REFERENCES

Ann Cavoukian, PhD. 2013." BYOD (Bring Your Own Device) Is Your Organization Ready", Information and privacy commissioner Ontario, Canada.

Azni, A. H., Ahmad, R., Noh, M., Azri, Z., Hazwani, F., & Hayaati, N. 2014. "Network survivability analysis modeling approach for MANETS: A systematic review". In *Information and Communication Technologies (WICT), 2014 Fourth World Congress on* (pp. 74-79). IEEE.

AlHarthy, K., & Shawkat, W. 2013. "Implement network security control solutions in BYOD environment". In *Control System, Computing and Engineering (ICCSCE), 2013 IEEE International Conference on* (pp. 7-11). IEEE.

Armando, A., Costa, G., Merlo, A., & Verderame, L. 2015."Formal modeling and automatic enforcement of Bring Your Own Device policies". *International Journal of Information Security*, *14*(2), 123-140.

Armando, A., Costa, G., & Merlo, A. 2013. "Bring your own device, securely". In *Proceedings of the 28th Annual ACM Symposium on Applied Computing* (pp. 1852-1858). ACM.

Balnaves, M., & Caputi, P. 2001. "*Introduction to quantitative research methods: An investigative approach*". Sage.

Beckett, P. 2014. "BYOD–popular and problematic". *Network Security*, *2014*(9), 7-9.

Cohen, L., Manion, L., & Morrison, K. 2011. "*Research methods in education*": Routledge.

Chung, S., Chung, S., Escrig, T., Bai, Y., & Endicott- Popovsky, B. 2012. "2TAC: Distributed Access Control Architecture for" Bring Your Own Device" Security". In *BioMedical Computing (BioMedCom), 2012 ASE/IEEE International Conference on* (pp. 123-126). IEEE.

Costantino, G., Martinelli, F., Saracino, A., & Sgandurra, D. 2013. "Towards enforcing on-the-fly policies in BYOD environments". In *Information Assurance and Security (IAS), 2013 9th International Conference on* (pp. 61-65). IEEE.

De las Cuevas, P., Mora, A. M., Merelo, J. J., Castillo, P. A., García-Sánchez, P., & Fernández-Ares, A. 2015." Corporate security solutions for BYOD: A novel user-centric and self-adaptive system". *Computer Communications*.

Disterer, G., & Kleiner, C. 2013. "BYOD—Bring Your Own Device". *HMD Praxis der Wirtschaftsinformatik*, *50*(2), 92-100.

Ghosh, A., Gajar, P. K., & Rai, S. 2013. "Bring your own device (BYOD): Security risks and mitigating strategies". *Journal of Global Research in Computer Science*, *4*(4), 62-70.

Gessner, D., Girao, J., Karame, G., & Li, W. 2013. "Towards a user-friendly security-enhancing BYOD solution". *NEC Technical Journal*, *7*(3), 113-116.

Gimenez Ocano, S., Ramamurthy, B., & Wang, Y. 2015. "Remote mobile screen (RMS): An approach for secure BYOD environments". In *Computing, Networking and Communications (ICNC), 2015 International Conference on* (pp. 52-56). IEEE.

Hu, V. C., Ferraiolo, D., Kuhn, R., Schnitzer, A., Sandlin, K., Miller, R., & Scarfone, K. 2014. "Guide to attribute based access control (ABAC) definition and considerations". *NIST Special Publication*, *800*, 162.

Jaramillo, D., Newhook, R., & Nassar, N. 2014. "Techniques and real world experiences in mobile device security". In *SOUTHEASTCON 2014, IEEE*(pp. 1-6). IEEE.

Johnson, K., & Filkins, B. L. 2012. "SANS Mobility/BYOD Security Survey". *SANS Institute Whitepaper. http://www. sans. org/reading_roomlanalysts rogram Jmobilit y-sec-survey. Pdf.*

Kitchenham, B., Brereton, O. P., Budgen, D., Turner, M., Bailey, J., & Linkman, S. 2009. "Systematic literature reviews in software engineering–a systematic literature review". *Information and software technology*, *51*(1), 7-15.

Keele, S. 2007. "Guidelines for performing systematic literature reviews in software engineering". In *Technical report, Ver. 2.3 EBSE Technical Report. EBSE.*

Kitchenham, B. 2004. "Procedures for performing systematic reviews". *Keele, UK, Keele University*, *33*(2004), 1-26.

