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**USER READINESS AND INTENTION TO ADOPT  
BLOCKCHAIN TECHNOLOGY: PERSPECTIVE OF  
ACCOUNTING PRACTITIONERS IN MALAYSIA**



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TECHNOLOGY: PERSPECTIVE OF ACCOUNTING PRACTITIONERS IN  
MALAYSIA**



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**Thesis Submitted to  
Othman Yeop Abdullah Graduate School of Business,  
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(International Accounting)**



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## ABSTRACT

The world is catching up with blockchain technology, however, it has slowly caught the attention of Malaysians. Besides, the opportunities and challenges of blockchain technology for the accounting practitioners are still under-investigated and empirical evidence is yet to be provided. Therefore, the purpose of this study is to investigate the relationship between the constructs of technology readiness index (TRI) and the accounting practitioners' behavioural intention to adopt blockchain technology. A cross-sectional study has been carried out and employed PLS-SEM for data analysis. Findings indicate that, among the technology readiness variables, optimism and innovativeness have a significantly positive effect on the intention to adopt blockchain technology, whereas discomfort and insecurity do not have a significant effect on the intention to adopt blockchain technology. Therefore, the management teams, blockchain developers and the related authorities should put more effort, time and energy in discovering the opportunities and challenges of blockchain technology as well as accelerating the development of blockchain technology to avoid falling behind by other countries in gaining advantages from this perspective.

**Keywords:** Blockchain technology, Technology readiness, Adoption of technology, Accounting practitioners



## ABSTRAK

Perkembangan pesat teknologi blockchain telah menarik perhatian dunia dengan pantas, walaubagaimanapun teknologi tersebut berkembang pada kadar yang agak perlahan di Malaysia. Selain itu, pengetahuan tentang peluang dan cabaran teknologi blockchain dalam kalangan pengamal perakaunan di Malaysia juga masih belum diterokai sepenuhnya dan menyebabkan kekurangan bukti empirikal. Oleh itu, kajian ini bertujuan untuk mengkaji hubungan di antara konstruk indeks kesediaan teknologi (TRI) dan niat tingkah laku pengamal perakaunan untuk menggunakan teknologi blockchain. Kajian rentas keratan telah dijalankan dengan menggunakan PLS-SEM untuk analisis data. Dapatan kajian menunjukkan, di antara pembolehubah kesediaan teknologi, optimisme dan inovatif mempunyai kesan positif yang nyata terhadap niat untuk menggunakan teknologi blockchain, manakala ketidakselesaian dan ketidakselamatan tidak mempunyai kesan yang signifikan terhadap niat untuk menggunakan teknologi blockchain. Justeru, pihak pengurusan, pemaju blockchain dan pihak berkuasa yang berkaitan harus menggembeleng lebih banyak usaha, masa dan tenaga dalam menerokai peluang dan cabaran teknologi blockchain, di samping mempercepatkan pembangunan teknologi blockchain untuk mengelakkan negara daripada ketinggalan dalam mendapatkan manfaat dari perkembangan teknologi ini.

**Kata Kunci:** Teknologi blockchain, Kesediaan teknologi, Penggunaan teknologi, Pengamal perakaunan





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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Introduction**

This chapter discusses the background of this research. In order to find the impetus of the study and give a precise of understanding of the study, the problem statements, research objectives, and the research questions will be established in this chapter as well, thereby figuring out the significance of the present study. Besides, this chapter also sets up the scope and limitation of the study as well as the organization of the study.

### **1.2 Background of the study**

In this technology era, most of the substances are connected with the internet. Ford (2018) asserted that high-speed internet connectivity is seen as essential for modern life nowadays. With the internet connectivity, users are able to use video and audio entertainment, interact through social media, obtain healthcare and education services (Ford, 2018) as well as take up with digital payment services (GSMA, 2018). The internet connectivity also improves firm productivity and development, efficiency, and effectiveness of infrastructures that trigger economic growth (Ng, Lye, & Lim, 2013; Hodrab, Maitah, & Luboš, 2016; GSMA, 2018; Pradhan, Mallik, & Bagchi, 2018). There were plethora of technologies, systems, and databases worldwide. However, most of these technologies are standalone platforms for recording and sharing data and information.

## REFERENCES

- Aboelmaged, M. G. (2014). Predicting e-readiness at firm-level: An analysis of technological, organizational and environmental (TOE) effects on e-maintenance readiness in manufacturing firms. *Information Journal of Information Management*, 34(5), 639-651. doi: 10.1016/j.ijinformgt.2014.05.002
- Accenture. (2017). Banking on blockchain. A value analysis for investment banks. Retrieved from [https://www.accenture.com/\\_acnmedia/Accenture/ConversionAssets/DotCom/Documents/Global/PDF/Consulting/Accenture-Banking-on-Blockchain.pdf](https://www.accenture.com/_acnmedia/Accenture/ConversionAssets/DotCom/Documents/Global/PDF/Consulting/Accenture-Banking-on-Blockchain.pdf)
- Ahmed, S., & Broek, N.T. (2017). Food supply: blockchain could boost food security. *Nature*, 550 (7674), 43. doi: 10.1038/550043e.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Al-Ajam, A. S., & Nor, K. M. (2015). Challenges of adoption of internet banking services in Yemen. *International Journal of Bank Marketing*, 33(2), 178-194. doi: 10.1108/IJBM-01-2013-0001
- Alboaie, S., Rata, A., Horomnea, E., & Vaida, M. (2018). Semantic analysis audit in triple-entry accounting systems based on blockchain. *Electronics and Telecommunications*, 59(1), 14-18. Retrieved from <http://ijet.pl/index.php/ijet>
- Alfy S. A., Gomez, J. M., & Ivanov, D. (2018). Exploring instructors' technology readiness, attitudes and behavioral intentions towards e-learning technologies in Egypt and United Arab Emirates. *Education and Information Technologies*, 22(5), 2605-2627. doi: 10.1007/s10639-016-9562-1

