Preparing SMEs for E-Invoice Adoption: Assessing Technology Readiness and Its Segmentation

Annie Ng Cheng San[1], Wong Tai Seng[1], Choy John Yee[1], Ong Hock Siong[1], Norhusnaida Che Hussain[1], Tan Min Khen[1]

[1] Faculty of Business and Finance, Universiti Tunku Abdul Rahman, Kampar, Malaysia
ncsan@utar.edu.my

Abstract. To propel the Malaysia's tax system, the authority is now gearing up for a tax reform to gradually implement the electronic invoicing (E-invoice) effective from June 2024. To guarantee its success, it is significant to ensure the employees in SME, must be ready for E-invoice adoption. Present study provides comprehensive overview of the current state of employees' technology readiness index and segment for E-invoice adoption in SMEs. A cross sectional survey was collected from 235 eligible respondents. The noteworthy findings reveal that the current readiness stage of SMEs is in moderate level. The employees have mixed feeling towards E-invoice adoption. The respondents have optimistic beliefs with E-invoice, yet it also revealed with high level of insecurity when using it. Additionally, majority of employees in SMEs fall into skeptics segment who are concerned about risk, failure, benefit and usefulness of E-invoice. The findings provide policymakers and practitioners with insightful overview of the state of E-invoice adoption readiness that they can use as handy reference to develop and modify system and strategies to fit and improve the current perceptions and expectations of SMEs.

Keyword: E-invoice, Readiness, Technology readiness index, Segment

1   Introduction

In this digital era, the business, industry and government sector are being fueled by technology innovation and transformation. To propel the Malaysia's tax system and to be align with global digital trend, Malaysian government and taxpayers are now gearing up for a tax reform to gradually implement the electronic invoicing (E-invoice) effective from June 2024. Such practice is viewed as one of the significant strategic thrusts for digital innovation in taxation.

E-invoice is a process of automated digital transmission of information between company, customers, suppliers, and tax authority in a unified electronic format [1]. All individual and organizations as well as partnership, trust, association, and other legal entities must engage in and adhere to the E-invoice obligation. By replacing the traditional paper invoice, E-invoice provides numerous of advantages. In a report [2], E-invoice ease the data collection process which later can save up to 80% of administrative and process cost for an organization. In addition, it improves the accuracy of information exchange as well as the transparency of invoicing process. Such practice

helps to reduce the shadow economy to prevent tax fraud and minimize commercial concealment to enhance the tax compliance [3].

With the announcement of Malaysia Budget 2023, Malaysia decided to implement E-invoice gradually in order to join the worldwide step for new tax administration era. The E-invoice pilot project will launch in June 2024, which targeted 4,000 companies with annual revenue of exceed RM 100million. It is then expanded to those businesses with annual revenue above RM 50million in year 2025 and subsequently mandatory for those companies with annual revenue exceeding RM 25million. The government aims to fully implement the E-invoice and mandatory to all business including small medium enterprise (SME) effective from year 2027. Based on the latest guideline issued by Inland Revenue Board of Malaysia [4], E-invoice requires a total of 53 data fields required in real time basis. In order to ensure that the business system can transmit the E-invoice effectively, it is mandate for the business to get ready to accept and improve their business system.

Despite joining the worldwide E-invoice trend, Malaysia is still making much slower progress than other Asian nations like Singapore, Indonesia, Vietnam, and the Philippines. To guarantee its success, it is significant to ensure the people in the organization especially the SME, must be ready to adopt the technology transformation and innovation especially the SME [5]. In Malaysia, the SME makes up 97% of the business establishment, which serve as the backbone of country's economy. According to KPMG head of tax, Mr Soh Liang Seng, business like SME need more time to prepare and ready for E-invoice adoption [6]. Nonetheless, no empirical evidence demonstrates the extent to which the employees in SME are ready for E-invoice adoption. Limited research examines the state of technology readiness among the people in the SME for the E-invoice innovation and transformation. The issue has raised a concern on whether they are ready to embrace the E-invoice? What is their state of technology readiness for E-invoice transformation? In view of the above, this study aims to bridge the research gaps with the objective of examine the state of technology readiness among the employees of SME for E-invoice adoption.

