journal of Knowledge Management*, 3(2), pp. 75-86.
- Hazari, S., North, A., & Moreland, D. (2009). Investigating pedagogical value of wiki technology. *Journal of Information Systems Education*, 20(2), 187–198.

Holste, J. S., & Fields, D. (2010). Trust and tacit knowledge sharing and use, 14(1), 128–140. doi:10.1108/13673271011015615

Hooff, B. Van Den, & Ridder, J. a. De. (2004). Knowledge sharing in context: the influence of organizational commitment, communication climate and CMC use on knowledge sharing. *Journal of Knowledge Management*, 8(6), 117–130. doi:10.1108/13673270410567675

Hulley, S. B. (2007). *Designing clinical research*. Baltimore, MD: Lippincott, Williams & Wilkins.

Intermediar. (2012). Kennis delen lastig in bedrijven. Retrieved October 23, 2016, from <http://www.intermediarpw.nl/artikel/vakinformatie/302765/kennis-delen-lastig-in-bedrijven.html>

Ipe, M. (2003). Knowledge Sharing in Organization: A conceptual framework. *Human Resource Development Review*, 2(4), 337-359.

Jadin, T., Gnambs, T. and Batinic, B. (2013), “Personality traits and knowledge sharing in online communities”, *Computers in Human Behaviour*, 29(1), 210-216

Kamasak, R., & Bulutlar, F. (2010). The influence of knowledge sharing on innovation. *European Business Review*, 22(3), 306–317.

Krejcie & Morgan (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, pp. 607-610.

Lee, J. N. (2001). The Impact of Knowledge Sharing, Organizational Capability and Partnership Quality on IS Outsourcing Success. *Information & Management*, 38, 323-335.

Leinonen, T., & Durall, E. (2014), "Design thinking and collaborative learning", *Comunicar*, 21(42), 107-115.

Lewis, J. and West, A. (2009), "Friending': London-based undergraduates' experience of Facebook", *New Media & Society*, 11(7), 1209-1229

Lin, Q., Ye, D., & Bi, B. (2014). A Longitudinal and Multilevel Investigation on Factors Influencing Knowledge Sharing Behavior. *Journal of Management Policy and Practice*, 15(3), 88–101.

Ma, Z., Qi, L. & Wang, K. (2008). Knowledge Sharing in Chinese Construction Project Team and it affecting Factors. *Chinese Management Studies*, 2(2), 97-108.

Majid, S., Idio, C. D., Shuang, L., & Wen, Z. (2015). Preferences and Motivating Factors for Knowledge Sharing by Students. *Journal of Information & Knowledge Management*, 14(1), 1550004-1–9. <http://doi.org/10.1142/S0219649215500045>

- Mallasi, H., & Ainin, S. (2015). Investigating Knowledge Sharing Behaviour in Academic Environment. *Journal of Organizational Knowledge Management*, 2015(2015), 1–20. <http://doi.org/10.5171/2015.643253>
- Matzler, K., Renzl, B., Müller, J. and Herting, S. (2008), “Personality traits and knowledge sharing”, *Journal of Economic Psychology*, 29(3), 301-313
- McCrae, R. R., & Costa, P. T. (1987). Validation of five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 82(1), 112-127.
- Mumtaz Begam Abdul Kadir. (2013). The Relationship Between Learning Style, Academic Major, And Academic Performance Of College Students. In *The Asian Conference on Education 2013*, 1–16. <http://doi.org/10.5032/jae.1999.01030>
- Munro, B.H. (2005). *Statistical methods for health care research* (5th ed.). Philadelphia, PA:Lippincott Williams & Wilkins.
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23, 242–266..
- NAS (2006), *Generation Y: The Millennials...Ready or Not, Here They Come*, National Academy of Sciences.

Nazrin Izwan Mohd Noh. (2013). Trust , Reward And Trust, Reward And Knowledge Sharing Attitude As Antecedents Of Knowledge Sharing In The Public Sector.

Nonaka, I., & Takeuchi, H. (1995). The knowledge creating company: How Japanese companies create the dynamics of innovation. New York: Oxford University Press.

Nur Syazwani Mohd Nawi. (2009). *Knowledge Sharing Behavior among Academic Staff of Universiti Utara Malaysia*. Universiti Utara Malaysia. Retrieved from <http://etd.uum.edu.my/1773/>

Paroutis and Saleh (2009) Determinants of knowledge sharing using Web 2.0 technologies, *Journal of Knowledge Management*, 13(4), 52-63.

Raducanu, R.R. (2012), “Assessment of employees’ attitudes and intentions to share knowledge based on their individual characteristics”, Unpublished Master’s Dissertation Submitted to the Department of Strategic Management and Globalization, Copenhagen Business School, Copenhagen

Rai, R. K. (2001). Knowledge management and organizational culture: A theoretical integrative framework. *Journal of Knowledge Management*, 15(5), 779-801.