- Alghamdi, A., Elbeltagi, I., Elsetouhi, A., & Haddoud, M. Y. (2018). Antecedents of continuance intention of using internet banking in Saudi Arabia: A new integrated model. *Strategic Change*, 27(3), 231-243. doi: 10.1002/jsc.2197
- Ali, S., Ullah, H., Akbar, M., Akhtar, W., & Zahid, H. (2019). Determinants of consumer intentions to purchase energy-saving household products in Pakistan. *Sustainability*, 11(1462), 1-20. doi: 10.3390/su11051462
- Almaiah, M. A., & Mulhem, A. A. (2019). Analysis of the essential factors affecting of intention to use of mobile learning applications: A comparison between universities adopters and non-adopters. *Education and Information Technologies*. doi: 10.1007/s10639-018-9840-1
- Andersen, N. (2016). Blockchain technology a game changer in accounting? Retrieved from:  
[https://www2.deloitte.com/content/dam/Deloitte/de/Documents/Innovation/Blockchain\\_Agame-changerinaccounting.pdf](https://www2.deloitte.com/content/dam/Deloitte/de/Documents/Innovation/Blockchain_Agame-changerinaccounting.pdf).
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423. doi: 10.1037/0033-2909.103.3.411
- Antonopoulos, A.M. (2014). Mastering Bitcoin: Unlocking Digital Cryptocurrencies. O'Reilly Media Inc.
- Apte, S. & Petrovsky, N. (2016). Will blockchain technology revolutionize excipient supply chain management? *J. Excipients Food Chem.* 7 (3), 76–78.
- Atkinson, K. M., Westeinde, J., Ducharme, R., Wilson, S. E., Deeks, S. L., Crowcroft, N., Hawken, S., & Wilson, K. (2016). Can mobile technologies improve on-



time vaccination? A study piloting maternal use of ImmunizeCA, a Pan-Canadian immunization app. *Human Vaccines & Immunotherapeutics*, 1-26. doi: 10.1080/21645515.2016.1194146

Bacon, D. R., Sauer, P. L., & Young, M. (1995). Composite reliability in structural equations modeling. *Educational and Psychological Measurement*, 55(3), 394-406. doi: 10.1177/0013164495055003003

Badri, M., Al-Rashedi, A., Yang, G., Mohaidat, J., & Al-Hammadi, A. (2014). Technology Readiness of School Teachers: An Empirical Study of Measurment and Segmentation. *Journal of Information Technology Education*, 13, 257-275. Retrieved from <http://www.jite.org/documents/Vol13/JITEv13ResearchP257-275Badri0616.pdf>

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74-94. Doi: 10.1007/BF02723327

Başgöze, P. (2015). Integration of technology readiness (TR) into the technology acceptance model (TAM) for M-shopping. *International Journal of Scientific Research and Innovative Technology*, 2(3), 26-35. Retrieved from <https://pdfs.semanticscholar.org/3fc0/6a9772f6344637ae41afea6fbb6c1e3d7230.pdf>

Bhardwaj, S., & Kaushik, M. (2018). Blockchain – Technology to drive the future. *Smart Innovation, Systems and Technologies*, 263-271. doi: 10.1007/978-981-10-5547-8\_28.

Bijttebier, P., Delva, D., Vanoost, S., Bobbaers, H., Lauwers, P., & Vertommen, H.

- (2000). Reliability and validity of the critical care family needs inventory in a Dutch-speaking Belgian sample. *Heart & Lung*, 29(4), 278-286. doi: 10.1067/mhl.2000.107918
- Brohl, C., Nelles, J., Brandl, C., Mertens, A., & Schlick, C. M. (2016). TAM Reloaded: A technology acceptance model for human-robot cooperation in production systems. *Communications in Computer and Information Science*, 97-103. doi: 10.1007/978-3-319-40548-3\_16
- Buterin, V. (2015, August 6). On public and private blockchains, Ethereum Blog 7. Retrieved from <https://blog.ethereum.org/2015/08/07/on-public-and-private-blockchains/>
- Cai, Y., & Zhu, D. (2016). Fraud detections for online businesses: a perspective from blockchain technology. *Financial Innovation*, 2(20), 1-10. doi: 10.1186/s40854-016-0039-4.
- Carlin, T. (2018). Blockchain and the journey beyond double entry. *Australian Accounting Review*, 1-7. doi: 10.1111/auar.12273
- Casino, F., Dasaklis, T. K., & Patsakis, C. (2019). A systematic literature review of blockchain-based applications: Current status, classification and open issues. *Telematics and Informatics*, 39, 55-81. doi: 10.1016/j.tele.2018.11.006
- Celik, H., & Kocaman, R. (2017) Roles of self-monitoring, fashion involvement and technology readiness in an individual's propensity to use mobile shopping. *Journal of Systems and Information Technology*. doi: 10.1108/JSIT-01-2017-0008

- Cenfetelli, R. T., & Bassellier, G. (2009). Interpretation of formative measurement in information systems research. *MIS Quarterly*, 33(4), 689-707. doi: 10.2307/20650323
- Chang, S. E., Chen, Y., & Lu, M. (2019). Supply chain re-engineering using blockchain technology: A case of smart contract based tracking process. *Technological Forecasting & Social Change*, 144, 1-11. doi: 10.1016/j.techfore.2019.03.015
- Chen, K., Chang, F., Chen, Y., & Chen, P. (2019a). The relationships between corporate credibility service convenience, and consumers' use intentions: Toward ticketing apps for low-cost carriers. *Sustainability*, 11(810), 1-18. doi: 10.3390/su11030810
- Chen, M. A., Wu, Q., & Yang, B. (2019). How valuable is FinTech innovation? *The Review of Financial Studies*, 32(5), 2062-2106. doi: 10.1093/rfs/hhy130
- Chen, S. C., Jong, D., & Lai, M. T. (2014). Assessing the relationship between technology readiness and continuance intention in an E-appointment system: Relationship quality as a mediator. *Journal of Medical Systems*, 38(9), 1-12. doi: 10.1007/s10916-014-0076-3
- Chen, Y., Yu, J., Yang, S., & Wei, J. (2018). Consumer's intention to use self-service parcel delivery service in online retailing: An empirical study. *Internet Research*. doi: 10.1108/IntR-11-2016-0334
- Chen, Z., Li, Y., Wu, Y., & Luo, J. (2017). The transition from traditional banking to mobile internet finance: an organizational innovation perspective – a comparative study of Citibank and ICBC. *Financial Innovation*, 3(12), 1-16. doi: 10.1186/s40854-017-0062-0