2   Literature Review

2.1   Technology Readiness

According to Parasuraman [7], technology readiness refers to individual's predisposition to embrace and adopt technology for goal accomplishment. Cimbaljević et al. [8] further added that technology readiness focuses one's belief on technology adoption. Positive or negative beliefs about technology may affect its readiness and adoption [9]. Parasuraman [7] highlighted that positive belief towards technology increase one's readiness and willingness to accept and adopt the technology innovation. Negative beliefs, however, can prevent them from moving forward. The author further developed a 36 items scale theory, Technology Readiness Index (TRI) to aid in assessing an individual's technology readiness. The 36-item scale of TRI was later upgraded into TRI 2.0 with more concise 16 item scale for wider and reliable applicability. This was done to address the length deficiency in the original TRI scale [10]. Technology adoption and transformation is costly. It is critical to develop and practice

effective strategy and management to ensure the success of technology transformation. Hence, TRI scale aids the authority and business owner to understand the current stage of the technological readiness in an organization.

In TRI 2.0, individual's technology readiness stage is divided into four dimensions which are optimism, innovativeness, discomfort and insecurity. All these four dimensions of technology readiness drive different level of technology adoption [11].

Optimism

Optimism indicates one has a positive view towards the technology [10]. In the research of Blut et al. [12], individual in the optimism stage tends to focus on positive comments and value of the technology, they are focusing on the benefits, usefulness and quality received from the technology adoption. Hence, they support technological transformation and believe that the technological innovation is mentally stimulating and learning about technology itself is rewarding. Similar to this, if individual is optimistic about E-invoice transformation, they then have the ability to persuade others to view E-invoice adoption from a more positive perspective which will enhance the trust level in it [13].

Innovativeness

According to Omar et al. [14], innovative people have strong openness towards new technology adoption, they are the pioneer for technology transformation. The study further highlights that innovative individual is willing to risk and try for advanced technology transformation and adoption. They often keep updated with the trends and exhibit with novelty seeking and creativity behaviour [15]. As highlighted in the finding of Kampa [16], people under the innovative stage of technology readiness are the strongest motivator for a new service. As a result, those that exhibit innovation tend to be open for E-invoice despite the potential risks.

Discomfort

Discomfort focus on ones' comfort level with the technology adoption [7]. People feel anxiety and discomfort towards new technology as they lack control and think that the technology transformation is complex [8]. A study conducted by McNamara et al. [11] found that comfort level is significantly influence the innovation adoption. People who are in high level stage of discomfort has little confidence towards the technology transformation. They will resist the technology adoption because they perceive that the technology adoption is unpleasant and stressful. As a result, it demonstrates that those who are in discomfort state of technology readiness has low desire for E-invoice transformation as they have lack of control over it [17].

Insecurity

Feeling of insecurity comes from mistrust of technology. When one is doubt with the advantages of technology, as well as its ability and reliability, the insecurity level rises [13]. Additionally, Hung et al. [18] explain that the insecurity on technology manifests as a lack of confidence in its security and privacy. People that are insecure will place emphasis on the potential risk or harmful consequences on the technology inno-

vation. Therefore, they are skeptical with the E-invoice and consequently inhibit its adoption and usage [19].

2.2 Technology Readiness Index and Its Significance

The four dimensions of technology readiness introduced by the TRI 2.0, with optimism and innovativeness serve as the driver to motivate the E-invoice adoption and transformation while discomfort and insecurity serve as the inhibitor to E-invoice acceptance [14]. Additionally, technology readiness varies from one person to another [9]. People in different stage of technology readiness possess different technology adoption behaviour. Some people might actively embrace new technology with positive attitude, while others would reject it or require encouragement to do so [12, 20]. As a result, TRI 2.0 is significant to authority, business owners and practitioners as it facilitates the understanding for dynamics behind the implementation of E-invoice in SME to ease the adoption process and guarantee its success. It also offers a unique prism through which to see the significance of technological readiness and beliefs in SMEs and consequently, to employ alternative strategy to capture technology adoption behaviour for E-invoice.