Ketel, M., & Shumate, T. 2015. "Bring Your Own Device: Security technologies". In *SoutheastCon 2015* (pp. 1-7). IEEE.

Kulkarni, G., Shelke, R., Palwe, R., Solanke, V., Belsare, S., & Mohite, S. 2014. "Mobile Cloud Computing-Bring Your Own Device". In *Communication Systems and Network Technologies (CSNT), 2014 Fourth International Conference on* (pp. 565-568). IEEE.

Kvale, S. & Brinkmann, S. 2009. Interviews (2nd Edition): "Learning the craft of qualitative research interviewing". Thousand Oaks, CA: Sage Publications.

Kang, D., Oh, J., & Im, C. 2014. "Context Based Smart Access Control on BYOD Environments". In *Information Security Applications* (pp. 165-176). Springer International Publishing.

Lydon, E. 2014."The Benefits and Threats of BYOD in a SME Enterprise". *A Systematic Literature Review"*

Lange, M., & Lieber

geld, S. 2013. "Crossover: secure and usable user interface for mobile devices with multiple isolated of personalities". In *Proceedings of the 29th Annual Computer Security Applications Conference* (pp. 249-257). ACM.

Miller, KW, vase, J, &Hurlburt, GF. 2012. "BYOD. Security and Privacy Considerations". IT professional, 14 (5), 0053-55.

Madzima, K., Moyo, M., & Abdullah, H. 2014. "Is bring your own device an institutional information security risk for small-scale business organizations?" In *Information Security for South Africa (ISSA), 2014* (pp. 1-8). IEEE.

Mayring, P. 2007. "On generalization in qualitatively oriented research". In *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* (Vol. 8, No. 3).

Morrow, B. 2012. "BYOD security challenges: control and protect your most sensitive data". *Network Security*, *2012*(12), 5-8.

Okoli, C., & Schabram, K. 2010. "A guide to conducting a systematic literature review of information systems research". *Available at SSRN 1954824*.

Patton, M. Q. 1990. Designing Qualitative Studies, Purposeful Sampling, Qualitative Miller, eds. Doing Qualitative Research.

Rhee, K., Eun, S. K., Joo, M. R., Jeong, J., & Won, D. 2013. "High-Level Design for a Secure Mobile Device Management System". In *Human Aspects of Information Security, Privacy, and Trust* (pp. 348-356). Springer Berlin Heidelberg.

Shumate, T., & Ketel, M. 2014. "Bring Your Own Device: Benefits, risks and control techniques". In *SOUTHEASTCON 2014, IEEE* (pp. 1-6). IEEE.

Scarfo .2012. "New Security Perspectives around BYOD", Broadband, Wireless Computing, Communication and Application, pp.446-451 IEEE.

Silverman, D. 2013. *"Doing qualitative research: A practical handbook"*. SAGE Publications Limited.

Sheuly, S. 2013." A systematic literature review on agile project".

Seth, F. P., Taipale, O., & Smolander, K. 2014. "Role of Software Product Customer in the Bring Your Own Device (BYOD) Trend: Empirical Observations on

Software Quality Construction". In *Product-Focused Software Process Improvement* (pp. 194-208). Springer International Publishing.

Sayre, S. 2001." *Qualitative methods for marketplace research"*. Thousand Oaks, CA: Sage.

Tokuyoshi, B. 2013. "The security implications of BYOD". *Network Security*, *2013*(4), 12-13.

Vignesh, U., & Asha, S. 2015. "Modifying Security Policies Towards BYOD". *Procedia Computer Science*, *50*, 511-516.

Verma, R., Govindaraj, J., & Gupta, G. 2014. "Preserving Dates and Timestamps for Incident Handling in Android Smartphones". In *Advances in Digital Forensics X* (pp. 209-225). Springer Berlin Heidelberg.

Zahadat, N., Blessner, P., Blackburn, T., & Olson, B. A. 2015. "BYOD security engineering: A framework and its analysis". *Computers & Security*, *55*, 81-99.

Zulkefli, Z., Singh, M. M., & Malim, N. H. A. H. 2015. " Advanced Persistent Threat Mitigation Using Multi Level Security–Access Control Framework". In *Computational Science and Its Applications--ICCSA 2015* (pp. 90-105). Springer International Publishing.