- Chin, W. W. (1998). The partial least squares approach for structural equation modeling. In G. A. Marcoulides (Ed.), *Methodology for business and management. Modern methods for business research* (pp. 295-336). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Christidis, K., & Devetsikiotis, M. (2016). Blockchains and smart contracts for the internet of things. *IEEE Access* 4, 2292–2303. doi: 10.1109/ACCESS.2016.2566339
- Coakes, S., & Steed, L. (2003). *Multiple response and multiple dichotomy analysis, SPSS*. Australia Milton: John Wiley & Sons.
- Cocco, L., Pinna, A., & Marchesi, M. (2017). Banking on blockchain: Costs savings thanks to the blockchain technology. *Future Internet*, 9(25), 1-20. doi: 10.3390/fi9030025
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2<sup>nd</sup> ed.). Hillsdale, Lawrence Erlbaum Associates, NJ.
- Cole, R., Stevenson, M., & Aitken, J. (2019). Blockchain technology: implications for operations and supply chain management. *Supply Chain Management: An International Journal*. doi: 10.1108/SCM-09-2018-0309
- Conway, E., & Byrne, D. (2018). *Contemporary Issues in Accounting*. Springer. doi: 10.1007/978-3-319-91113-7\_3
- Crosby, M., Pattanayak, P., Verma, S., & Kalyanaraman, V. (2017, October 11). Blockchain technology: beyond bitcoin. *Appl. Innovation* 2, 6–10. Retrieved from <https://j2-capital.com/blockchain-technology-beyond-bitcoin>

- Davis, F. D. (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–339. doi: 10.2307/249008
- Deloitte, (2016). Over the horizon. Blockchain and the future of financial infrastructure. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/mt/Documents/financial-services/gx-fsi-blockchain-deloitte-summary-mt.pdf>
- Deloitte. (2018). Breaking blockchain open. Deloitte’s 2018 global blockchain survey. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/cz/Documents/financial-services/cz-2018-deloitte-global-blockchain-survey.pdf>
- Dorasamy, M., Marimuthu, M., Raman, M., & Kaliannan, M. (2010). E-government services online: An exploratory study on tax E-filing in Malaysia. *International Journal of Electronic Government Research*, 6(4), 12-24. doi: 10.4018/jegr.2010100102
- Fanning, K., & Centers, D. (2016). Blockchain and its coming impact on financial services. *Journal of Corporate Accounting and Finance*, 27(5): 53–57. doi: 10.1002/jcaf.22179
- Ford, G. S. (2018). Is faster better? Quantifying the relationship between broadband speed and economic growth. *Telecommunications Policy*, 1-12. doi: 10.1016/j.telpol.2018.05.006
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.

- Frankowski, E., Baranski, P., & Bronowska, M. (2017). Blockchain technology and its potential in taxes. Retrieved from: [https://www2.deloitte.com/content/dam/Deloitte/pl/Documents/Reports/pl\\_Blockchain-technology-and-its-potential-in-taxes-2017-EN.PDF](https://www2.deloitte.com/content/dam/Deloitte/pl/Documents/Reports/pl_Blockchain-technology-and-its-potential-in-taxes-2017-EN.PDF)
- Frankowski, E., Baranski, P., & Bronowska, M. (2017). Blockchain technology and its potential in taxes. Retrieved from: [https://www2.deloitte.com/content/dam/Deloitte/pl/Documents/Reports/pl\\_Blockchain-technology-and-its-potential-in-taxes-2017-EN.PDF](https://www2.deloitte.com/content/dam/Deloitte/pl/Documents/Reports/pl_Blockchain-technology-and-its-potential-in-taxes-2017-EN.PDF)
- Gao, F., Zhu, L., Shen, M., Sharif, K., Wan, Z., & Ren, K. (2018). A blockchain-based privacy-preserving payment mechanism for vehicle-to-grid networks. *IEEE Network*. doi: 10.1109/MNET.2018.1700269
- Gao, L., & Bai, X. (2014). A unified perspective on the factors influencing consumer acceptance of internet of things technology. *Asia Pacific Journal of Marketing and Logistics*, 26(2), 211-231. doi: 10.1108/APJML-06-2013-0061
- Global System for Mobile Communications Association (GSMA) (2018). GSMA Wireless Intelligence Database. Retrieved from: [www.gsmainelligence.com](http://www.gsmainelligence.com).
- Guhr, N., Loi, T., Wiegard, R., & Breitner, M. H. (2013). Technology readiness in customers' perception and acceptance of M(obile)-payment: An empirical study in Finland, Germany, the USA and Japan. *11<sup>th</sup> International Conference on Wirtschaftsinformatik, Germany*, 119-133. Retrieved from <http://www.wi2013.de/proceedings/WI2013%20-%20Track%201%20-%20Guhr.pdf>
- Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate data analysis*. (7<sup>th</sup> ed.). Upper Saddle River, NJ: Prentice-Hall, Inc.

- Hair, J., Bush, R., & Ortinau, D. (2002). *Marketing Research within a Changing Information Environment* (2<sup>nd</sup> ed.). The McGraw-Hill Companies, Inc.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-152. doi: 10.2753/MTP1069-6679190202
- Hald, K. S., & Kinra, A. (2019). How the blockchain enables and constrains supply chain performance. *International Journal of Physical Distribution & Logistics Management*. doi: 10.1108/IJPDLM-02-2019-0063
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). *The use of partial least squares path modeling in international marketing*. In *Advances in International Marketing|Adv. Int. Mark.* (Vol. 20, pp. 277-319). (Advances in International Marketing). Bingley: Emerald Group Publishing. doi: 10.1108/S1474-7979(2009)0000020014
- Hmielowski, J. D., Boyd, A. D., Harvey, G., & Joo, J. (2019). The social dimensions of smart meters in the United States: Demographics, privacy, and technology readiness. *Energy Research & Social Science*, 55, 189-197. doi: 10.1016/j.erss.2019.05.003
- Hodrab, R., Maitah, M., & Luboš, S. (2016). The effect of information and communication technology on economic growth: Arab world case. *International Journal of Economics and Financial Issues*, 6(2), 765-775. Retrieved from <http://www.econjournals.com>
- Hughes, L., Dwivedi, Y. K., Misra, S. K., Rana, N. P., Raghavan, V., & Akella, V. (2019). Blockchain research, practice and policy: Applications, benefits, limitations, emerging research themes and research agenda. *International*

