REFERENCES

Adom, D., & Hussain, E. K. and Joe, A. (2018). Theoretical and Conceptual Framework: Mandatory Ingredients of a Quality Research. *International Journal of Scientific Research*, *7*(1), 93–98.

Ainsworth, Q. (2019, August 27). *Data Collection Methods*. https://www.jotform.com/data-collection-methods/

Al-achi, A. (2019). The Student's t-Test : A Brief Description. *Journal of Hospital and Clinical Pharmacy*, *5*(1), 4–6.

Artač, M., Borovšak, T., Di Nitto, E., Guerriero, M., & Tamburri, D. A. (2016). Model-Driven continuous deployment for quality DevOps. *2nd International Workshop on Quality-Aware DevOps, pp.* 40–41. DOI: https://doi.org/10.1145/2945408.2945417

Artac, M., Borovssak, T., Di Nitto, E., Guerriero, M., & Tamburri, D. A. (2017). DevOps: Introducing infrastructure-as-code. *IEEE/ACM 39th International Conference on Software Engineering Companion (ICSE-C)*, pp. 497–498. DOI: https://doi.org/10.1109/ICSE-C.2017.162

Asiamah, N., Mensah, H. K., & Oteng-Abayie, E. F. (2017). General, target, and accessible population: Demystifying the concepts for effective sampling. *Qualitative Report*, *22*(6), 1607–1621.

Bordin S., De Angeli A. (2016). Focal Points for a More User-Centred Agile Development. In: Sharp H., Hall T. (eds) Agile Processes, in Software Engineering, and Extreme Programming. *17th international conference on International Conference on Agile Software Development (XP 2016)*, Lecture Notes in Business Information Processing, vol 251. Springer, Cham. DOI: https://doi.org/10.1007/978-3-319-33515-5_1

Britto, R., Freitas, V., Mendes, E., & Usman, M. (2014). Effort estimation in global software development: A systematic literature review. *9th International Conference on Global Software Engineering (ICGSE)*, pp. 135–144. DOI:

https://doi.org/10.1109/ICGSE.2014.11

Britto, R., Mendes, E., & Wohlin, C. (2016). A specialized global software engineering taxonomy for effort estimation. *11th IEEE International Conference on Global Software Engineering (ICGSE)*, PP. 154–163. DOI: https://doi.org/10.1109/ICGSE.2016.11

Bucena, I., & Kirikova, M. (2017). *Simplifying the DevOps Adoption Process Challenges of DevOps Adoption*. BIR Workshops, 1-15.

Chen, B. (2019). Improving the software logging practices in DevOps. *IEEE/ACM 41st International Conference on Software Engineering: Companion*, pp. 194–197. DOI: https://doi.org/10.1109/ICSE-Companion.2019.00080

Chung, S. (2017). Object-oriented programming with DevOps. *18th Annual Conference on Information Technology Education (SIGITE)*, 65. https://doi.org/10.1145/3125659.3125670

Debbiche, F. Wrang, M., & Sinkala, K. (2019). *Accelerating Software Delivery in the context of Requirements Analysis and Breakdown for DevOps: A multiple-case study Bachelor*. Thesis, University of Gothenburg.

Díaz, J., Almaraz, R., Pérez, J., & Garbajosa, J. (2018). DevOps in practice - An exploratory case study. *ACM International Conference Proceeding Series*, *Part F1477*, 18–20. DOI: https://doi.org/10.1145/3234152.3234199

Dudovskiy, J. (2018). *Data Collection Methods - Research-Methodology*. Business Research Methodology, https://research-methodology.net/research-methods/data-collection/

Ebert, C., Gallardo, G., Hernantes, J., & Serrano, N. (2016). DevOps. *IEEE Software*. 33(3), 94-100, DOI: https://doi.org/10.1109/MS.2016.68

Edureka. (2020). *DevOps Roles*, https://www.edureka.co/blog/devops-roles-which-is-your-dream/

El Bajta, M. (2015). Analogy-based software development effort estimation in global software development. *10th International Conference on Global Software*

Engineering Workshops (ICGSEW), pp. 51–54. DOI: https://doi.org/10.1109/ICGSEW.2015.19

Erich, F. M. A., Amrit, C., & Daneva, M. (2017). A qualitative study of DevOps usage in practice. *Journal of Software: Evolution and Process*, *29*(6), 1–20. DOI: https://doi.org/10.1002/smr.1885

Fávero, E. M. D. B., Pereira, R., Pimentel, A. R., & Casanova, D. (2018). Analogy-based Effort Estimation: A Systematic Mapping of Literature. *Infocomp*, *17*(2), 7–22.

