

## Documents

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**The determinants of financial technology adoption amongst Malaysian waqf institutions**  
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### Abstract

**Purpose:** The popularity of financial technology (fintech) is rising in society due to fintech's direct benefits to users. This digital-based approach is one of the outputs of the Industrial Revolution 4.0, which transformed the path of human history and resulted in the development of digital transformation strategy innovation, more commonly referred to as digitalisation. Previous literature has predicted that integrating fintech into waqf management will facilitate fintech's growth and expand waqf outreach in Malaysia. Therefore, this paper aims to examine the impact of "Industry 4.0" on the expansion of fintech into cash waqf in Malaysia. **Design/methodology/approach:** This study uses Rogers' (2003) diffusion of innovation (DOI) model. In addition, a quantitative approach based on structural equation modelling (SEM) was utilised to analyse the relationship between awareness, knowledge, relative advantage, social norms, perceived trust and fintech adoption in waqf institutions by using the tool Analysis of Moment Structures (AMOS) version 23.0 with maximum likelihood estimation. **Findings:** The overall indicate that perceived trust and social norms significantly influence the adoption of fintech by Malaysian waqf. At the same time, other factors such as awareness, relative advantage and knowledge do not appear to significantly influence the adoption of fintech amongst Malaysian waqf institutions. **Research limitations/implications:** This study contributes significantly to the current literature concerning the Fourth Industrial Revolution and the wave of technologies. In addition, this study supports relevant theories, including DOI and other technology adoption theories. **Aside from this, the study provides empirical contributions to waqf management regarding collecting and distributing waqf, improving the level of regulation of the waqf institutions and enhancing trust between donors, waqf management and beneficiaries. This study is amongst the first in the area of waqf that focus on Malaysian waqf institutions. Originality/value:** This is important for policy development to support the utilisation of fintech for waqf institutions, which leads to more transparency and efficiency. **Peer review:** The peer review history for this article is available at: <https://publons.com/publon/10.1108/IJSE-04-2022-0264>. © 2023, Emerald Publishing Limited.

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Cash waqf; DOI; Fintech; Industry 4.0; Malaysia; Waqf institutions

### References

- Ali, H., Abdullah, R., Zaini, M.Z.  
**Fintech and its potential impact on Islamic banking and finance industry: a case study of Brunei Darussalam and Malaysia**  
(2019) *International Journal of Islamic Economics and Finance (IJIEF)*, 2 (1), pp. 73-108.
- Alma'amun, S., Shafiai, M.H.M., Shahimi, S., Adnan, M.S.A.  
**Waqf-based crowdfunding: a case study of waqfworld. org**  
(2018) *International Journal of Islamic Economics and Finance Research*, 1 (1 July), pp. 12-19.
- AISaleh, D., Thakur, R.  
**Impact of cognition, affect, and social factors on technology adoption**  
(2019) *International Journal of Technology Marketing*, 13 (2), pp. 178-200.
- Amin, H.  
**An analysis of online sadaqah acceptance among university graduates in Malaysia**  
(2022) *International Journal of Islamic and Middle Eastern Finance and Management*, 3 (2), pp. 11-25.
- Amin, H., Abdul-Rahman, A.R., Abdul-Razak, D.  
**An integrative approach for understanding Islamic home financing adoption in**

**Malaysia**

(2013) *International Journal of Bank Marketing*, 14 (2), pp. 28-46.

- Amin, H., Abdul-Rahman, A.R., Ramayah, T., Supinah, R., Mohd-Aris, M.  
**Determinants of online waqf acceptance: an empirical investigation**  
 (2014) *The Electronic Journal of Information Systems in Developing Countries*, 60 (1), pp. 1-18.
- Azganin, H.  
**Redevelopment of idle waqf property through financial technology: case of Malaysia**  
 (2019) *International Review of Entrepreneurial Finance*, 2 (1), pp. 42-58.
- Bass, F.M.  
**A new product growth for model consumer durables**  
 (1969) *Management Science*, 15 (5), pp. 215-227.
- Bick, M.J.A.  
**Diffusion of innovations**  
 (1963) *American Anthropologist*,  
 Rogers, E.M. (Ed
- Buhr, D.  
 (2015) *Social Innovation Policy for Industry 4.0*,  
 Friedrich-Ebert-Stiftung, Division for Social and Economic Policies, Berlin
- Cai, C.W.  
**Disruption of financial intermediation by fintech: a review on crowdfunding and blockchain**  
 (2018) *Accounting and Finance*, 58 (4), pp. 965-992.
- Cheng, S.J.M., Kao, Y.L.L., Ying-Chao Lin, J.  
**An investigation of the diffusion of online games in Taiwan: an application o**  
 (2004) *Journal of American Academy of Business*, 5 (2), pp. 439-445.
- Chille, F., Shayo, F., Kara, N.  
**The effects of perceived trust and ease of use on adoption of mobile marketing in the telecommunication industry of Tanzania**  
 (2021) *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)*, 76 (1), pp. 155-168.
- Cialdini, R.B., Trost, M.R.  
**Social influence: social norms, conformity and compliance**  
 (1998) *Journal of personality and Social Psychology*, 5, pp. 151-192.
- Cialdini, R.B., Reno, R.R., Kallgren, C.A.  
**A focus theory of normative conduct: recycling the concept of norms to reduce littering in public places**  
 (1990) *Journal of Personality and Social Psychology*, 58 (6), p. 1015.
- Çizakça, M.  
 (2015) *The waqf, its basic structure, development and contribution*, pp. 15-23.  
 WIEF-UiTM Occasional Papers
- (2021) *National fourth industrial revolution (4IR) policy*,
- Friess, P., Ibanez, F.  
**Putting the internet of things forward to the next level**  
 (2014) *Internet of Things Applications—From Research and Innovation to Market Deployment*, 3, p. 6.  
 Vermesan, O. and Friess, P. and,(Eds), p