Rambe, P. (2012). Critical discourse analysis of collaborative engagement in Facebook postings, *Australasian Journal of Educational Technology*, 28(2), 295–314.

Riege, A. (2005). Three-dozen Knowledge Sharing Barriers Managers must consider. *Journal of Knowledge Management*, 9(3), 18-35.

Roberts, K. R. (2008). Using the Theory of Planned Behavior to Explore Restaurant Managers Support for Employee Food Safety. Unpublished doctoral dissertation, Kansas State University, Manhattan, Kansas.

Robson, R., Norris, D. M., Lefrere, P., Collier, G. & Mason, J. (2003). Share and share alike: The e-knowledge transformation comes to campus. *EDUCAUSE Review*.

Rosnani Bt. Daud. (2010). Knowledge Sharing among Students of Universiti Utara Malaysia (UUM). *Universiti Utara Malaysia*.

Salahuddin, N. (2009). Kualiti Perkhidmatan dan Hubungannya dengan Kepuasan Pelanggan di Hospital Sultanah Bahiyah, Alor Setar: Perbandingan antara Pesakit Luar dan Pesakit Dalam. Unpublished Master Degree, Universiti Utara Malaysia.

Setiarso, B. (2006). Knowledge Sharing with A New Dimension. *Knowledge Management International Conference & Exhibition (KMICE'06)*, Volume 1, Kedah.

Sekaran, U. (2003). *Research Methods for Business: A Skill Building Approach* (4th ed.). Wiley.

Shafieiyoun, S., & Safaei, A. M. (2013). Enhancing Knowledge Sharing Among Higher Education Students through Digital Game. *Journal of Knowledge Management, Economics and Information Technology*, III(3), 1–20.

Smith, S. D., & Caruso, J. B. (2010). The ECAR study of undergraduate students and information technology, 2010. : *EDUCAUSE Center for Applied Research (ECAR)*. Available from : <http://www.educause.edu/ecar>.

Teh, P., Yong, C., Chong, C. and Yew, S. (2011), “Do the big five personality factors affect knowledge sharing behaviour? A study of Malaysian universities Malaysian”, *Journal of Library and Information Science*, 16(1), 47-62.

Tomsic, A. & Suthers, D. D. (2006). Discussion tool effects on collaborative learning and social network structure. *Educational Technology & Society*, 9(4), 63-77

Uma, S., & Rogers, B. (2009). *Research Methods for Business: A Skill Building Approach*. (5th ed), Wiley. 423.

Van de Vijver, F.J.R. and Leung, K. (2001), “Personality in cultural context: methodological issues”, *Journal of Personality*, 69(6), 1007-1031.

- Van de Vijver, F.J.R. and Rothman, S. (2004), "Assessment in multicultural groups: the South African case", *South African Journal of Industrial Psychology*, 30(4), 1-7.
- Walkers J.W. (2002). Research Knowledge Sharing and you. *Human Resources Planning*, 25 (2), 10-13.
- Wang, S. & Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. *Human Resource Management Review*, 20(2), 115-131.
- Wang, S., Noe, R.A. and Wang, Z.M. (2011), "Motivating knowledge sharing in knowledge management systems: a quasi-field experiment", *Journal of Management*, 37(4). doi: 10.1177/0149206311412192.
- Wasko, M.M., and Faraj, S. (2005). Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly*, 29(1), 35-57.
- Wei, C., Choy, C., Chew, G., & Yen, Y. (2012), "Knowledge sharing patterns of undergraduate students", *Library Review*, 61(5), 327-344.
- Wesner, M.S. and Miller, T. (2008), "Boomers and Millenials have much in common", *Organizational Development*, 26(3), 89-96.

- Wickramasinghe, V., & Widyaratne, R. (2012). Effects of interpersonal trust, team leader support, rewards, and knowledge sharing mechanisms on knowledge sharing in project teams. *Vine*, 42(2), 214–236. doi:10.1108/03055721211227255
- Yazici, H. J. (2005). A study of collaborative learning style and team learning performance. *Education + Training*, 47(3), 216–229. <http://doi.org/10.1108/00400910510592257>
- Yeo, M. M. L. (2014). Social media and social networking applications for teaching and learning. *European Journal of Science and Mathematics Education*, 2(1), 53–62.
- Yi, J. (2009). A measure of knowledge sharing behavior: Scale development and validation. *Knowledge Management Research & Practice*, 7, 65–81.
- Yuen, T.J. and Majid, M.S. (2007), “Knowledge-sharing patterns of undergraduate students in Singapore”, *Library Review*, 56(6), 485-94.
- Yusof, Z. M., Ismail, M. B., Ahmad, K., & Yusof, M. M. (2012). Knowledge sharing in the public sector in Malaysia: a proposed holistic model. *Information Development*, 28(1), 43–54. doi:10.1177/0266666911431475