Forsgren, N., & Kersten, M. (2018). DevOps metrics. *Communications of the ACM*, *61*(4), 44–48. DOI: https://doi.org/10.1145/3159169

Grant, C., & Osanloo, A. (2014). Understanding, Selecting, and Integrating a Theoretical Framework in Dissertation Research: Creating the Blueprint for Your "House." *Administrative Issues Journal Education Practice and Research*, *4*(2), 12–26. DOI: https://doi.org/10.5929/2014.4.2.9

Garusinghe, A., Perera, I., & Meedeniya, D. (2017). Service oriented product lines - managed service level agreements for better quality of service. *International Journal on Advances in ICT for Emerging Regions (ICTer)*, 10(2), 1-11. DOI: http://doi.org/10.4038/icter.v10i2.7184

Hemon, A., Fitzgerald, B., Lyonnet, B., & Rowe, F. (2020). Innovative Practices for Knowledge Sharing in Large-Scale DevOps. *IEEE Software*, *37*(3), 30–37. DOI: https://doi.org/10.1109/MS.2019.2958900

Hemon, A., Lyonnet, B., Rowe, F., & Fitzgerald, B. (2020). From Agile to DevOps: Smart Skills and Collaborations. *Information Systems Frontiers*, *22*(4), 927–945.DOI: https://doi.org/10.1007/s10796-019-09905-1

Ho, R. (2019). Introduction to Hypothesis Testing. *Understanding Statistics for the Social Sciences with IBM SPSS*, Chapman and Hall/CRC, 203–214. DOI: https://doi.org/10.4324/9781315182452-12

Hussain, W., Clear, T., & MacDonell, S. (2017). Emerging trends for global

DevOps: A New Zealand perspective. *12th International Conference on Global Software Engineering (ICGSE)*, PP. 21–30. DOI: https://doi.org/10.1109/ICGSE.2017.16

Hussaini, S. W. (2014). Strengthening harmonization of Development (Dev) and Operations (Ops) silos in IT environment through a systems approach. *17th IEEE International Conference on Intelligent Transportation Systems (ITSC)*, pp. 178–183. DOI: https://doi.org/10.1109/ITSC.2014.6957687

ICTA. (2019). National IT-BPM Workforce Survey 2019. *National IT - Bpm Workforce Survey*, https://nvq.gov.lk/LMI_Bulletin/2019_Vol_I/files/basic-html/page1.html.

Idri, A., Abran, A., & Khoshgoftaar, T. M. (2002). Estimating software project effort by analogy based on linguistic values. *International Software Metrics Symposium, pp.* 21–30. DOI: https://doi.org/10.1109/METRIC.2002.1011322

Idri, Ali, Abnane, I., & Abran, A. (2018). Support vector regression-based imputation in analogy-based software development effort estimation. *Journal of Software: Evolution and Process*, *30*(12), 1–23. DOI: https://doi.org/10.1002/smr.2114

Jabbari, R., Ali, N. Bin, Petersen, K., & Tanveer, B. (2016). What is DevOps? A systematic mapping study on definitions and practices. *ACM International Conference Proceeding Series*, *24-May-201*, 1–11. DOI: https://doi.org/10.1145/2962695.2962707

Jankowski, K. R. B., Flannelly, K. J., & Flannelly, L. T. (2018). The t-test: An Influential Inferential Tool in Chaplaincy and Other Healthcare Research. *Journal of Health Care Chaplaincy*, *24*(1), 30–39. DOI: https://doi.org/10.1080/08854726.2017.1335050

Jilcha Sileyew, K. (2020). Research Design and Methodology. In *Cyberspace*, pp. 1–12. DOI: https://doi.org/10.5772/intechopen.85731

Jones, S., Noppen, J., & Lettice, F. (2016). Management challenges for DevOps adoption within UK SMEs. *2nd International Workshop on Quality-Aware*

DevOps (QUDOS), pp. 7–11. DOI: https://doi.org/10.1145/2945408.2945410

Kaur, J. (2015). Techniques Used in Hypothesis Testing in Research Methodology – A Review. *International Journal of Science and Research (IJSR)*, *4*(5), 362–365.

