

Farmer's Intention to Adopt Technology in Paddy Farming in Malaysia

Rozana Samah^{1,*}, Nor Masitoh Rusli¹, & Roslina Kamaruddin¹

¹School of Economics, Finance and Banking, Universiti Utara Malaysia
06010 Sintok Kedah, Malaysia

Abstract

Malaysia is a prominent rice consumer, there is a significant need to boost rice production as the demand for rice rises due to growing populations. However, local rice production remains low and cannot reach national self-sufficiency. The lower production of rice is due to a few factors such as climate change, aging farmers, low involvement of younger people and many factors. Thus, the government believe that to maximise input efficiency is through the use of technology. The implementation of technology can be seen through the use of mechanization technology such harvester, tractors, seedling machine and blower in paddy farming process. However, it was discovered that the farmers still had some adoption issues and there are many factors that influencing the level of technology adoption. Therefore, this paper aims to determine the intention to adopt the mechanization technology among the paddy farmers and factors influencing it. Primary data were obtained through a face-to-face survey by using a structured questionnaire. A total of 315 respondents of MADA and 295 respondents of KADA actively involved in paddy cultivation were interviewed. Based on the findings, it was found that majority paddy farmers in MADA have moderate level of intention to use the mechanization technology while on the other hand, the majority paddy farmers in KADA have high intention to use the mechanization technology. The varying levels of intention to adopt mechanization technology among paddy farmers in the MADA and KADA regions of Malaysia have notable impacts on their agricultural productivity and economic sustainability. This study highlights the importance of tailored policy measures to address specific regional challenges. By fostering a supportive environment for mechanization in both regions, policymakers can promote widespread adoption of advanced technologies, leading to improved agricultural productivity, economic resilience, and sustainability across Malaysia's paddy farming communities.

Keywords: Farmer, intention to adopt, technology, paddy farming, Malaysia

1.0 Introduction

Malaysia is a prominent rice consumer, there is a significant need to boost rice production as the demand for rice rises due to growing populations. Sarena et al. (2019) reported that Malaysians consume approximately 80 kg of rice each month. However, local rice production remains low and cannot reach national self-sufficiency. According to FAO (2013), Malaysia needs to produce about 11.0 million metric tonnes of rice annually, but actual production is only 2.51 million metric tonnes, which is insufficient to meet consumption levels. The average yield per hectare in granary areas is between four to six tonnes, as reported by MAFI (2020). Consequently, Malaysia depends on rice imports from countries like Thailand, Vietnam, and Pakistan (Sarena et al., 2019). Statistics from the Ministry of Agriculture and Food Industry (MAFI, 2020) indicate a rise in rice imports from RM 1,565,908 in 2016 to RM 1,871,893 in

* Corresponding author. E-mail address: rozana.samah@uum.edu.my

2020. In 2021, Malaysia imported nearly 1.2 million tonnes of rice (FAO, 2021). If this trend continues, the country may face a rice supply shortage in the future, raising concerns about food security as Malaysia remains dependent on other countries for its food supply.

The lower production of rice is due to a few factors such as climate change, aging farmers, low involvement of younger people and many factors. Thus, the government believe that to maximise input efficiency is through the use of technology. The implementation of technology can be seen through the use of mechanization technology. The example of mechanization technology introduced in Malaysia paddy industry are as mini harvester, drone, high-tolerance tractor, tractor boom sprayer, transplanter and Baler (straw roller). These mechanized technologies are utilised to boost paddy output. According to Siti and Hayyan (2021), mechanization technology was created to enhance agricultural productivity and crop outputs. Consider the application of a drone to apply chemicals. The use of this technique can minimize the quantity of chemical used per hectare by 30%, reducing the duration of operation by at least one-third when compared to conventional methods, and lowering operating costs, which will result in higher average gross margins for paddy farmers (Norsida Man et al., 2019). Thus, the adoption of mechanisation technologies helps paddy farmers maximise their input efficiency.

However, it was discovered that the farmers still had some adoption issues and there are many factors that influencing the level of technology adoption. Low education level, negative perception on technology, lack of capital, small size of land areas, ineffective infrastructure facilities, and restricted capital of extension workers are factors influencing low technology adoption (Abu Samah et al., 2009; Farah et al., 2013; Hayrol Azril et el., 2009; Nadia & Shahrina, 2021; Shaffril et al., 2018; Truong, 2008). Therefore, this paper aims to determine the level of intention to adopt the mechanization technology among the paddy farmers and factors influencing it. This study focuses on Muda Agriculture Development Authority (MADA) in Kedah and Perlis and Kemubu Agriculture Development Authority (KADA) in Kelantan.