*Journal of Information Management*, 49, 114-129. doi:  
10.1016/j.ijinfomgt.2019.02.005

Huh, J., & Seo, K. (2018). Blockchain-based mobile fingerprint verification and automatic log-in platform for future computing. *The Journal of Supercomputing*. doi: 10.1007/s11227-018-2496-1

Humbani, M., & Wiese, M. (2017). A cashless society for all: Determining consumers' readiness to adopt mobile payment services. *Journal of African Business*, 1-21. doi: 10.1080/15228916.2017.1396792

Humbani, M., & Wiese, M. (2019). An integrated framework for the adoption and continuance intention to use mobile payment apps. *International Journal of Bank Marketing*. doi: 10.1108/IJBM-03-2018-0072

Ibrahim, H., & Yusoff, Y. M. (2015). User characteristics as antecedents of techno stress towards EHRM: From experts' views. *Procedia – Social and Behavioral Sciences*, 172, 134-141. Retrieved from [www.sciencedirect.com](http://www.sciencedirect.com)

Islam, M. S., Karia, N., Khaleel, M., Fauzi, F. A., Soliman, M. S. M., & Khalid, J. (2019). Intention to adopt mobile banking in Bangladesh: an empirical study of emerging economy. *International Journal Business Information Systems*, 31(1), 136-151. doi: 10.1504/IJBIS.2019.10013142

International Telecommunication Union (ITU) (2005, November). ITU internet reports – The Internet of Things. Retrieved from [www.itu.int/net/wsis/tunis/newsroom/stats/The-Internet-of-Things-2005.pdf](http://www.itu.int/net/wsis/tunis/newsroom/stats/The-Internet-of-Things-2005.pdf)



- Jackson, B. (2018). Understanding the implication of blockchain technology on the audit profession. *Honors Undergraduate Theses*, 421. Retrieved from <https://stars.library.ucf.edu/honorstheses/421>
- Kamble, S., Gunasekaran, A. & Arha, H. (2018). Understanding the blockchain technology adoption in supply chains-Indian context. *International Journal of Production Research*. doi: 10.1080/00207543.2018.1518610
- Karahanna, E., Straub, D. M., & Chervany, N. L. (1999). Information technology adoption across time: A cross-sectional comparison of pre-adoption and post-adoption beliefs. *MIS Quarterly*, 23(2), 183-213. Retrieved from <http://www.jstor.org/stable/249751>
- Karahoca, A., Karahoca, D., & Aksöz, M. (2017). Examining intention to adopt to internet of things in healthcare technology products. *Kybernetes*. doi: 10.1108/K-02-2017-0045
- Karajovic, M., Kim, H. M., & Laskowski, M. (2019). Thinking outside the block: Projected phases of blockchain integration in the accounting industry. *Australian Accounting Review*, 1-12. doi: 10.1111/auar.12280
- Kaushik, A. K., & Rahman, Z. (2017). An empirical investigation of tourist's choice of service delivery options – SSTs vs. service employees. *International Journal of Contemporary Hospitality Management*, 29(7). doi: 10.1108/IJCHM-08-2015-0438
- Khairuddin, A. A., Akhir, E. A. P., & Hassan, M. H. (2019). A case study to explore IoT readiness in outbound logistics. *International Journal of Supply Chain Management*, 8(2), 947-953. Retrieved from <https://ojs.excelingtech.co.uk/index.php/IJSCM/index>

- Kim, E. Y., & Yang, K. (2018). Self-service technologies (SSTs) streamlining consumer experience in the fashion retail stores: The role of perceived interactivity. *Journal of Global Fashion Marketing*. doi: 10.1080/20932685.2018.1503558
- Kim, T., & Chiu, W. (2018). Consumer acceptance of sports wearable technology: the role of technology readiness. *International Journal of Sports Marketing and Sponsorship*. doi: 10.1108/IJSMS-06-2017-0050
- Konstantinidis, I., Siaminos, G., Timplalexis, C., Zervas, P., Peristeras, V., & Decker, S. (2018). Blockchain for business applications: A systematic literature review. *Business Information Systems*, 384-399. doi: 10.1007/978-3-319-93931-5\_28
- Kozlowski, S. (2018). An audit ecosystem to support blockchain-based accounting and assurance. *Continuous Auditing*, 299-313. doi: 10.1108/978-1-78743-413-410181015
- Krejcie, R., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Kshetri, N. (2018). Blockchain's roles in meeting key supply chain management objectives. *International Journal of Information Management*, 39, 80–89. doi: 10.1016/j.ijinfmgt.2017.12.005
- Lacity, M. C. (2018). Addressing key challenges to making enterprise blockchain applications a reality. *MIS Quarterly Executive*, 17(3), 201-222. Retrieved from <https://aisel.aisnet.org/misqe/>

- Lam, S. Y., Chiang, J., & Parasuraman, A. (2008). The effects of the dimensions of technology readiness on technology acceptance: An empirical analysis. *Journal of Interactive Marketing*, 22(4), 19-39. doi: 10.1002/dir.20119
- Larimer, D. (2014). Delegated proof-of-stake white paper. Retrieved from <https://bitshares.org/technology/delegated-proof-of-stake-consensus/>
- Lei, A., Cruickshank, H., Cao, Y., Asuquo, P., Ogah, C.P.A., & Sun, Z. (2017). Blockchain-based dynamic key management for heterogeneous intelligent transportation systems. *IEEE Internet Things Journal*, 4(6), 1832–1843. Retrieved from <https://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=6488907>
- Lee, J. H., & Pilkington, M. (2017). How the blockchain revolution will reshape the consumer electronics industry. *IEEE Consumer Electronics Magazine*, 6(3), 19–23. doi: 10.1109/MCE.2017.2684916
- Lee, L., Petter, S., Fayard, D., & Robinson, S. (2011). On the use of partial least squares path modeling in accounting research. *International Journal of Accounting Information Systems*, 12(4), 305-328. doi: 10.1016/j.accinf.2011.05.002
- Lee, M. S. (2009). An Empirical Study about RFID Acceptance – Focus on the Employees in Korea. *International Journal of Economics and Management Engineering*, 3(7), 1539-1548. Retrieved from <https://waset.org/Publication/12234>
- Lee, Y., & Mirman, J. H. (2018). Parents' perspectives on using autonomous vehicles to enhance children's mobility. *Transportation Research*, 96, 415-431. doi: 10.1016/j.trc.2018.10.001