Kerzazi, N., & Adams, B. (2016). Who needs release and DevOps engineers, and why?. *International Workshop on Continuous Software Evolution and Delivery, CSED*, *1*, pp. 77–83. DOI: https://doi.org/10.1145/2896941.2896957

Khan, K., & Araghinejad, S. (2010). The Evaluation of Well-known Effort Estimation Models based on Predictive Accuracy Indicators. *Measurement*, 213–251. DOI: https://doi.org/10.1007/978-94-007-7506-0_7

Krejcie, R. V, & Morgan, D. (1970). *Determining Sample Size for Research Activities*. *Educational and Psychological Mesurement*, 30, 607–610.

Laerd. (2018). *Understanding Descriptive and Inferential Statistics | Laerd Statistics*. Laerd Statistics. https://statistics.laerd.com/statistical-guides/descriptive-inferential-statistics.php

Laukkarinen, T., Kuusinen, K., & Mikkonen, T. (2017). DevOps in regulated software development: Case medical devices. *IEEE/ACM 39th International Conference on Software Engineering: New Ideas and Emerging Results Track (ICSE-NIER)*, pp. 15–18. DOI: https://doi.org/10.1109/ICSE-NIER.2017.20

Leite, L., Rocha, C., Kon, F., Milojicic, D., & Meirelles, P. (2019). A survey of DevOps concepts and challenges. *ACM Computing Surveys*, *52*(6). DOI: https://doi.org/10.1145/3359981

Lwakatare, L. E., Kuvaja, P., & Oivo, M. (2015). Dimensions of DevOps, in: Lassenius, C., Dingsøyr, T., & Paasivaara, M. (eds) Agile Processes, in Software Engineering, and Extreme Programming. *16th international conference on International Conference on Agile Software Development (XP 2015)*, Lecture Notes in Business Information Processing, vol 250. Springer,

Cham. Helsinki, Finland, pp. 212–217. DOI: https://doi.org/10.1007/978-3-319-18612-2

Lwakatare, L. E., Karvonen, T., Sauvola, T., Kuvaja, P., Olsson, H. H., Bosch, J., & Oivo, M. (2016). Towards DevOps in the embedded systems domain: Why is it so hard?. *Annual Hawaii International Conference on System Sciences*, 5437–5446. DOI: https://doi.org/10.1109/HICSS.2016.671

Lwakatare, L. E., Kuvaja, P., & Oivo, M. (2016). An Exploratory Study of DevOps Extending the Dimensions of DevOps with Practices. 11th International Conference on Software Engineering Advances (*ICSEA)*, pp. 91–99.

Meedeniya, D., Rubasinghe, I., & Perera, I. (2019a). Software Artefacts Consistency Management towards Continuous Integration: A Roadmap. International Journal of Advanced Computer Science and Applications, 10(4), 100-110. https://doi.org/10.14569/IJACSA.2019.0100411

Meedeniya, D., Rubasinghe, I., & Perera, I. (2019b). Traceability Establishment and Visualization of Software Artefacts in DevOps Practice: A Survey. *International Journal of Advanced Computer Science and Applications (IJACSA)*, *10*(7), 66 - 76. DOI: http://dx.doi.org/10.14569/IJACSA.2019.0100711

Meedeniya, D., Rubasinghe, I., & Perera, I. (2020). Artefact Consistency Management in DevOps Practice: A Survey. Pendyala, V., (Eds)., in *Tools and Techniques for Software Development in Large Organizations,* ch. 4, 98-129. Hershey, PA: IGI Global. DOI: http://dx.doi.org/10.4018/978-1-7998-1863-2.ch004

