New Cluster of Readiness Affecting Perceived Usefulness of Open Distance Learning Readiness During Covıd-19 Outbreak

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Abstract

During the Covid-19 pandemic outbreak, it was observed that students faced problems of readiness towards the Open Distance Learning (ODL). It could be said that these issues could reduce students' perceptions with regards to perceived usefulness towards ODL implementations and academic performance. This study expounded a new cluster to measure the readiness with regards to perceived usefulness of ODL implementation: 1) technological readiness, 2) psychological readiness and 3) sociological readiness. The purpose of this study is to illustrate the impact of technological, psychological, and sociological readiness on perceived usefulness of ODL implementation. A survey was conducted on full time undergraduate students (n= 656) in UiTM Melaka (UiTMCM) campus. By using descriptive statistical analysis, it was found that technological and sociological readiness among undergraduate students has a strong significant predictor of perceived usefulness of ODL implementation, while psychological readiness reported no significant predictor on perceived usefulness of ODL implementation. This study has a twofold significance. Firstly, the findings are significant to higher education institutions, especially for developing countries such as Malaysia which has just experienced a full swing of the ODL implementation during the nation's movement control order. Moreover, the findings was essential to the campus Academic Affairs unit to assist academicians and the academics department to present the best approaches in terms of ODL course design, implementation, and measurement to assist students to experience the best processes during ODL teaching and learning situations forced upon them in 2020.

Keywords: Open Distance Learning (ODL), Technological Readiness, Psychological Readiness, Sociological Readiness, Perceived Usefulness

Introduction

The unexpected implementation of open distance learning (ODL) during the Covid-19 pandemic outbreak in 2020 presented a new angle in the extension of understanding what would the best practice for ODL situations. Cigdem (2016) reported that implementations of ODL were different from the normal approved online learning courses. This means that the

level of readiness and perceived usefulness of ODL implementation are different from the academic courses which implement online learning methods.

Therefore to understand this sudden scenario, this study was conducted to investigate UiTMCM students' level of readiness and perceived usefulness towards ODL implementation especially during Covid-19 situations. The pandemic outbreak resulted to Movement Control Order (MCO) and closures of learning institutions; consequently, all learning institutions in Malaysia continued their teaching and learning activities through ODL approaches and this included UiTM Melaka. In fact, Universiti Teknologi MARA, Melaka Branch, Malaysia (known as UiTMCM) which had just started its new academic session in February 2020 was also affected by the nation's lockdown through the implementations of the MCO in March 2020 which was taken to halt the increasing statistics of positive Covid-19 carriers from infecting the public.

UiTMCM operated with 12,000 full-time undergraduate students who went through conventional learning modes. However, UiTM Malaysia has actually imposed a learning policy for all full time academic programs to conduct courses through blended learning which imposed 50% online learning and the rest face to face classes. Nonetheless, it was not a real implementation of online learning approaches as many lecturers are inclined to conduct face-to-face (f2f) classes due to several disadvantages which existed in campus such as factors of technological, psychological and sociological readiness among students and lecturers. In fact, online learning method is optional to lecturers as compared to f2f mode. Most probably because full time students are present in campus and could easily reach out to the lecturers (Mehran et al., 2017). Hence, students are more comfortable to interact with the lecturers in f2f mode (Nguyen, 2017), especially for subject consultations. Apart from that, online learning facilities are not fully equipped (Mehran et al., 2017), especially, Internet connection in the campus (Kuo et al., 2014) and finally the campus learning environment is more f2f rather than applying the online learning environment.

Unfortunately the current Covid-19 pandemic outbreaks have forced lecturers and students to commit themselves fully to ODL even though it is such a new norm of learning to them. Generally many studies supported online learning mode which goes by various terms such as blended learning (Shimizu et al., 2019), virtual learning (Tretter et al., 2020), digital learning (Yang et al., 2018) and more advance level of online learning is open distance learning (ODL) (Dos & Gu, 2020; Park & Yun, 2017; Ali, 2011; Garrison, 1987). The earlier practice of ODL was to offer independent study experiences among distance learners in the absence of regular face-to-face teaching (Nguyen, 2017). But, current situations assessed ODL implementation during Covid-19 and it seems that this new norm of teaching and learning is likely applicable for faculty members and students too. Tretter et al. (2020) suggested that at the moment this would be the best teaching method applicable during the pandemic outbreak.