2.3 Technology Readiness Segment

Additionally, Parasuraman et al. [10] highlighted that it is critical to classify the individual based on their technology segment on new technology adoption. Based on the individual's technology readiness state, the authors proposed that there are five different segments, which are skeptics, explorers, avoiders, pioneers and hesitators (see Table 1).

Table 1. Technology Readiness Segment

Variables	Description
Skeptics	Individual who tends to have detached view of technology, with less extreme positive/negative beliefs
Explorers	Individual with high degree of motivation for new technology adoption and less resistance to change.
Avoiders	Individual who resists to change and has low level of motivation in new technology adoption.
Pioneers	Individual who is concern about technology advantages and risk.

Adopted from Parasuraman et al. [10].

According to Kim et al. [21], technology segment is critical as it helps the business and authority to understand their users' preferences. Ramírez-Correa et al. [22] further supported that the technology readiness segment helps to predict individual technology adoption behavior. When the users are clearly distinct within the specific segment, it helps the service providers to develop and modify the marketing strategy to response efficiently to their needs. It is then led to facilitate the adoption of new technology [23].

It is notable that several empirical findings confirmed that the TRI is useful and significant to capture the relationship between individual's technology readiness and

its use behaviour [8, 9, 12, 14, 23]. Malaysia will gradually implement E-invoice beginning in January 2024. Therefore, it is valuable to identify the current state of technology readiness among SME employees with regard to E-invoice adoption in order to employ strategic plan to ensure its success. As such, this study adapted the scale from TRI 2.0 proposed by Parasuraman et al. [10] to identify the level of E-invoice readiness as well as its segment among the employees in Malaysian SME.

3 Research Methodology

3.1 Sampling Design

Employees in the SME across Malaysia were the target population. The determination of SME in Malaysia focusing on annual turnover value and number of employees (refer to Figure 1). This study focused on the SME located in Selangor as it has the largest distribution of SME in Malaysia which total 242,846 firms. The sample was capture from the reliable government source, SME Corp [24]. 540 SMEs were sampled systematically with the reference from Krejcie and Morgan [25] and a total of 235 completed and usable survey questionnaires were received. It depicts 43.5% response rate, and the sample size is deemed acceptable in the context of SME [26, 27].
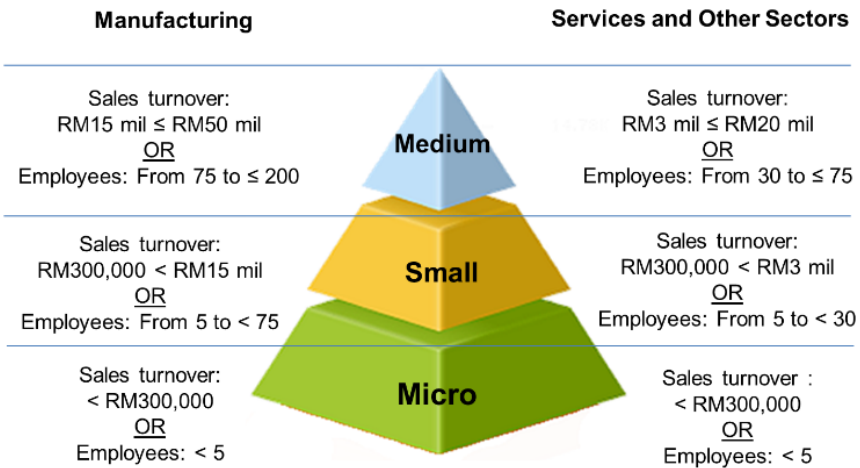

Fig 1. Definition of SME [24].