Menzies, T., Chen, Z., Hihn, J., & Lum, K. (2006). Selecting best practices for effort estimation. *IEEE Transactions on Software Engineering*, *32*(11), 883–895. DOI: https://doi.org/10.1109/TSE.2006.114

Mugizi, W. (2019). Constructing a Conceptual Framework for Quantitative Data Analysis in Social Science Research. *Interdisciplinary Journal of Education*, 2(1), 74 - 88. DOI: https://journals.iuiu.ac.ug/index.php/ije/article/view/77

Nicolau de França, B. B., Jeronimo, H., & Travassos, G. H. (2016). Characterizing DevOps by hearing multiple voices. *ACM International Conference Proceeding Series*, 53–62. DOI: https://doi.org/10.1145/2973839.2973845

Nielsen, P. A., Winkler, T. J., & Nørbjerg, J. (2017). Closing the IT Development-Operations Gap : The DevOps Knowledge Sharing Framework. *BIR Workshop*, 1-15.

Obilor, E. I., & Amadi, E. C. (2018). Test for significance of Pearson's correlation coefficient (r). *International Journal of Innovative Mathematics, Statistics & Energy Policies*, *6*(1), 11–23.

Owais, M., & Ramakishore, R. (2017). The effort, duration, and cost estimation in agile software development. *9th International Conference on Contemporary Computing (IC3)*. Noida, India, 2016, pp. 1-5, DOI: https://doi.org/10.1109/IC3.2016.7880216

Palihawadana, S., Wijeweera, C. H., Sanjitha, M. G. T. N., Liyanage, V. K., , Perera, I., & Meedeniya, D. (2017). Tool support for traceability management of software artefacts with DevOps practices. *Moratuwa Engineering Research Conference (MERCon)*, Colombo, Sri Lanka, pp. 129-134. DOI: 10.1109/MERCon.2017.7980469

Penners, R., & Dyck, A. (2015). Release Engineering vs. DevOps - An Approach to Define Both Terms. *Full-Scale Software Engineering (FsSE)*, 49–54.

Perera, P., Bandara, M., & Perera, I. (2017). Evaluating the impact of DevOps practice in Sri Lankan software development organizations. *16th International Conference on Advances in ICT for Emerging Regions (ICTer)*, pp. 281–287. DOI: https://doi.org/10.1109/ICTER.2016.7829932

Perera, P., Silva, R., & Perera, I. (2017). Improve software quality through practising DevOps. *17th International Conference on Advances in ICT for Emerging Regions (ICTer)*, pp. 13–18. DOI: https://doi.org/10.1109/ICTER.2017.8257807

Pérez, J. F., Wang, W., & Casale, G. (2015). Towards a DevOps approach for software quality engineering. *ACM/SPEC Workshop on Challenges in*

Performance Methods for Software Development (WOSP-C), pp.5–10. DOI: https://doi.org/10.1145/2693561.2693564

Phannachitta, P. (2018). Robust comparison of similarity measures in analogy-based software effort estimation. *International Conference on Software, Knowledge Information, Industrial Management and Applications (SKIMA)*. Malabe, Sri Lanka,, pp. 1-7. DOI: https://doi.org/10.1109/SKIMA.2017.8294126

Popli, R., & Chauhan, N. (2014). Cost and effort estimation in agile software development. *International Conference on Reliability, Optimization and Information Technology (ICROIT),* pp. 57–61. DOI: https://doi.org/10.1109/ICROIT.2014.6798284

Rahikkala, J., Leppänen, V., Ruohonen, J., & Holvitie, J. (2015). Top management support in software cost estimation. *International Journal of Managing Projects in Business*, *8*(3), 513–532. DOI: https://doi.org/10.1108/ijmpb-11-2014-0076

Riungu-Kalliosaari, L., Mäkinen, S., Lwakatare, L. E., Tiihonen, J., & Männistö, T. (2016). DevOps adoption benefits and challenges in practice: A case study. *International Conference on Product-Focused Software Process Improvement (PROFES).* LNCS 10027, 590–597. DOI: https://doi.org/10.1007/978-3-319-49094-6_44