Apart from that, the ODL mode also offers to provide education platform for various types of learners due to demography challenges, career commitment and various economic family background (Nizal et al., 2016). Hence, the introduction of ODL as a flexible platform is likely to get education recognition and accepted widely among Higher Education institutions worldwide (Tretter et al., 2020). In fact, ODL offers a flexible learning sphere and allows students wide access towards educational chances. By studying ODL implementations, there are many advantages which could be explored and gained such as students could widen and deepen their academic and professional skills such as virtual teamwork skills, communication

skills, problem-solving skills and even practical skills while accomplishing ODL activities (Sun & Chen, 2016).

Apart from the perks of ODL, there are also hindrances of implementing ODL. Hence, what seems to be the issue? The 'sudden' implementation of ODL during the Covid-19 pandemic seems like a 'stranger' visiting students' life and it is expected to increase anxiety level (Ajmal & Ahmad, 2019), stress, and lead to depression (Li et al., 2020). It was observed that the new norms in completing the ODL study sessions were not easily adapted by students and teachers due to readiness issues. According to (Saadé et al., 2017) the worst-case scenario expected would be caused by lack of readiness on perceived usefulness of ODL implementation affected a student's academic performance and academic achievement quality.

Therefore the aim of this study is to provide an empirical assessment to measure the level of readiness among undergraduate students by measuring a new cluster of readiness such as technological readiness, psychological readiness and sociological readiness which lack adequate empirical data in the previous studies. This study innovated students' ODL readiness scale by measuring technological readiness, psychological readiness and sociological readiness towards perceived usefulness of ODL implementation.

Purpose of the Study

The purpose of this study was to explore the impact of technological readiness, psychological readiness and sociological readiness on perceived usefulness of ODL implementation among full-time undergraduate students in a public university namely, UiTM Melaka branch. This small-scale study presented a new cluster in measuring readiness to perceived usefulness of ODL implementation 1) technological readiness, 2) psychological readiness, and 3) sociological readiness.

Literature Review
Technological Readiness Influence Perceived Usefulness of ODL Implementation

The university students are predicted to possess high computer and internet literacy which reflected their technological readiness towards online learning (Suprabha et al., 2017). In terms of accessibility and availability of the technology device, students are expected to be more skilful as compared to the non-university group, especially in terms of using a smartphone applications (Hussin et al., 2017), such as browsing the internet and exploring software using the laptop when searching for information (Thammathirat & Tuntirojanawong, 2013).

Features such as addicted to gaming, chatting in the social media, shopping and updating daily activities characterized current university students who were claimed to be more technology-savvy than off-campus society. However, some disadvantages included those university students who come from the rural areas from a developing country such as Malaysia, and many of the UiTMCM undergraduate students are under the cluster of B40 income family (median monthly family income of below RM 3,000); and these are the factors expected to have an effect on technological readiness among students from higher learning institutions.

Furthermore, UiTMCM students highly depending on the learning facilities provided by the university such as a computer, Internet access, photocopying and printing services which are accessible in the campus library. However, during the Covid-19 outbreak, the undergraduate students had to stay at home and continue their academic sessions from their

hometowns either from urban or rural areas throughout Malaysia. This study expected that students would face difficulties to access learning facilities such as having their own individual PC desktops, smartphones, and the provision of good internet connection which would consequently have an effect on their technological readiness while undergoing their ODL learning sessions. Hence, it is important to measure technological readiness among students and how it affected their perceptions towards perceived usefulness of ODL implementation.

Moreover, during the Covid-19 phenomenon, the flaw to measure technological readiness among students from higher learning institutions was expected to lead to low level of students' engagement in ODL activities and therefore affected their perceived usefulness towards ODL implementations (Yilmaz, 2017). Based on the studies done on ODL readiness, the knowledge offered information to the university and faculty management on how to facilitate workshop or training sessions to the students and faculty members in order to assist them in improving their competency and technological skills (Mirķe et al., 2019). Apart from that, the knowledge from previous studies could also help the stakeholders involved with ODL to accommodate themselves with the online learning environment and therefore assist them to try and develop positive psychological belief towards perceived usefulness of ODL implementation (Navani & Ansari, 2017).

In addition, previous studies which measure technological readiness is important to find out about personal ownership technological devices and sufficient accessibility of the internet (Cigdem, 2016). According to a study done by (Mehran et al., 2017), as far as the online learning courses offered, most respondents did not face any struggles to get access to the learning devices due to preparations made the students before they enrolled in online courses. Nonetheless, the abrupt implementation of ODL during the pandemic outbreak initiated a new angel for discussion. Hence, this current study would provide a new space for assessing the technological readiness by measuring students' ability to work with technological devices such as uploading, creating and producing digital content for ODL activities.