The survey questionnaire for this study consists of three sections. First section asked about the demographic profile of the respondents and SME with total six questions (see Table 2). This is to ensure the sample selected truly represent the population of SME. Second section focuses on the general question to understand their knowledge about the E-invoice adoption. For the third study, it focuses on the 16 items scale from TRI 2.0 proposed by Parasuraman et al. [10] to measure the respondents' technology readiness on the E-invoice using five-point Likert scale with

categories ranging from (1) strongly disagree to (5) strongly agree. Findings and discussion were presented in the following section.

4   Finding and Discussion

4.1   Preliminary Analysis and Demographic Profile

This study adopted a single survey method for data collection, an examination is needed to ensure the common method bias (CMB) is free from the dataset. Hence, Harman's single-factor analysis was conducted and found that this study is free from CMB with 38.55% of the variance, which is less than the threshold of 50% [28]. Additionally, a t-test was conducted to examine the differences between earlier and late respondents. Based on the t-test result, there is no significant difference between the earlier and late respondents. The demographic profile of respondents' is presented in Table 2. Most of the SMEs participated in the survey are from service (60%), followed by construction (23%), manufacturing (9%), agriculture (6%) and mining and quarrying (1%) industry. Majority of them are in business for five to fifteen years and in the size of small, which have five to thirty employees. In addition, majority of the representative for SME are senior management.

Additionally, the Table 2 also depicts that all the target respondents aware about the E-invoice but only 40% of them are ready for the E-invoice adoption.

Table 2. Demographic Profile

		Count	Frequency
Gender	Female	120	51
	Male	115	49
Job Position	Junior management	50	21
	Senior management	120	51
	Top management	65	28
Sector of firm	Services	140	60
	Construction	55	23
	Manufacturing	22	9
	Agriculture	15	6
	Mining and quarrying	3	1
Age of firm	Less than 5 years	27	11
	5-15 years	158	67
	More than 15 years	50	21
Number of employees	Less than 5	75	32
	From 5 to < 30	105	45
	From 30 to ≤ 75	55	23
Have you heard about E-invoice?		Yes	100%
Are you ready for E-invoice?		Yes	40%

			No	60%

4.2   Reliability and Validity Test

Table 3 depicts all the result of reliability and validity test for the four technology readiness stages. According to Hair et al. [29], internal consistency reliability can be accessed via Cronbach's alpha and composite reliability. From the result shown in Table 3, the scores for Cronbach's alpha are range from 0.756 to 0.891 and composite reliability's scores from 0.793 to 0.932. All the scores are above the suggested value of 0.7 by Nunnally [30]. It shows that all the technology readiness elements have satisfactory internal consistency reliability. Additionally, the convergent validity for the technology readiness elements was examined. From the AVE results shown in Table 3, all the constructs score above the recommended value 0.5 as suggested by Hair et al. [29]. To detect the discriminant validity in order to identify the extent of differences between each technology readiness stage, heterotrait-monotrait ratio (HTMT) of correlations was adopted (see Table 4). From the HTMT results presented in Table 4, HTMT value for all elements are smaller than threshold value of 0.900 suggested by Henseler et al. [31]. It is therefore concluded that all the technology readiness stage of optimism, innovativeness, discomfort and insecurity are truly distinct from each other. Hence, the discriminant validity has achieved.

Table 3. Reliability and Convergent Validity Test

	Cronbach Alpha	Composite Reliability	AVE	Item	Loading
Optimism	0.815	0.912	0.765	O1	0.894
				O2	0.759
				O3	0.830
				O4	0.843
Innovativeness	0.891	0.932	0.792	IV1	0.865
				IV2	0.887
				IV3	0.891
				IV4	0.841
Discomfort	0.756	0.793	0.825	D1	0.728
				D2	0.813
				D3	0.889
				D4	0.799
Insecurity	0.875	0.907	0.722	IS1	0.773
				IS2	0.854
				IS3	0.801
				IS4	0.798

Table 4. Discriminant Validity Analysis

	1	2	3	4
Optimism				
Innovativeness	0.245 [0.197, 0.489]			
Discomfort	0.329 [0.243, 0.486]	0.466 [0.376, 0.705]		
Insecurity	0.276 [0.187, 0.566]	0.318 [0.241, 0.751]	0.547 [0.458, 0.879]	

Note: The 95% bias-corrected confidence intervals are shown within the brackets.