This research is critical to ensuring the long-term viability of the newly introduced technology and advanced system. As Malaysia moves toward digitization, the government will adopt and implement a slew of new technologies. To ensure the project's long-term viability, we need to know how farmers react to the technology introduced. As a result, we can investigate and develop measures to boost technology adoption among paddy farmers in Malaysia.

2.0 Literature Review

2.1 Technology in paddy farming

The application of new technology may result in lower-cost, higher-quality products. According to Mastura et al. (2007), technology may be used to improve a company's ability to effectively use information. Technology is considered as an instrumental action design that reduces the number of occurrence interactions required to get the desired outcome (James & Jeffrey, 2018; Roger, 2003; Shahrina et al., 2014). The use of technology in agriculture, particularly in the paddy industry, has transformed the manual and conventional way of rice cultivation into the utilization of mechanized machinery and contemporary systems that assist paddy farmers in boosting their paddy production.

According to Siti and Hayyan (2021), Malaysia's rice industry heavily relies on mechanization in its operations ranging from land preparation throughout harvesting. Mechanization

technology is a critical technology that paddy farmers should utilize since it is engaged in all stages of the rice cultivation process, from tillage with a tractor through harvesting with a harvester. In paddy industry, according to Mauzu et al. (2014), mechanization is vital in boosting agricultural output and enhancing the efficiency of human labour input by employing tools, implements, and machineries of the proper type, size, and power ratings. It offers several advantages, including improving work efficiency, increasing output and land yield per unit of area, reducing the amount of labour required, lowering the cost of work, units, and production, and enabling innovations in agricultural practise (Siti & Hayyan, 2021). As a result, we can conclude that the use of mechanized technology in agriculture, particularly in the rice industry, is enormously helpful, as it optimizes input usage and boosts output productivity.

There are a lot of mechanization technology had been introduced and implemented in agriculture especially in paddy industry. Based on the study by Muazu et al. (2014) the examples of machinery used in Malaysia paddy industry in 2014 are two-wheel driver tractor, self-propelled combine harvester, rotary tiller, sprayer and spreader. The other example of new mechanization technology introduced in Malaysia paddy industry are as mini harvester, drone, high-tolerance tractor, tractor boom sprayer, transplanter and Baler (straw roller) (Nor Salwana; 2022; Sanusimz, 2018; Zaitie,2020).

2.2 Technology Acceptance

Technology acceptance refers to a user's willingness to use technology for its intended purpose (Teo, 2011). According to Syeda et al. (2019), it involves an individual's decision to voluntarily adopt new technology. In studies on technology acceptance, researchers commonly apply the Technology Acceptance Model (TAM), a foundational theory that has been empirically tested and validated through various applications (Nihat & Murat, 2011; Schaup et al., 2010; Venkatesh et al., 2000; Yusoff et al., 2010). The primary objective of TAM is to model the impact of external variables on beliefs, attitudes, and behavioral intentions (Nihat & Murat, 2011). According to Somsit et al. (2019), TAM evaluates actual system use by assessing behavioral intention, which is influenced by Perceived Usefulness (PU) and Perceived Ease of Use (PEU).

TAM's two main constructs are perceived usefulness and perceived ease of use (Meuter et al., 2000; Mukerjee et al., 2018; Pericles et al., 2008; Raf et al., 2018; Somsit et al., 2019; Zhang et al., 2019). Nihat and Murat (2011) identify three key variables in TAM: PU, PEU, and intention to use (ITU). PU is the subjective likelihood that a user will find a technology beneficial (Nihat & Murat, 2011; Pericles et al., 2008), and it reflects the extent to which people believe using a particular strategy will enhance their performance (Mukerjee et al., 2018; Zhang et al., 2019). PEU, the second prominent concept of TAM, pertains to the belief that using a specific system or technology will be effortless (Pericles et al., 2008). It indicates how convenient individuals find a system to use (Zhang et al., 2019). Nihat and Murat (2011) state that PEU refers to the expectation that the target system will be easy to use. Mukerjee et al. (2018) also note that PEU describes the ease with which a customer can use a system or technology.