- Gazali, H.M., Ismail, C.M.H.C.  
**A conceptual framework for cash Waqf with blockchain in financing education for the Islamic religious school in Malaysia**  
 (2019) *AL-itqan: Journal of Islamic Sciences and Comparative Studies*, 3 (1), pp. 73-88.
- Geber, S., Friemel, T.N.  
**Tracing-technology adoption during the COVID-19 pandemic: the multifaceted role of social norms**  
 (2022) *International Journal of Communication*, 16, p. 20.
- Gomber, P., Kauffman, R.J., Parker, C., Weber, B.W.  
**On the fintech revolution: interpreting innovation, disruption, and transformation forces in financial services**  
 (2018) *Journal of Management Information Systems*, 35 (1), pp. 220-265.
- Hair, J.F.  
**Successful strategies for teaching multivariate statistics**  
 (2006) *Proceedings of the 7th international conference on teaching statistics*,
- Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M.  
 (2017) *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2nd ed., SAGE Publications, Los Angeles
- Haron, M., Kamarudin, M.K., Fauz, N.A.M., Ariff, M.M., Zainuddin, M.Z.  
**Cash waqf collection: any potential factors to influence it?**  
 (2016) *International Journal of Business Economics and Law*, 9 (2), pp. 27-33.
- Hasan, R., Hassan, M.K., Aliyu, S.  
**Fintech and Islamic finance: literature review and research agenda**  
 (2020) *International Journal of Islamic Economics and Finance (IJIEF)*, 3 (1), pp. 75-94.
- Kamaruddin, M.I.H.  
**A case study on waqf reporting practices for governance, performance and socio-economic impact in Malaysia**  
 (2018) *International Journal of Management, Accounting and Economics*, 5 (9), pp. 693-714.
- Kapoor, K.K., Dwivedi, Y.K., Williams, M.D.  
**Rogers' innovation adoption attributes: a systematic review and synthesis of existing research**  
 (2014) *Information Systems Management*, 31 (1), pp. 74-91.
- Kathori, C.R.  
 (2004) *Research Methodology: Methods and Techniques (Second Rev)*, 7, p. 135.  
 p., New Age International (P) Limited
- Kenton, W.  
**Cash**  
 (2020) *Investopedia*,
- Kocsis, D.  
**Exploring the relationship between I.T. infrastructure and income inequality through diffusion of innovations theory**  
 (2020) *Proceedings of the Annual Hawaii International Conference on System Sciences*, pp. 4493-4502.  
 doi:, 2020-Janua
- Lee, I., Shin, Y.J.  
**Fintech: ecosystem, business models, investment decisions, and challenges**  
 (2018) *Business Horizons*, 61 (1), pp. 35-46.