- Li, Z., Barenji, A. V., & Huang, G. Q. (2018). Toward a blockchain cloud manufacturing system as a peer to peer distributed network platform. *Robotics and Computer Integrated Manufacturing*, 54, 133-144. doi: 10.1016/j.rcim.2018.05.011
- Li, Z., Wang, W. M., Liu, G., Liu, L., & He, J. (2018a). Toward open manufacturing: A cross-enterprises knowledge and services exchange framework based on blockchain and edge computing. *Industrial Management & Data Systems*, 118(1), 303-320. doi: 10.1108/IMDS-04-2017-0142
- Lin, C. H., Shih, H. Y., & Sher, P. J. (2007). Integrating technology readiness into technology acceptance: The TRAM model. *Psychology and Marketing*, 24(7), 641-657. doi: 10.1002/mar.20177
- Lin, J. C., & Hsieh, P. (2007). The influence of technology readiness on satisfaction and behavioral intentions toward self-service technologies. *Computers in Human Behavior*, 23, 1597-1615. doi: 10.1016/j.chb.2005.07.006
- Lu, Q., & Xu, X. (2017). Adaptable blockchain-based systems: a case study for product traceability. *IEEE Software*, 34(6), 21–27. doi: 10.1109/MS.2017.4121227
- Lu, Y. (2018). Blockchain and the related issues: a review of current research topics. *Journal of Management Analytics*, 5(4), 231-255. doi: 10.1080/23270012.2018.1516523
- MacDonald, T. J., Allen, D. W. E., & Potts, J. (2016). Blockchains and the Boundaries of Self-Organized Economies: Predictions for the Future of Banking. *New Economic Windows*, 279-296. doi: 10.1007/978-3-319-42448-4\_14

- Martens, M., Roll, O., & Elliott, R. (2017). Testing the Technology Readiness and Acceptance Models for Mobile Payments Across Germany and South Africa. *International Journal of Innovation and Technology Management*, 14(6), 1-19. doi: 10.1142/S021987701750033X
- Martins, C., Oliveira, T., & Popovic, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management*, 34, 1-13. doi: 10.1016/j.ijinformgt.2013.06.002
- Min, H. (2018). Blockchain technology for enhancing supply chain resilience. *Business Horizons*, 1-11. doi: 10.1016/j.bushor.2018.08.012
- Mishra, A., Maheswarappa, S. S., & Colby, C. L. (2018). Technology readiness of teenagers: a consumer socialization perspective. *Journal of Services Marketing*. doi: 10.1108/JSM-07-2017-0262
- Montecchi, M., Plangger, K., & Etter, M. (2019). It's real, trust me! Establishing supply chain provenance using blockchain. *Business Horizons*, 1-11. doi: 10.1016/j.bushor.2019.01.008
- Mummalaneni, V., Meng, J. G., & Elliott, K. M. (2016). Consumer technology readiness and E-service quality in E-tailing: What is the impact on predicting online purchasing? *Journal of Internet Commerce*. doi: 10.1080/15332861.2016.1237232
- Nakamoto, S. (2008). Bitcoin: A peer-to-peer electronic cash system. Retrieved from <https://bitcoin.org/bitcoin.pdf>

- Ng, T. H., Lye, C. T., & Lim, Y. S. (2013). Broadband penetration and economic growth in ASEAN countries: A generalized method of moments approach. *Applied Economics Letters*, 20(9), 857-862. doi: 10.1080/13504851.2012.754538
- Oh, J., & Shong, I. (2017). A case study on business model innovations using Blockchain: focusing on financial institutions. *Asia Pacific Journal of Innovation and Entrepreneurship*, 11(3), 335-344. doi: 10.1108/APJIE-12-2017-038
- O'Leary, D. E. (2017). Configuring blockchain architectures for transaction information in blockchain consortiums: The case of accounting and supply chain systems. *Intelligent Systems in Accounting, Finance and Management*, 24(4), 138-147. doi: 10.1002/isaf.1417
- Oukes, T., Bon, A. C. v., DeVries, H., & Raesfeld, A. M. v. (2019). Acceptance of the artificial pancreas: Comparing the effect of technology readiness, product characteristics, and social influence between invited and self-selected respondents. *Journal of Diabetes Science and Technology*, 1-11. doi: 10.1177/1932296818823728
- Padhi, S. S., & Mohapatra, P. K. J. (2011). Information technology readiness index for adoption of e-procurement. *Electronic Government*, 8(1), 20-39. doi: 10.1504/eg.2011.037695
- Paech, P. (2017). The governance of blockchain financial networks. *Modern Law Review*. 80(6), 1073–1110. doi: 10.1111/1468-2230.12303
- Pallant. (2007). *A step by step guide to data analysis using SPSS for windows version 15* (3<sup>rd</sup> ed.). New York: McGraw Hill Open University Press.

- Papadopoulos, G. (2015). Blockchain and digital payments: An institutionalist analysis of cryptocurrencies, 153–172. doi: 10.1016/B978-0-12-802117-0.00007-2
- Paradis, M., Stiell, I., Atkinson, K. M., Guerinet, J., Sequeira, Y., Salter, L., Forster, A. J., Murphy, M. S. Q., & Wilson, K. (2018). Acceptability of a mobile clinical decision tool among emergency department clinicians: Development and evaluation of the Ottawa rules app. *JMIR mHealth and uHealth*, 6(6). doi: 10.2196/10263
- Parasuraman, A. (2000). Technology readiness index (TRI): A multiple-item scale to measure readiness to embrace new technologies. *Journal of Service Research*, 2(4), 307-320. doi: 10.1177/109467050024001
- Parasuraman, A., & Colby, C. L. (2014). An Updated and Streamlined Technology Readiness Index: TRI 2.0. *Journal of Service Research*, 1-16. doi: 10.1177/1094670514539730
- Pattansheti, M., Kamble, S. S., Dhume, S. M., & Raut, R. D. (2016). Development, measurement and validation of an integrated technology readiness acceptance and planned behaviour model for Indian mobile banking industry. *International Journal Business Systems*, 22(3), 316-342. doi: 10.1504/IJBIS.2016.076875
- Pereira, F. A. d. M., Ramos, A. S. M., Gouvea, f M. A., & Costa, M. F. d. (2015). Satisfaction and continuous use intention of e-learning service in Brazilian public organizations. *Computers in Human Behavior*, 46, 139-148. doi: 10.1016/j.chb.2015.01.016