3.0 Methodology

The survey conducted on 315 paddy farmers in the four main regions of MADA which are region I (Perlis), region II (Jitra), region III (Pendang) and region IV (Kota Sarang Semut) and 295 paddy farmers in six Pejabat KADA Jajahan (PKJ) of KADA which are Kota Bharu Utara,

Kota Bharu Selatan, Bachok, Pasir Mas, Pasir Putih and Tumpat. The respondents were selected by using stratified random sampling method based on the regions of the farmers.

The questionnaire forms were prepared and used as instruments in this study. The development of items in the questionnaire were based on intention to use by Wang et. al (2006) and modified based on the questionnaire regarding the paddy industry. The questionnaire consisted of two sections. Section one assessed the respondent's demographic factors such as gender, age, education level and experience whereas section two assessed the intention to use the new technology among the paddy farmers. Section two uses the Likert scale with five levels ranging from 1 for "strongly disagree" and 5 for "strongly agree". In section two there are about six items used as the indicators to measure the intention to use among the farmers. The questionnaire distribution was done between February 2021 to March 2022.

The intention to use index was developed to determine the level of paddy farmer's intention to adopt the new technology introduced. The index used was created by Hahn et al. (2009). The intention to adopt index is analyzed by using the following indicator:

$$Index_{sdj} = \frac{S_{d-i} - S_{min-i}}{S_{max-i} - S_{min-i}}$$

where $index_{sdj}$ is the index for each indicator for each respondent, $S_{d,j}$ is the value answered by respondent for indicator j in group of community d and $S_{min,j}$ and $S_{max,j}$ were the minimum and maximum values respected for indicator j which is determined from data collected from the survey. Then, an aggregate mean index for each paddy farmer was created by finding the average of all indicators used in the study. The intentions to use index are grouped according to quantile category which were 0-0.25 as not intent to adopt, 0.26-0.5 low intention level, 0.51-0.75 moderate intention level and 0.76-1.0 high intention level.

The descriptive statistics such as frequency and percentage were used to explain the demographic of survey data. The intention score was used to determine the level of intention to use for each independent variable. The mean score was then matched with the four stages of intention to use which were not intent to adopt (0-0.25), low intention level (0.26-0.5), moderate intention level (0.51-0.75) and high intention level (0.76-1.0). In the other word, if the score mean index less than 0.5, it represents the farmers not intent to use the technology while if the score mean index are more than 0.51, it indicated that the farmers have intention to adopt the new technology. The data were analyzed by using IBM- SPSS version 26.

4.0 Result And Discussion

4.1 Socio-Demographic of Paddy Farmers

The socio-demographic factors are summarized in Table 1.0 below. The survey revealed that all respondents were Malay. Male respondents dominated the survey, comprising 89.2% in MADA and 97.29% in KADA. In MADA, most respondents were senior citizens over 50 years old (61%), with 28.3% aged between 50-59 years and 32.7% aged above 60 years. Similarly, in KADA, 59.32% of respondents were over 50 years old, with 24.07% aged between 50-59 years and 35.25% aged above 60 years.

Regarding educational level, 98.8% of respondents in MADA attended school, with 75.6% reaching secondary school, and only 1.3% having no education. In KADA, 94.58% attended school, with 33.56% reaching lower secondary school, and 5.42% having no education. Most

respondents in both MADA and KADA have less than 10 years of experience in paddy cultivation.

In terms of monthly income, the majority (80.30%) of respondents in MADA belong to group B1 (less than RM2500), and 66.80% in KADA fall into the same income group. Only 0.3% of respondents in MADA and 1.4% in KADA have incomes exceeding RM15,040. Most respondents work as full-time paddy farmers (MADA: 78.4%, KADA: 97.6%). Lastly, the majority (67.30%) of respondents in MADA have less than 2.0 hectares of land, while the majority (49.8%) of respondents in KADA have between 2.01 and 5.00 hectares of land for paddy cultivation.