APPENDIX A

Data Extraction Form

1. General Information about the paper

1.1 Article Title

1.2. Article Author(s)

1.3 Source (i.e. Conference or journal)

1.4 Search string(s) used to retrieve the paper

1.5 Publication Date

2. Specific Information about the paper

2.1 Research methodology used in primary study

2.1.1 System design

2.1.2 Technical

2.1.3 Literature review

2.1.4 Survey

2.2 Study area of the research paper

2.2.1 Academic study

2.2.2 Industrial study

2.3 Participants involved in primary study

2.3.1 Professionals

2.3.2 Students

2.3.3 Number of students

2.4 Relevant area of research

2.4.1 BYOD concept

2.4.2 BYOD benefits and concerns

2.4.3 Existing methods and approaches on BYOD security policies

APPENDIX B

DEVELOPMENT A NEW FRAMEWORK FOR "BRING YOUR OWN DEVICE" SECURITY

Faculty of Science and Technology

Master of Computer Science via Mixed Mode in Information Security and Assurance

Interview Questions

This interview aims to evaluate the proposed BYOD security framework by (Systematic Literature Review). This interview questions divided into seven sections each one related with the elements of the framework.

Section A: Bring Your Own Device trend

Section B: Device Profiles

Section C: Anti-malware scanner

Section D: User Profiles

Section E: User Role

Section F: Internal Apps

Section G: External Apps

Section A: Bring Your Own Device Trend

Q1. Do you support the idea of using personal mobile device for work purposes?

.....

.....

Q2. Do you think the use of personal mobile device for work purposes increase the productivity and efficiency? And how?

.....

.....

Q3. How do you think that the adoption of BYOD policies can mitigate the emerging attacks of using mobile devices?

.....

.....

Section B: Device Profiles

Q1. Do you think that the setup of device profiles will increase the security of BYOD?

.....

.....

Q2. How can device profiles' setting secure BYOD environment?

.....

.....

Q2. Do you think that employees should not be able to adjust their device profiles? And why?

.....

.....

Section C: Anti-Malware Scanner

Q1. Do you support the idea of implementation of anti-malware scanner on mobile device?

.....

.....

Q2. How is implementing anti-malware scanner on mobile devices consider a good idea to mitigate the emerging attacks?

.....

.....

Q3. In your consideration, to what level the security will increase if the organization implements the use of anti-malware scanner?

.....

.....

Section D: User Profiles

Q1. How do you think that setting user profiles based on user role can help to apply more security to BYOD environment?

.....

.....

.....

Q2. What are the relationship between user profiles and BYOD security?

.....

.....

Q3. Do you think it is important that any organization should prevent their employees from adjust profiles setting in order to provide more security to BYOD?

.....

.....

Section E: User Role

Q1. Do you think the classification of user authorizations based on user role and job description is a good idea to secure BYOD environment?

.....

.....

Q2. How can classification of user authorizations help to provide more security to BYOD environment?

.....

.....

.....

Q3. Who should set the user roles?

.....

.....

.....

Q4. In your opinion, based on what this classification should be done?

.....

.....

Section F: Internal Applications

Q1. Is it important to control the access to internal apps of organization?

.....

.....

Q2.What if an employee accesses confidential resources on his/her mobile device outside the organization?

.....

.....

Q3. What security issues may carry if an employee login to internal apps outside the organization?

.....

.....

.....

Section G: External Applications

Q1. Do you support the idea of controlling the access to external apps through organization network?

.....

.....

Q2. How may external apps affect the security of BYOD environment?

.....

.....

.....

Q3. How about applying user roles to access the external apps?

.....

.....

Q4. How about playing games during working hours?

.....

.....

APPENDIX C

Interviews Documents with Experts

Section A: Bring Your Own Device Trend

Q1. Do you support the idea of using personal mobile device for work purposes?

Yes agree

Q2. Do you think the use of personal mobile device for work purposes increase the productivity and efficiency? And how?

Support mobility: People work around staff can be access thru mobile device anywhere, ein where

Q3. How do you think that the adoption of BYOD policies can mitigate the emerging attacks of using mobile devices?

Good to have byod policies staff would be acknowledge their responsibilities on their own device. This would reduce security issues

Section B: Device Profiles

Q1. Do you think that the setup of device profiles will increase the security of BYOD?