4.3   State of E-Invoice Readiness

Table 5 depicts the technology readiness state from the target respondents in the SME. From the result, majority respondents, with the mean score of 3.55, expressed optimistic towards the E-invoice adoption but were less receptive to E-invoice, with a mean score of 2.92 for innovativeness. At the same time, large group of respondents are insecure with the E-invoice adoption (mean score 3.90). They are skeptical about the E-invoice implementation and worry about using it. Additionally, the respondents had moderate level of discomfort with the E-invoice (mean score 3.15). Due the uncertainty and complexity of the E-invoice, respondents may discomfort to adopt the technology. Overall, the mean score for technology readiness is 2.86, which show an average sign for the E-invoice readiness. It demonstrates that the employees in SMEs are not highly support nor resist for the E-invoice adoption. The employees' technology segment will be discussed in the next section for better understanding and development of readiness state for the employees in SME for E-invoice adoption.

Table 5. Technology Readiness Segment

	Mean
Optimism	3.55
Innovativeness	2.92
Discomfort	3.15
Insecurity	3.90
Overall TRI *	2.86

Note: The overall TRI score is based on the average scores on the four dimensions of technology readiness (after the reverse coding on discomfort and insecurity).

4.4   E-Invoice Readiness Segment

To determine the E-invoice readiness segment, each individual score for the technology readiness was combined and later divided into five segments as suggested by Parasuraman et al. [10]. The five segments are explorers, pioneers, skeptics, hesitators and avoiders. Figure 2 shows the target respondents' technology readiness segment for E-invoice adoption.
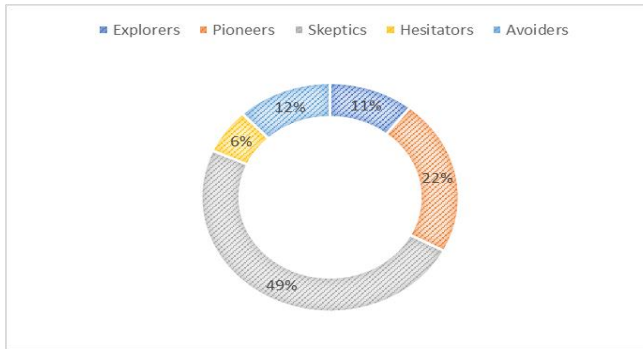
Fig 2. E-invoice Readiness Segment

From the Figure 2, 49% of respondents in SMEs are skeptics. This group of employees has moderate level of motivation but with high level of insecurity in new technology like E-invoice adoption. Hallikainen et al. [32] claimed that employees in the skeptics segment perceived that the technology's trustworthiness was insufficient, which discouraged them from using the technology. However, they are willing for E-invoice adoption, once they are familiar with the procedures of the E-invoice system and convinced of the benefits and the security of E-invoice [23].

Subsequently, pioneers make up the second largest segment with 22% of the sample. Pioneers segment of respondents are highly motivated individual with little convince for new technology adoption. They are optimistic and innovative in technology adoption. They are willing for E-invoice adoption but at the same time, they are concerned technical support to be satisfied [33].

Next, avoiders cover 12% of the targeted employees in SMEs. According to Mason et al. [34], employees under avoiders' segment are least likely to adopt technology as they have strong negative beliefs about the technology. As a result, employees of SMEs who falls under this avoiders segment therefore experience significant levels of discomfort and insecurity when adopting E-invoice, which ultimately results in low levels of optimism and technology adoption.