Table 1: The summary of socio-demographic of paddy farmers in MADA and KADA

Respondents' socio-demographic	Group	MADA		KADA	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Gender	Male	281	89.2	287	97.29
	Female	34	10.8	8	2.71
Age	0-29 years	23	7.3	28	9.49
	30-39 years	52	16.5	42	14.24
	40-49 years	49	14.9	50	16.95
	50-59 years	89	28.3	71	24.07
	Above 60 years	103	32.7	104	35.25
Education level	No education	4	1.3	16	5.42
	Non-formal education	1	0.3	3	1.02
	Primary school	39	12.4	59	20
	Lower secondary school (PMR/SRP/LCE)	80	25.4	99	33.56
	Upper Secondary school (SPM/MCE/SPVM)	158	50.2	83	28.14
	STPM/Diploma/Certificated	30	9.5	25	8.47
	Degree and above	3	1.0	10	3.39
Experiences	Less than 10 years	127	40.3	125	42.37
	11-20 years	73	23.2	87	29.49
	21-30 years	72	22.9	46	15.59
	More than 31 years	42	13.3	37	12.54
Income	B1(<RM2500)	253	80.3	197	66.8
	B2(RM2501-RM3169)	16	5.1	19	6.4
	B3(RM3170-RM3969)	15	4.8	19	6.4
	B4(RM3970-RM4849)	6	1.9	23	7.8
	M1(RM4850-RM5879)	11	3.5	9	3.1
	M2(RM5880-RM7099)	3	1.0	11	3.7
	M3(RM7110-RM8699)	3	1.0	6	2.0
	M4(RM8700-RM8699)	5	1.6	5	1.7
	T1(RM10960-RM15039)	2	0.6	2	0.7
	T2(>RM15040)	1	0.3	4	1.4
Mode of work	Full-time paddy farmers	247	78.4	288	97.6
	Part-time paddy farmers	68	21.6	7	2.4

Land size	Less than 2.0 ha	212	67.3	54	18.3
	2.01ha-5.00 ha	82	26.0	147	49.8
	More than 5.01 ha	21	6.7	94	31.9

4.2 Level of Intention to adopt the technology among paddy farmers

According to Table 2, the results indicate that the majority of paddy farmers in MADA have a moderate level of intention to adopt the technology, whereas most paddy farmers in KADA show a high level of intention to adopt it. Conversely, only 0.32% of paddy farmers in MADA and about 6.78% in KADA are unwilling to accept the technology. Despite the high intent among KADA farmers, a small minority (1.36%) still have no intention to adopt mechanization technology in their paddy cultivation. The overall intention to adopt technology index scores have mean values of 0.70 for MADA and 0.80 for KADA, indicating that paddy farmers in these two major granary areas have a moderate intention to adopt the technology introduced in paddy cultivation.

Table 2: Intention to adopt the technology among the paddy farmers in MADA and KADA, Malaysia.

Granary	MADA		KADA	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Intention to use mechanization technology				
Not intent to adopt. (0-0.25)	0	0	4	1.36
Low intention level (0.26-0.50)	22	6.98	15	5.09
Moderate intention level (0.51-0.75)	173	54.92	64	21.69
High intention level (0.76-1.0)	120	38.10	212	71.86
Mean		0.70		0.80

4.3 Factors influencing paddy farmers' intention to adopt the technology

As we explore the intention to adopt the technology among paddy farmers, it's also crucial to understand the socio-demographic factors that influence them. To examine this relationship, the author conducted a compare mean analysis. Table 3 summarizes the data for the MADA and KADA.

Based on the table 3, majority of male's paddy farmers in MADA have moderate intention to adopt the technology. In term of age, the youngest group display moderate intention, and exhibit high intention to use the technology. Besides, regarding education, paddy farmers who studied until STPM/Diploma/Certificate have the highest levels intention to adopt the technology compared to others. When examining the relationship between socio-demographic factor which is paddy farmers 'experience and intention to adopt, the table indicates that less experienced farmers (less than 10 years) have the highest level of intention to adopt the technology. Regarding income, farmers earning less than RM2500 (B1) mostly have moderate levels of intention to adopt the technology. Conversely, those earning more than RM15,040

show low intention to adopt the technology. Additionally, full-time paddy farmers generally have moderate to high levels intention to adopt the technology compared to part-time farmers. Lastly, land size also significantly affects the intention to adopt the technology. Most farmers with less than 2.0 hectares of land exhibit moderate levels of intention to adopt. Similarly, farmers with more than 5.01 hectares generally show moderate levels of intention to adopt the technology.

Table 3 also illustrates the summarize of relationship between socio-demographic factors and intention to adopt the technology among paddy farmers in KADA. According to the table, the male's paddy farmers show a moderate level of intention to use mechanization technology. Regarding age, the youngest group display moderate intention, and exhibit high intention to use the technology. In terms of education, paddy farmers who studied until lower secondary school have the highest-level of intention to adopt the technology compared to others. When examining the relationship between intention to adopt and experience, the table indicates that less experienced farmers (less than 10 years) have highest high intention to adopt the technology. Regarding income, farmers RM7110-RM8699 mostly have high level of intention to adopt the technology. Additionally, full-time paddy farmers generally have moderate to high levels of intention to adopt the technology compared to part-time farmers. Lastly, land size also significantly affects the intention to adopt. Most farmers with less than 2.0 hectares of land exhibit high intention to adopt. Similarly, farmers with more than 5.01 hectares generally show high intention to use the technology.