- Mansor, A.N., Eng, W.K., Rasul, M.S., Hamzah, M.I.M., Hamid, A.H.A.  
**Effective classroom management**  
(2012) *International Education Studies*, 5 (5), pp. 35-42.
- Meyliana, M., Fernando, E.  
**The influence of perceived risk and trust in adoption of fintech services in Indonesia**  
(2019) *CommIT (Communication and Information Technology) Journal*, 13 (1), pp. 31-37.
- Mohamed, H., Ali, H.  
**Blockchain, fintech, and Islamic finance: building the future in the new Islamic digital economy**  
(2018) *The Deutsche Nationalbibliothek*, 2019.
- Moore, M.H.  
(1995) *Creating Public Value: Strategic Management in Government*, Harvard University Press, Cambridge
- Noonpakdee, W.  
**The adoption of artificial intelligence for financial investment service**  
(2020) *22nd International Conference on Advanced Communication Technology (ICACT)*, pp. 396-400.  
IEEE
- Prescott, M.B.  
**Diffusion of innovation theory**  
(1995) *ACM SIGMIS Database: The Database for Advances in Information Systems*, 26 (2), pp. 16-29.
- (2017) *Industry 4.0: The Current State of Play in Flemish Manufacturing*, Press Release, PwC, March 31, 2017
- Rahim, N.F., Bakri, M.H., Yahaya, S.N.  
**Fintech and shariah principles in smart contracts**  
(2019) *Fintech as a Disruptive Technology for Financial Institutions*, pp. 207-220.
- Roca, J.C., García, J.J., De La Vega, J.J.  
**The importance of perceived trust, security and privacy in online trading systems**  
(2009) *Information Management & Computer Security*, 17 (2), pp. 96-113.
- Rogers, E.M.  
(2003) *Diffusion of Innovations*, 5th ed., Free Press, New York
- Rogers, E.M., Cartano, G.G.  
**Methods of measuring opinion leadership**  
(1962) *Public Opinion Quarterly*, 2, pp. 435-441.
- Salaudeen, A.O., Zakariyah, H.  
**Challenges hindering islamic microfinance banks' sustainable financial inclusion: a case of Al-Hayat microfinance bank in Ogun state, Nigeria**  
(2022) *El-Barka: Journal of Islamic Economics and Business*, 5 (1).
- Schumacker, R.E., Lomax, R.G.  
(2010) *A Beginners Guide to Structural Equation Modeling*, Routledge, New York
- Sekaran, U., Bougie, J.R.G.  
(2009) *Research Methods for Business: A Skill Building Approach*, 5, p. 488.  
p., Wiley publishers
- Sekaran, U., Bougie, R.  
(2016) *Research Methods for Business: A Skill Building Approach*,

7th ed., Wiley, United Kingdom

- Sharofiddin, A., Idris, A.F.B., Othman, A.H.A.  
**The prospective of introducing Islamic banking system In Tajikistan: Using theory diffusion and innovation (TDI) approach**  
(2018) *International Journal of Economics, Commerce and Management*, 6 (7), pp. 74-94.
- Stock, J.H., Watson, M.W.  
(2006) *Introduction to Econometrics*,  
2nd ed., Addison-Wesley, Boston
- Suhaili, N.A., Palil, M.R.  
**Crowdfunding: a collaborative waqf based internet platform**  
(2016) *International Journal of Business, Economics and Law*, 11 (5), pp. 41-46.
- Suhr, D.  
(2006) *The Basics of Structural Equation Modeling*,  
SAS User Group of the Western Region of the United States (WUSS), Presented: Irvine, CA
- Suki, N.M.  
**A structural model of customer satisfaction and trust in vendors involved in mobile commerce**  
(2011) *International Journal of Business Science & Applied Management (IJBSAM)*, 6 (2), pp. 18-30.
- Vejlgard, H.  
**Process knowledge in the innovation-decision period**  
(2018) *Digital Communication Management*,  
IntechOpen
- Walters, C.G., Bergiel, B.J.  
(1989) *Consumer Behavior: A Decision-Making Approach*,  
South-Western Pub, Cincinnati
- Wani, T.A., Ali, S.W.  
**Innovation diffusion theory**  
(2015) *Journal of General Management Research*, 3 (2), pp. 101-118.
- Weston, R., Gore, P.A., Jr.  
**A brief guide to structural equation modeling**  
(2006) *The Counseling Psychologist*, 34 (5), pp. 719-751.
- Wheaton, B., Muthen, B., Alwin, D.F., Summers, G.F.  
**Assessing reliability and stability in panel models**  
(1977) *Sociological Methodology*, 8, pp. 84-136.
- Yoshida, E.  
(2019) *Fintech-enabled Cash Waqf: Effective Intermediary of Social Finance*, 1.  
doi:, Springer International Publishing
- Yoshida, E.  
**Revitalisation of waqf for socio-economic development**  
(2019) *Revitalization of Waqf for Socio-Economic Development*, 1, pp. 43-58.  
Ali, K.M., Ali, A.E.S. and Hassan, M.K.,(Eds), doi:, Springer International Publishing
- Zakariyah, H., Salaudeen, A.O., Othman, A.H.A., Rosman, R.  
**Enhancing waqf management through fintech in Malaysia: a conceptual framework on the technology acceptance model (TAM)**  
(2022) *Journal of Emerging Economies and Islamic Research*, 10 (2), pp. 62-73.

- Zavolokina, L., Dolata, M., Schwabe, G.

**Fintech transformation: how IT-enabled innovations shape the financial sector**  
(2017) *Lecture Notes in Business Information Processing*, 276, pp. 75-88.

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