In addition, there are 11% of the employees fall into the explorers segment. According to Kim et al. [21], explorers are the early technology adopters. As compared to other segments, Ramírez-Correa et al. [22] reported that explorers have the lowest level of discomfort and insecurity on technology. Hence, they are optimism and innovative in technology, which increased their motivation to adopt E-invoice. Lastly, hesitators are the least technology readiness segment found in this study.

From the Figure 2, hesitators cover only 6% from the employees in SMEs. According to Parasuraman et al. [10], hesitators exhibit a low level of innovativeness. This is further supported by Mason et al. [34], where the study found that hesitators had high level of perceived barriers and they are more reluctant to change and adopt new technology.

5   Discussion, Implication, and Conclusion

The E-invoice implementation is mandatory enforcement for business in Malaysia gradually effective from June 2024. Its readiness and adoption especially the SMEs have become an important driver in ensuring the success of E-invoice journey. Grounded in the TRI 2.0 scales suggested by Parasuraman et al. [10], this study provides comprehensive overview of the employees' technology readiness index and segment for E-invoice adoption in SMEs.

Particularly, the outcome of analysis reveals noteworthy findings. Firstly, mixed feeling of employees towards E-invoice adoption was revealed in the TRI index. Insecurity was ranked with the highest mean score. This depicts that the employees of SMEs are anxious about the implementation of E-invoice as they distrust of E-invoice. They have limited knowledge of how the E-invoice works and affects their routine tasks. They become skeptical about the E-invoice due to their sense of insecurity, which lower their motivation to use it. In contrast, optimism ranks second highest mean score in the technology readiness index. The employees have optimistic beliefs with E-invoice, yet it also revealed with high level of insecurity when using it. This outcome is plausible given that despite their optimism towards the E-invoice implementation, the insecurity, discomfort, and lack of knowledge and control associated with E-invoice have been identified as the reason of low motivation for adoption.

In addition, it is noteworthy to find out from this study that majority of the employees in SMEs are in skeptics segment (49%). As highlighted by Ramírez-Correa et al. [22], skeptics are self-conscious users. They emphasis on the perceived risk, benefit and usefulness of the technology. Instead of valuing success, skeptics are sensitive to failure. Therefore, if they have doubts about the technology, they might be less likely to adopt it. Nevertheless, they will adopt it once they were convinced of the benefits of the E-invoice. As a result, the finding spells out that employees in SMEs are encouraged to opt E-invoice if they are certain of its usefulness and understand its benefits.

5.1   Practical Implications

From practical perspective, present study revealed the technology readiness index and the individual segment towards E-invoice readiness and adoption. The necessity and benefits of E-invoice must be emphasized by policymakers and business owners in order to satisfy the expectations of the employees from skeptics segment. For instance, tax authority must develop easy-to-follow instruction, frequently asked question and real time customer service to ease the usage of E-invoice among SMEs. Policy makers and SMEs owners are also reminded that the insecurity and discomfort are the obstacle for E-invoice adoption. Hence, the system development of E-invoice should focus on user-friendly interface. Complexity of system frequently leads to annoyance, disappointment or dissatisfaction for the skeptic employees in SMEs, which deters them from adopting E-invoice.

To facilitate the usage of E-invoice and reduce the concern of risks and uncertainties among the SMEs, authority must provide supportive policies, E-invoice demonstration, education and training. Policy makers and business owners must collaborate to organize training, roadshow and workshops for all employees in SMEs. They

should take initiative to let the employees to familiar with E-invoice. It is helpful to educate, advance their knowledge and improve understanding towards the E-invoice adoption by listening to the employees' input and clear their doubts towards E-invoice.