Table 3: The summarize of relationship between socio-demographic factors and intention to adopt the technology among paddy farmers in MADA and KADA

Respondents' socio-demographic	Group	Intention to adopt			
		MADA		KADA	
		Mean	std	Mean	std
Gender	Male	0.68	0.141	0.80	0.146
	Female	0.70	0.097	0.73	0.134
Age	0-29 years	0.76	0.159	0.77	0.151
	30-39 years	0.71	0.168	0.80	0.156
	40-49 years	0.66	0.130	0.81	0.155
	50-59 years	0.67	0.122	0.82	0.122
	Above 60 years	0.68	0.137	0.79	0.153
Education level	No education	0.75	0.122	0.80	0.158
	Non-formal education	0.43		0.73	0.115
	Primary school	0.67	0.122	0.80	0.146
	Lower secondary school (PMR/SRP/LCE)	0.67	0.111	0.81	0.129
	Upper Secondary school (SPM/MCE/SPVM)	0.68	0.146	0.79	0.159
	STPM/Diploma/ Certificated	0.76	0.135	0.81	0.168
	Degree and above	0.68	0.226	0.78	0.156
Experiences	Less than 10 years	0.72	0.148	0.82	0.143
	11-20 years	0.64	0.116	0.78	0.142
	21-30 years	0.69	0.125	0.82	0.143

	More than 31 years	0.67	0.128	0.80	0.146
Income	B1(<RM2500)	0.69	0.136	0.81	0.149
	B2(RM2501-RM3169)	0.71	0.114	0.77	0.182
	B3(RM3170-RM3969)	0.69	0.129	0.84	0.136
	B4(RM3970-RM4849)	0.60	0.157	0.76	0.146
	M1(RM4850-RM5879)	0.66	0.163	0.79	0.979
	M2(RM5880-RM7099)	0.72	0.203	0.79	0.104
	M3(RM7110-RM8699)	0.71	0.171	0.86	0.091
	M4(RM8700-RM8699)	0.55	0.038	0.85	0.136
	T1(RM10960-RM15039)	0.69	0.219	0.84	0.057
	T2(>RM15040)	0.58		0.73	0.144
Mode of work	Full-time paddy farmers	0.68	0.139	0.80	0.147
	Part-time paddy farmers	0.69	0.130	0.83	0.088
Land size	Less than 2.0 ha	0.70	0.137	0.82	0.145
	2.01ha-5.00 ha	0.65	0.124	0.80	0.139
	More than 5.01 ha	0.66	0.137	0.80	0.157

5.0 Conclusion

In conclusion, it was found that majority paddy farmers in MADA have moderate level of intention to use the mechanization technology while on the other hand, the majority paddy farmers in KADA have high intention to use the mechanization technology. The varying levels of intention to adopt mechanization technology among paddy farmers in the MADA and KADA regions of Malaysia have notable impacts on their agricultural productivity and economic sustainability.

The disparity in intention to use between KADA and MADA highlights the importance of tailored policy measures to address specific regional challenges. By fostering a supportive environment for mechanization in both regions, policymakers can promote widespread adoption of advanced technologies, leading to improved agricultural productivity, economic resilience, and sustainability across Malaysia's paddy farming communities (Nordin et al., 2020; Saad et al., 2021).

However, there are few factors that affect their intention to adopt the technology that were discovered in this study which are gender, age, education level, mode of work and the land size. The present study shows that the government should prioritise farmers who are male, educated, with experience of fewer than 10 years, and of all ages to receive the grants as this group of farmers show high readiness to adopt the technology. The issues of food security and low paddy production require the adoption of mechanisation technology as one of the best options to improve national paddy productivity and increase local paddy production over the year.

Acknowledgement

Special appreciation goes to the Ministry of Higher Education (MoHE) Malaysia for financing this research via the Long-Term Research Grant Scheme (LRGS/1/2019/UPM/01/2/4): Socio-economic Impacts of Climate Changes and New Threats for National Rice Industry.