- Pilkington, M. (2016). *Blockchain technology: principles and applications*. Research Handbook Digital Transformations, 225-253. doi: 10.4337/9781784717766.00019
- Piscini, E., Cotteleer, M., & Holdowsky, J. (2018). Blockchain: A technical primer. Retrieved from <https://www2.deloitte.com/insights/us/en/topics/emerging-technologies/blockchain-technical-primer.html>
- Pradhan, M. K., Oh, J., & Lee, H. (2018a). Understanding travelers' behavior for sustainable smart tourism: A technology readiness perspective. *Sustainability*, 10(4259), 1-20. doi: 10.3390/su10114259
- Pradhan, R. P., Mallik, G., & Bagchi, T. P. (2018). Information communication technology (ICT) infrastructure and economic growth: A causality evinced by cross-country panel data. *IIMB Management Review*, 30(1), 91-103. doi: 10.1016/j.iimb.2018.01.001
- Punch, K. F., & Oancea, A. (2014). *Introduction to Research Methods in Education*. Thousand Oaks, CA: SAGE Publications.
- PwC. (2018). Global economic crime and fraud survey. Retrieved from <https://www.pwc.com/gx/en/forensics/global-economic-crime-and-fraud-survey-2018.pdf>
- Rahman, S. A., Taghizadeh, S. K., Ramayah, T., & Alam, M. M. D. (2017). Technology acceptance among micro-entrepreneurs in a marginalized social strata: The case of social innovation in Bangladesh. *Technological Forecasting & Social Change*. doi: 10.1016/j.techfore.2017.01.027



- Ram, A., Maroun, W., & Garnett, R. P. (2016). Accounting for the bitcoin: Accountability, neoliberalism and a correspondence analysis. *Meditari Accountancy Research*, 24(1), 2-35. doi: 10.1108/medar-07-2015-0035
- Ramírez-Correa, P. E., Grandón, E. E., & Arenas-Gaitán, J. (2018). Assessing differences in customers' personal disposition to e-commerce. *Industrial Management & Data Systems*. doi: 10.1108/IMDS-07-2018-0280
- Rejikumar, G., Asokan, A. A., & Sreedharan, V. R. (2018). Impact of data-driven decision-making in lean six sigma: An empirical analysis. *Total Quality Management & Business Excellence*. doi: 10.1080/14783363.2018.1426452
- Richter, N. F., Cepeda, G., Roldan, J. L. & Ringle, C. M. (2016). European management research using partial least squares structural equation modeling (PLS-SEM). *European Management Journal*, 34(6), 589-597. doi: 10.1016/i.emj.2016.08.011
- Rogers, E. M. (1962). *Diffusion of Innovations* (3<sup>rd</sup> ed.). New York: The Free Press.
- Rogers, E. M. (1995). *Diffusion of Innovations* (4<sup>th</sup> ed.). New York: The Free Press.
- Rojas-Méndez, J. I., Parasuraman, A., & Papadopoulos, N. (2017). Demographics, attitudes, and technology readiness: A cross-cultural analysis and model validation. *Marketing Intelligence & Planning*, 35(1), 18-39. doi: 10.1108/MIP-08-2015-0163
- Roy, S. K., Balaji, M. S., Quazi, A., & Quaddus, M. (2018). Predictors of customer acceptance of and resistance to smart technologies in the retail sector. *Journal of Retailing and Consumer Services*, 42, 147-160. doi: 10.1016/j.jretconser.2018.02.005

- Rozario, A. M., & Vasarhelyi, M. A. (2018). Auditing with smart contracts. *International Journal of Digital Accounting Research*, 18, 1-27. doi: 10.4192/1577-8517-v18\_1
- Saberi, S., Kouhizadeh, M., Sarkis, J., & Shen, L. (2018). Blockchain technology and its relationships to sustainable supply chain management. *International Journal of Production Research*. doi: 10.1080/00207543.2018.1533261
- Schmitz, J., & Leoni, G. (2019). Accounting and auditing at the time of blockchain technology: A research agenda. *Australian Accounting Review*, 1-12. doi: 10.1111/auar.12286
- Scott, B., Loonam, J., & Kumar, V. (2017). Exploring the rise of blockchain technology: Towards distributed collaborative organizations. *Strategic Change*, 26(5), 423-428. doi: 10.1002/jsc.2142
- Sekaran, U. (2009). *Research Methods for Business: A Skills-Building Approach* (6<sup>th</sup> ed.). New York: John Wiley & Sons, Inc.
- Sekaran, U. & Bougie, R. (2016). *Research methods for business: A skill building approach* (7<sup>th</sup> ed.). Chichester, West Sussex, United Kingdoms: John Wiley & Sons.
- Sicilia, M., & Visvizi, A. (2018). Blockchain and OECD data repositories: opportunities and policymaking implications. *Library Hi Tech*. doi: 10.1108/LHT-12-2017-0276
- Sinha, M., Majra, H., Hutchins, J., & Saxena, R. (2018). Mobile payments in India: the privacy factor. *International Journal of Bank Marketing*. doi: 10.1108/IJBM-05-2017-0099