5.2 Conclusion and Recommendations for Future Studies

The present study is constrained by shortcomings. First off, this study was a cross sectional survey focusing the employees of SMEs viewpoint. It is limit to single dimension and lack of observation in the overall evolution of E-invoice adoption. Future researchers are urged to extend the study to all business practitioners with longitudinal study to track the evolution of E-invoice adoption. Furthermore, this study is a descriptive study, future study should explore empirically on the integration of TRI with technology model like technology acceptance model (TAM) or Technological Organizational Environmental framework to understand the mediating effect between TRI, the factors and E-invoice adoption. Additionally, technology adoption can be influenced by the motivational factors. Future research could include the intrinsic and extrinsic motivation to mediate between the attitude of users and E-invoice adoption.

Summarily, the authority, business practitioners and employees must jointly cooperate in order to guarantee the success E-invoice implementation. Thus, the present study's findings are noteworthy for the government, policymakers and SMEs owners to identify the current state technology readiness to understand the employees' needs and fine tune the policies, support and strategies that match the practitioners' needs. Ultimately, a high adoption of E-invoice is a successful indicator that Malaysia's tax administration is being managed effectively through the use of digital economy. And the high adoption of technology often coincided with user readiness.

References

1. Bellon, M., Dabla-Norris, E., Khalid, S., Lima, F.: Digitalization to improve tax compliance: evidence from VAT e-Invoicing in Peru. Journal of Public Economics 210, 104661 (2022).
2. Chan, D., Alias, A.: IRB's 'e-invoicing' initiative will save time, reduce cost, say experts, https://www.nst.com.my/news/nation/2023/03/893797/irbs-e-invoicing-initiative-will-save-time-reduce-cost-say-experts, last accessed 2023.
3. Qi, Y., Che Azmi, A.: Factors affecting electronic invoice adoption and tax compliance process efficiency. Transforming Government: People, Process and Policy 15(1), 150-168 (2021).
4. Inland Revenue Board of Malaysia: E-Invoice guideline year 2023, https://www.hasil.gov.my/media/3dhoivfe/irbm-e-invoice-guideline-version-10.pdf, last accessed 2023.
5. Hussain, M., Papastathopoulos, A.: Organizational readiness for digital financial innovation and financial resilience. International Journal of Production Economics 243, 108326 (2022).
6. The Sun Daily: Prepare early for electronic invoicing, KPMG advises Malaysian businesses, https://www.thesundaily.my/business/prepare-early-for-electronic-invoicing-kpmg-advises-malaysian-businesses-LL10829064, last accessed 2023.
7. Parasuraman, A., Colby, C. L.: Techno-ready marketing: How and why your custom-

ers adopt technology. The Free Press (2000).

8. Cimbaljević, M., Demirović Bajrami, D., Kovačić, S., Pavluković, V., Stankov, U., Vujičić, M.: Employees' technology adoption in the context of smart tourism development: the role of technological acceptance and technological readiness. European Journal of Innovation Management (2023).

9. Lai, L. M., Muhammad, I.: Taxation and technology: Technology readiness of Malaysian tax officers in Petaling Jaya branch. Journal of Financial Reporting and Accounting 4(1), 147-163 (2006).

10. Parasuraman, A., Colby, C. L.: An updated and streamlined technology readiness index: TRI 2.0. Journal of Service Research 18(1), 59-74 (2015).

11. McNamara, A. J., Shirowzhan, S., ME Sepasgozar, S.: Investigating the determents of intelligent construction contract adoption: a refinement of the technology readiness index to inform an integrated technology acceptance model. Construction Innovation (2022).

12. Blut, M., Wang, C.: Technology readiness: a meta-analysis of conceptualizations of the construct and its impact on technology usage. Journal of the Academy of Marketing Science 48, 649-669 (2020).

13. Park, H. J., Zhang, Y.: Technology readiness and technology paradox of unmanned convenience store users. Journal of Retailing and Consumer Services 65, 102523 (2022).

14. Omar, Q., Yap, C. S., Ho, P. L., Keling, W.: Can technology readiness predict farmers' adoption intention of the e-AgriFinance app? Journal of Agribusiness in Developing and Emerging Economies 13(1), 156-172 (2023).