References

- Binbasioglu, H., & Turk, M. (2020). Mobile technology acceptance among Turkish travelers. In *Digital Marketing Strategies for Tourism, Hospitality, and Airline Industries* (pp. 111-140). IGI Global.
- Bueno, S., & Salmeron, J.L. (2008). TAM-based success modelling in ERP. *Interact. Comp*, 20(60), 515-523.
- Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance information technology. *MIS Quarterly*, 13, 319-340.
- Erasmus, E., Rothmann, S., Eeden, C.V. (2015). A structural model of technology acceptance. *SA Journal of Industrial Psychology*, 41(1), 12. DOI: <http://dx.doi.org/10.4102/sajip.v41i1.1222>.
- FAO. (2013). Mechanization for Rural Development: A review of patterns and progress around the world. *Integrated Crop Management*.
- FAO. (2021). Global Information and Early Warning System. <https://www.fao.org/giews/countrybrief/country.jsp?code=MYS>
- Hahn, M. B., Riederer, A.M., & Foster, S.O. (2009). The livelihood vulnerability index: A pragmatic approach to assessing risks from climate variability and change- A case study in Mozambique. *Global Environmental Change*, 19, 74-88.
- MAFI. (2020). Statistik tanaman: Sub-sektor tanaman makanan. http://www.doa.gov.my/index/resources/aktiviti_sumber/sumber_awam/maklumat_pertanian/perangkaan_tanaman/booklet_statistik_tanaman_2020.pdf
- Meuter, M.L., Ostrom, A.L., Roundtree, R.I., & Bitner, M.J. (2000). Self-service technologies: Understanding consumer satisfaction with technology-based service encounters. *Journal of Marketing*, 64, 50-64.
- Mukerjee, H.S., Deshmukh, G.K., & Prasad, U.D. (2018). Technology readiness and likelihood to use self-checkout services using smartphone in retail grocery stores: Empirical evidence from Hyderabad, India. *Business Perspectives and Research*, 7(1), 1-15.
- Nihat, E., & Murat, E. (2011). An investigation of the effects of technology readiness on technology acceptance in e-HRM. *Procedia Social and Behavioral Science*, 24, 487-495.
- Pericles, J. P., Filho, B. A. D. C., & Cunha, J. C. D. (2011). Technology readiness index (TRI) factors as differentiating elements between users and non-users of internet banking, and as antecedents of the technology acceptance model (TAM). *Communications in Computer and Information Science*. DOI: [10.1007/978-3-642-24355-4_23](https://doi.org/10.1007/978-3-642-24355-4_23).
- Raf, B., Compernelle, M.V., Vlassenroot, E., Vanlshout, Z., Mechant, P., & Mannens, E. (2018). "Technology readiness and acceptance model" as a predictor for the use intention of data standards in Smart cities. *Media and Communication*, 6(4), 127-139.
- Sarena, C.O., Ashraf, S. & Aisysyah, S. T. (2019). The status of the paddy and rice industry in Malaysia. Kuala Lumpur, Malaysia: Khazanah Research Institute.
- Schaup, L.C., Carter, L., & McBride, M.E. (2010). E-file adoption: A study of U.S. taxpayers' intention. *Comp. Hum. Beh.*, 26(4):636-644.
- Somsit, D.E.A., Pibulcharoensit, S., & Phongsatha, T. (2019). Technology readiness for internet of thing (IoT) adoption in smart farming in Thailand. DOI:10.5013/IJSSST.a.20.05.12
- Syeda Ayesha Kamal, Muhammad Syafiq, & Priyanka Kakria. (2019). Investigating acceptance of telemedicine services through an extended technology acceptance model (TAM). *Technology in Society*. DOI: <https://doi.org/10.1016/j.techsoc.2019.101212>
- Teo, T., & Zhou, M. (2014). Explaining the intention to use technology among university students: A structural equation modelling approach. *Journal of Computer High Education*, 26, 124-142.

- Venkatesh, Viswanath., & Fred, D.D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186-204.
- Wang, Y.S., Lin, H.H., & Luarn, P. (2006). Predicting consumer intention to use mobile service, 16(2), 157-179.
- Yusoff, Y.M., Ramayah, T., & Haslindar, I. (2010). E-HRM: A proposed model based on technology acceptance model. *African Journal of Business Management*, 4(13), 3039-3045.
- Zhang, L., Ahmi, A., & Popoola, O.M.J. (2019). Perceived ease of use, perceived usefulness and the usage of computerized accounting systems: A performance of micro and small enterprises (MSEs) in China. *International Journal of Recent Technology and Engineering*, (8), 2277-3878.