Yes

Q2. How can device profiles' setting secure BYOD environment?

Only authorize user can access the device with applying the password/credential

KHADIJAH CHAMILI
Ketua Bahagian Perkhidmatan ICT
Pusat Teknologi Maklumat
Universiti Sains Islam Malaysia

Section A: Bring Your Own Device Trend

Q1. Do you support the idea of using personal mobile device for work purposes?

yes, really support

Q2. Do you think the use of personal mobile device for work purposes increase the productivity and efficiency? And how?

1) Yes, PC not important no need to use
2) because work at any place and anytime

Q3. How do you think that the adoption of BYOD policies can mitigate the emerging attacks of using mobile devices?

If we have the policy we can help to prevent the attack from the user

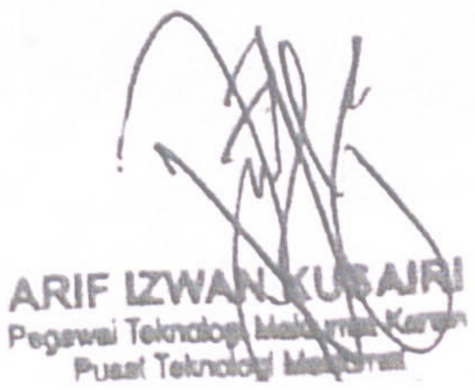
Section B: Device Profiles

Q1. Do you think that the setup of device profiles will increase the security of BYOD?

yes

Q2. How can device profiles' setting secure BYOD environment?

So minume standard security setting must be apply because may have security issue



Section A: Bring Your Own Device Trend

Q1. Do you support the idea of using personal mobile device for work purposes?

yes

Q2. Do you think the use of personal mobile device for work purposes increase the productivity and efficiency? And how?

yes, if it use probably and can manage them self

Q3. How do you think that the adoption of BYOD policies can mitigate the emerging attacks of using mobile devices?

for the policy must implies but insssure the policy through based on user requirements then enforce the policy

Section B: Device Profiles

Q1. Do you think that the setup of device profiles will increase the security of BYOD?

yes

But not need the access privacy user

Q2. How can device profiles' setting secure BYOD environment?

If they can control which source the can block

If ~~they~~ the user can follow the admin setting

Section A: Bring Your Own Device Trend

Q1. Do you support the idea of using personal mobile device for work purposes?

Yes

Q2. Do you think the use of personal mobile device for work purposes increase the productivity and efficiency? And how?

Yes . to allow user to Access work at anywhere in anytime

Q3. How do you think that the adoption of BYOD policies can mitigate the emerging attacks of using mobile devices?

with applying BYOD can control the accessability to the application / information

Section B: Device Profiles

Q1. Do you think that the setup of device profiles will increase the security of BYOD?

Sure

Q2. How can device profiles' setting secure BYOD environment?

BYOD will recognize the device by its profile in order to access the BYOD environment.

Dr Shandan

Section A: Bring Your Own Device Trend

Q1. Do you support the idea of using personal mobile device for work purposes?

yes

Q2. Do you think the use of personal mobile device for work purposes increase the productivity and efficiency? And how?

yes, because we normally familiar to the device and easy to use

Q3. How do you think that the adoption of BYOD policies can mitigate the emerging attacks of using mobile devices?

yes is possible,
1) what is policy? [illegible] policy support that.
2) depend on the policy itself.

Section B: Device Profiles

Q1. Do you think that the setup of device profiles will increase the security of BYOD?

yes

Q2. How can device profiles' setting secure BYOD environment?

~~Because~~ so the organization need to identify those setting

USIM

PSFST

POSTGRADUATE SOCIETY

Faculty Science & Technology

USIM

AKEPT

HIGHER EDUCATION LEADERSHIP ACADEMY

Certificate of Participation

This is to certify that

SANAA ABDOUSSALAM AMMAR ENNAJEH

3130057

has successfully participated in

Kolokium Siswazah Sains dan Teknologi (KoSiST'15)

with the theme:

Moulding Islamic Scholars through Scientific Research

12th October 2015 (Tuesday)

Ulang Tahun ke-15 USIM

USIM 2000-2015

(PROF. DR. NORITA MD. NORWAWI)

Dean of Faculty of Science and Technology