15. Hailey Shin, H., Jeong, M., Cho, M. H.: The impact of smart tourism technology and domestic travelers' technology readiness on their satisfaction and behavioral intention: A cross-country comparison. International Journal of Tourism Research 23(5), 726-742 (2021).

16. Kampa, R. K.: Combining technology readiness and acceptance model for investigating the acceptance of m-learning in higher education in India. Asian Association of Open Universities Journal (2023).

17. Dash, A., Mohanty, S. K.: Technology readiness and the older citizen's acceptance of m-health services in India. Digital Policy, Regulation and Governance 25(2), 169-183 (2023).

18. Hung, S. W., Cheng, M. J.: Are you ready for knowledge sharing? An empirical study of virtual communities. Computers & Education 62, 8-17 (2013).

19. Humbani, M., Wiese, M.: An integrated framework for the adoption and continuance intention to use mobile payment apps. International Journal of Bank Marketing 37(2), 646-664 (2019).

20. Alhammadi, K., Marashdeh, H., Hussain, M.: Assessing the effect of innovation diffusion and technology readiness theories on attitude, behavioral intention and implementation of smart learning. Cross Cultural & Strategic Management (2023).

21. Kim, T., Chiu, W., Chow, M. K. F.: Sport technology consumers: Segmenting users of sports wearable devices based on technology readiness. Sport, Business and Management: An International Journal 9(2), 134-145 (2019).

22. Ramírez-Correa, P., Grandón, E. E., Rondán-Cataluña, F. J.: Users segmentation based on the Technological Readiness Adoption Index in emerging countries: The case of Chile. Technological Forecasting and Social Change 155, 120035 (2020).

23. Badri, M., Al Rashedi, A., Yang, G., Mohaidat, J., Al Hammadi, A.: Technology readiness of school teachers: An empirical study of measurement and segmentation. Journal of Information Technology Education: Research 13, 257-275 (2014).

24. SME Corp Malaysia: Guideline for SME Definition, https://www.smecorp.gov.my/images/pdf/Guideline_New_SME_Definition_updated.

pdf, last accessed 2023.

25. Krejcie, R. V., Morgan, D. W.: Determining sample size for research activities. Educational and Psychological Measurement 30(3), 607-610 (1970).
26. Lim, A.F., Ooi, K.B., Lee, V.H., Tan, G.W.H.: The interplay of soft TQM practices and knowledge sharing: moderating role of market turbulence. Industrial Management & Data Systems 122(11), 2440-2464 (2022).
27. Salimon, M.G., Kareem, O., Mokhtar, S.S.M., Aliyu, O.A., Bamgbade, J.A., Adeleke, A.Q.: Malaysian SMEs m-commerce adoption: TAM 3, UTAUT 2 and TOE approach. Journal of Science and Technology Policy Management 14(1), 98-126 (2023).
28. Podsakoff, P. M., Mackenzie, S. B., Lee, J.-Y., Podsakoff, N. P.: Common Method Biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology 88(5), 879- 903 (2003).
29. Hair Jr, J., Hult, G. T. M., Ringle, C. M., Sarstedt, M.: A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications (2021).
30. Nunnally, J. C.: An overview of psychological measurement. Clinical Diagnosis of Mental Disorders: A Handbook, 97-146 (1978).
31. Henseler, J., Ringle, C. M., Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the academy of marketing science, 43, 115-135.
32. Hallikainen, H., Hirvonen, S., Laukkanen, T.: Perceived trustworthiness in using B2B digital services. Industrial Management & Data Systems 120(3), 587-607 (2020).
33. Wahyuni, A., Juraida, A.: Technology Readiness of Blockchain Technology for MSMEs in Bandung. In Proceedings of the 4th International Conference on Economics, Business and Economic Education Science, ICE-BEES 2021, 27-28 July 2021, Semarang, Indonesia.
34. Mason, J., Classen, S., Hwangbo, S. W., Sisiopiku, V. P. (2023). Age and Technology Readiness Influences on adults' experiences with highly automated vehicles. Transportation Research Record (2023).