- Sun, S., Lee, P., & Law, R. (2018). Impact of cultural values on technology acceptance and technology readiness. *International Journal of Hospitality Management*. doi: 10.1016/j.ijhm.2018.06.017
- Swan, M. (2015, January). *Blockchain Blueprint for a New Economy*. O'Reilly Media Inc.
- Tabachnick BG, & Fidell LS. (2007). *Using Multivariate Statistics* (5<sup>th</sup> ed.). Boston: Pearson.
- Tan, A. W. K., Zhao, Y., & Halliday, T. (2018). A blockchain model for less container load operations in China. *International Journal of Information Systems and Supply Chain Management*, 11(2), 39-53. doi: 10.4018/IJISSCM.2018040103
- Tan, B. S., & Low, K. Y. (2017). Bitcoin – Its economics for financial reporting. *Australian Accounting Review*, 27(2), 220-227. doi: 10.1111/auar.12167
- Tapscott, D., & Tapscott, A. (2016). *Blockchain revolution: How the technology behind bitcoin is changing money, business, and the world*, portfolio, New York.
- The Committee to Strengthen the Accountancy Profession. (2014). Report on the strengthening of the accountancy profession in Malaysia. *Jabatan Akauntan Negara*.
- Tian, F. (2016). An agri-food supply chain traceability system for China based on RFID & blockchain technology. *13<sup>th</sup> International Conference on Service Systems and Service Management*. doi: 10.1109/icsssm.2016.7538424
- Toyoda, K., Mathiopoulos, P.T., Sasase, I., & Ohtsuki, T. (2017). A novel blockchain-based product ownership management system (POMS) for anti-counterfeits in

the post supply chain. *IEEE Access* 5, 17465–17477. doi: 10.1109/ACCESS.2017.2720760

Treiblmaier, H. (2018). The impact of the blockchain on the supply chain: a theory-based research framework and a call for action. *Supply Chain Management: An International Journal*, 23(6), 545-559. doi: 10.1108/SCM-01-2018-0029

Velde, V. d. J., Scott, A., Sartorius, K., Dalton, I., Shepherd, B., Allchin, C., Dougherty, M., Ryan, P., & Rennick, E. (2016). Blockchain in capital markets - The prize and the journey. Retrieved from <https://www.oliverwyman.com/content/dam/oliverwyman/global/en/2016/feb/BlockChain-In-Capital-Markets.pdf>

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425-478. Retrieved from <https://www.misq.org/>

Walczuch, R., Lemmink, J., & Streukens, S. (2007). The effect of service employees' technology readiness on technology acceptance. *Information & Management*, 44, 206–215. doi:10.1016/j.im.2006.12.005

Wang, R., Lin, Z., & Luo, H. (2018). Blockchain, bank credit and SME financing. *Quality & Quantity*. doi: 10.1007/s11135-018-0806-6

Wang, Y., & Kogan, A. (2018). Designing confidentiality-preserving blockchain-based transaction processing systems. *International Journal of Accounting Information System*. doi: 10.1016/j.accinf.2018.06.001

- Wang, Y., Singgih, M., Wang, J., & Rit, M. (2019). Making sense of blockchain technology: (How) will it transform supply chains? *International Journal of Production Economics*. doi: 10.1016/j.ijpe.2019.02.002
- Wiese, M., & Humbani, M. (2019). Exploring technology readiness for mobile payment app users. *The International Review of Retail, Distribution and Consumer Research*. doi: 10.1080/09593969.2019.1626260
- Wilson, B. (2010). Using PLS to investigate interaction effects between higher order branding constructs. *Handbook of Partial Least Squares*, Springer: Berlin, Germany, 621-652.
- Wong, C., Tan, G., W., Hew, T., & Ooi, K. (2016). Can mobile TV be a new revolution in the television industry? *Computers in Human Behavior*, 55, 764-776.
- Yang, S., Lu, Y., Gupta, S., Cao, Y., & Zhang, R. (2012). Mobile payment services adoption across time: An empirical study of the effects of behavioral beliefs, social influences, and personal traits. *Computers in Human Behavior*, 28, 129–142. doi:10.1016/j.chb.2011.08.019
- Yermack, D. (2017). Corporate Governance and Blockchains. *Review of Finance*, 1-25. doi: 10.1093/rof/rfw074
- Yusof, H., Munir, M. F. M. B., Zolkaply, Z., Jing, C. L., Hao, C. Y., Ying, D. S., Zheng, L. S., Seng, L., Y. & Leong, T. K. (2018). Behavioral Intention to Adopt Blockchain Technology: Viewpoint of the Banking Institutions in Malaysia. *International Journal of Advanced Scientific Research and Management*, 3(10), 274-279. Retrieved from [www.ijasrm.com](http://www.ijasrm.com)

- Zhao, J. L., Fan, S., & Yan, J. (2016). Overview of business innovations and research opportunities in blockchain and introduction to the special issue. *Financial Innovation*, 2(28). doi: 10.1186/s40854-016-0049-2
- Zheng, Z., Xie, S., Dai, H., Chen, X., & Wang, H. (2018). Blockchain challenges and opportunities: A survey. *International Journal Web and Grid Services*, 14(4), 352-375. doi: 10.1504/IJWGS.2018.095647
- Zhu, Q., & Kouhizadeh, M. (2019). Blockchain Technology, Supply Chain Information and Strategic Product Deletion Management. *IEEE Engineering Management Review*. doi: 10.1109/emr.2019.2898178
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business Research Methods* (9<sup>th</sup> Ed.). South-Western: Cengage Learning.



## APPENDICES

### Appendix 1.0



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#### **User Readiness and Intention to adopt Blockchain Technology: Viewpoint of Accounting Practitioners in Malaysia**

Blockchain is a peer-to-peer distributed database system that can use to record and store the transaction data permanently and promptly. The blockchain is organized into a list of ordered blocks, and the nodes of the network responsible for linking the blocks to each other in chronological order. Each block contains data, a hash and hash of the previous block. The hash is seen as the thumbprint, which is unique. All the parties in the blockchain would verify the transaction entries instantaneously, thus the possibility of making incorrect entries is tremendously reduced.

With the help of blockchain, the users can trace back historical data anytime and anywhere, thereby helping to paint a clearer picture of a company's financial standing and overall performance. The top features of blockchain technology (i.e. decentralization, transparency and immutability) can help to improve the credibility and quality of the accounting information, thereby helping in fighting fraud and economic crime.

This study intends to know whether accounting practitioners are aware of this technology and whether they are ready to adopt this new technology. All the questions are referring to blockchain technology.

This questionnaire will take about 10 to 15 minutes. This questionnaire is anonymous and the information you provide will be completely confidential. There is no right or wrong answer. Please answer according to the actual situation. Your answers will valuable information, thank you very much for your support of our academic research.