Roche, J. (2013). Adopting DevOps Practices in Quality Assurance - Merging the art and science of software development. *Communications of the ACM*, 56(11), 1–8. DOI: https://doi.org/10.1145/2524713.2524721

Rong, G., Gu, S., Zhang, H., & Shao, D. (2017). DevOpsEnvy: An Education Support System for DevOps. 3*0th IEEE Conference on Software Engineering Education and Training (CSEE and T),* Savannah, GA, USA, pp. 37-46. DOI: https://doi.org/10.1109/CSEET.2017.17

Rubasinghe, I., Meedeniya, D., & Perera, I. (2017). Towards Traceability Management in Continuous Integration with SAT-Analyzer. *3rd International Conference on Communication and Information Processing (ICCIP 2017),* Tokyo, Japan, pp. 77-81. DOI: https://doi.org/10.1145/3162957.3162985

Rubasinghe, I., Meedeniya, D., & Perera, I. (2018a). Automated Inter-artefact Traceability Establishment for DevOps Practice. *17th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2018),* Singapore, pp. 211-216. DOI 10.1109/ICIS.2018.8466414

Rubasinghe, I., Meedeniya, D., & Perera, I. (2018b). Traceability Management with Impact Analysis in DevOps based Software Development. *International Conference on Advances in Computing, Communications, and Informatics (ICACCI),* pp. 1956–1962. DOI: https://doi.org/10.1109/ICACCI.2018.8554399

Rubasinghe, I., Meedeniya, D., & Perera, I. (2020). Tool Support for Software Artefact Traceability in DevOps Practice: SAT-Analyser. Pendyala, V., (Eds)., in *Tools and Techniques for Software Development in Large Organizations,* ch. 5, 130-167. Hershey, PA: IGI Global. DOI: http://dx.doi.org/10.4018/978-1-7998-1863-2.ch005

Sabrjoo, S., Khalili, M., & Nazari, M. (2015). Comparison of the accuracy of effort estimation methods," *2nd International Conference on Knowledge-Based Engineering and Innovation (KBEI)*, Tehran, Iran, pp. 724-728, DOI: https://doi.org/10.1109/KBEI.2015.7436134.

Sawyer, S. F. (2009). Analysis of Variance: The Fundamental Concepts. *Journal of Manual & Manipulative Therapy*, *17*(2), 27E-38E. DOI: https://doi.org/10.1179/jmt.2009.17.2.27e

Senapathi, M., Buchan, J., & Osman, H. (2018). DevOps capabilities, practices, and challenges: Insights from a case study. *22nd International Conference on Evaluation and Assessment in Software Engineering*, pp. 57–67, DOI: https://doi.org/10.1145/3210459.3210465

SLASSCOM. (2014). *Sri Lankan IT/BPM Industry 2014 Review*. 15. DOI: http://www.slasscom.lk/content/sri-lankan-it-bpm-industry-review-2014

stattrek.com. (2019). *How to Test Hypotheses*. *February*. DOI: https://stattrek.com/hypothesis-test/how-to-test-hypothesis.aspx

Taherdoost, H. (2017). Determining sample size; How to calculate the survey sample

size. *International Journal of Economics and Management Systems*, *2*(2), 237–239. DOI: http://www.iaras.org/iaras/journals/ijems

Taherdoost, H. (2018). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *SSRN Electronic Journal*, *5*(3), 28–36. DOI: https://doi.org/10.2139/ssrn.3205040

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, 53–55. DOI: https://doi.org/10.5116/ijme.4dfb.8dfd

Trochim, W. (2020). Research Methods Knowledge Base - Inferential Statistics. *The SAGE Glossary of the Social and Behavioral Sciences*, pp. 4–5. DOI: https://conjointly.com/kb/inferential-statistics/

Uyanık, G. K., & Güler, N. (2013). A Study on Multiple Linear Regression Analysis. *Procedia - Social and Behavioral Sciences*, *106*, 234–240. DOI: https://doi.org/10.1016/j.sbspro.2013.12.027

Wilkinson, D., & Peter, B. (2003). *Using Research Instruments - A Guide for Researchers*. Routledge; 1st edition.