**Yours Sincerely**

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### Section A:

1. Have you experienced in using blockchain technology?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

2. How much do you know about blockchain technology?

<input type="checkbox"/>	Very good
<input type="checkbox"/>	Moderate understanding
<input type="checkbox"/>	Simple understanding
<input type="checkbox"/>	I have never heard of it

### Section B: Opinions about new technology (blockchain technology)

The following section lists some questions about your opinion regarding the use of blockchain technology. Please state the importance level for each of the following statement, and 1-5 represent the importance level from low to high. Please objectively evaluate the following statements.

**1= strongly disagree; 2= disagree; 3=neither disagree nor agree 4= agree; 5=**

**strongly agree**

		1	2	3	4	5
1.	New technologies contribute to a better quality of life.					
2.	Technology gives people more control over their daily lives.					
3.	Technology makes me more productive in life.					
4.	Technology gives me more freedom of mobility					
5.	Other people come to me for advice on new technologies.					
6.	In general, I am among the first in my circle of friends to acquire new technology when it appears.					
7.	I can usually figure out new high-tech products and services without help from others.					
8.	I keep up with the latest technological developments in my areas of interest.					



9.	Technical support lines are not helpful because they do not explain things in term I understand.					
10.	Sometimes, I think that technology systems are not designed for use by ordinary people.					
11.	There is no such thing as a manual for a high-tech product or service that is written in plain language.					
12.	When I get technical support from a provider of a high-tech product or service, I sometimes feel as if I am taken advantage of by someone who knows more than I do.					
13.	People are too dependent on technology to do things for them.					
14.	Too much technology distracts people to a point that is harmful.					
15.	Technology lowers the quality of relationships by reducing personal interaction.					
16.	I do not feel confident doing business with a place that can only be reached online.					
17.	I worry that information I make available over the Internet may be misused by others.					
18.	Whenever something gets automated, you need to check carefully that the system is not making mistakes.					
19.	I intend to use blockchain technology in the future.					
20.	I believe it is worth for me to use blockchain technology.					
21.	I predict that our firm will use blockchain technology in the future.					
22.	I expect that our firm will use blockchain technology or similar type of system.					

### Section C: Profile Respondent

The following section lists some questions about respondent background. Please tick the appropriate answers.

1. Gender

<input type="checkbox"/>	Male
<input type="checkbox"/>	Female

2. Age

<input type="checkbox"/>	Less than 25
<input type="checkbox"/>	25-35
<input type="checkbox"/>	36-45
<input type="checkbox"/>	46 and above

3. Race

<input type="checkbox"/>	Malay
<input type="checkbox"/>	Chinese
<input type="checkbox"/>	Indian
<input type="checkbox"/>	Others

4. Education background (Please tick your highest education)

<input type="checkbox"/>	Professional certificate
<input type="checkbox"/>	Diploma/STPM/ Matrikulasi
<input type="checkbox"/>	Bachelor degree
<input type="checkbox"/>	Master degree
<input type="checkbox"/>	PhD

5. The nature of your organisation

<input type="checkbox"/>	Public listed company (PLC)
<input type="checkbox"/>	Non-public listed company
<input type="checkbox"/>	Others

6. Working experience

<input type="checkbox"/>	Less than 5 years
<input type="checkbox"/>	5-10 years
<input type="checkbox"/>	11-15 years
<input type="checkbox"/>	16-20 years
<input type="checkbox"/>	More than 20 years

7. Category of accounting practitioner

<input type="checkbox"/>	Public practice (accounting, auditing and assurance, tax consultancy or advisory)
<input type="checkbox"/>	Public sector
<input type="checkbox"/>	Academia
<input type="checkbox"/>	Commercial industry

8. What is your job descriptions?

<input type="checkbox"/>	Accountant
<input type="checkbox"/>	Auditor
<input type="checkbox"/>	Tax practitioner
<input type="checkbox"/>	Consultant
<input type="checkbox"/>	Others (please specific)

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**THANK YOU**

**UUM**

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Universiti Utara Malaysia

## Appendix 2.0

Critical Values of the t Distribution

Significance Level						
1-Tailed:		.10	.05	.025	.01	.005
2-Tailed:		.20	.10	.05	.02	.01
D e g r e e s o f F r e e d o m	1	3.078	6.314	12.706	31.821	63.657
	2	1.886	2.920	4.303	6.965	9.925
	3	1.638	2.353	3.182	4.541	5.841
	4	1.533	2.132	2.776	3.747	4.604
	5	1.476	2.015	2.571	3.365	4.032
	6	1.440	1.943	2.447	3.143	3.707
	7	1.415	1.895	2.365	2.998	3.499
	8	1.397	1.860	2.306	2.896	3.355
	9	1.383	1.833	2.262	2.821	3.250
	10	1.372	1.812	2.228	2.764	3.169
	11	1.363	1.796	2.201	2.718	3.106
	12	1.356	1.782	2.179	2.681	3.055
	13	1.350	1.771	2.160	2.650	3.012
	14	1.345	1.761	2.145	2.624	2.977
	15	1.341	1.753	2.131	2.602	2.947
	16	1.337	1.746	2.120	2.583	2.921
	17	1.333	1.740	2.110	2.567	2.898
	18	1.330	1.734	2.101	2.552	2.878
	19	1.328	1.729	2.093	2.539	2.861
	20	1.325	1.725	2.086	2.528	2.845
	21	1.323	1.721	2.080	2.518	2.831
	22	1.321	1.717	2.074	2.508	2.819
	23	1.319	1.714	2.069	2.500	2.807
	24	1.318	1.711	2.064	2.492	2.797
	25	1.316	1.708	2.060	2.485	2.787
	26	1.315	1.706	2.056	2.479	2.779
	27	1.314	1.703	2.052	2.473	2.771
	28	1.313	1.701	2.048	2.467	2.763
	29	1.311	1.699	2.045	2.462	2.756
	30	1.310	1.697	2.042	2.457	2.750
	40	1.303	1.684	2.021	2.423	2.704
	60	1.296	1.671	2.000	2.390	2.660
	90	1.291	1.662	1.987	2.368	2.632
	120	1.289	1.658	1.980	2.358	2.617
	$\infty$	1.282	1.645	1.960	2.326	2.576

Examples: The 1% critical value for a one-tailed test with 25 df is 2.485. The 5% critical value for a two-tailed test with large ( $> 120$ ) df is 1.96.

Source: This table was generated using the Stata® function invttail.