What happened is that during the Covid-19 ODL sessions, the academic assessments required students to a certain extent have the knowledge of using softwares or online applications as well as signing up their attendance and going through online classes using online learning platforms, such as Google Meet and Google Classroom (Bhat et al., 2018). These approaches are taken to ensure that the learning activities planned by the lecturer could be effective and accessible to students so that students participated in the ODL sessions and this situation would increase the perceived usefulness of ODL implementation by having greater computer and internet literacy (Li & Lee, 2016). In light of this, the research hypothesis related to technological readiness is as follow:

H1: Student technological readiness will positively affect their perceived usefulness of ODL implementation

Psychological Readiness Influence Perceived Usefulness of ODL Implementation
In order to understand psychological readiness, there are many previous studies which highlighted self-directed learning among students to measure ODL readiness (Wei & Chou, 2020; Zainuddin, 2019; Cigdem, 2016; Adams et al., 2018). This study also investigated the cluster on self-directed learning as a psychological readiness variable. The prior study seeks to see the influence of psychological readiness that affect perceived usefulness of ODL implementation and student engagement in ODL activities (Yu et al., 2020). Factors that

influence student's psychological readiness included competent facilitator, better delivery by the lecturer, comprehensive guidance especially for the topic which require students to perform higher-order thinking skills (Morton et al., 2016) and effective digital content (Sagorika & Hasegawa, 2020) which assists learners to fill up the gap in their knowledge (Lunnay et al., 2015) as indicators which constantly measure self-directed learning. These indicators contributed to the high level of psychological readiness towards perceived usefulness of ODL implementation.

Comparatively, there are also various studies done on psychological readiness which focused on the discussions about psychological readiness on learning activities (Yu et al., 2020). However, little study had been done on looking the elements during the preliminary stage. Based on a study done by (Smith, 2005), it seemed that students' ability to undergo self-managed courses showed that students occupy high level of psychological readiness and perceived usefulness of ODL implementation. Hence, this study is aimed to contribute in closing the gap in the current literature by examining psychological readiness on self-managed courses. It is important to measure psychological readiness among students from higher learning institutions, especially in self-managed courses to ensure that students have the ability to manage their course registration, carry out their own study plan, manage their learning time, set up their own learning goals (Yeh et al., 2019) and able to monitor and manage their learning performance (Cigdem, 2016). Previous studies also presented that students with high psychological readiness were more independent in managing their learning and have a greater probability of success in their online classes (Albelbisi & Yusop, 2019) and have a high level of perceived usefulness towards ODL implementation.

In addition, the studies done on psychological readiness stated that learners with higher self-manage course were more likely to use various types of ODL learning strategies, including scheduling learning activities effectively, creating and maintaining learning environmental, having high level of persistence, and adaptable towards help-seeking strategies (Nguyen, 2017). These psychological readiness factors have had a positive association with perceived usefulness of ODL and encourage supportive online behaviours, including communicating effectively with faculty and groupmates (Zainuddin, 2019), preparing learning environment with technology facilities which, in turn, leading to higher grade achievement. This means that psychological readiness in self-manage course context reported significant associations towards ODL perceived usefulness of ODL implementation. In light of this, the research hypothesis related to psychological readiness is as follow:

H2: Student psychological readiness will positively affect their perceived usefulness of ODL implementation

Sociological Readiness Influence Perceived Usefulness of ODL Implementation
Before we implement the ODL activities and disseminate course assessment to the learners, it is a vital phase for lecturers to recognize their students' level of motivation which would be influenced by their surrounding environment (Cigdem, 2016). Since the nature of the ODL allows students to be more independent, little or no face-to-face communication with minimal personal contacts between the students and instructors, it is essential to ensure that students are keen towards completing their academic sessions with high motivational learning environment that reflects sociological readiness (Saadé et al., 2017).

Hence, this study expected that learning environment which affects sociological readiness are influenced by environment such as families, friends and social media as

mentioned in the ARCS model (Chen, 2017). These four elements (attention, relevance, confidence and satisfaction) were supported based on a comprehensive analysis of motivational literature and this study is also studying on the cluster on motivational of learning (Keller, 2010) in sociological readiness variable due to environmental influence which affect perceived usefulness of ODL implementation among undergraduate students.

The first category in ARCS model -Attention, included motivational variables related to inspiring and sustaining learners' interests in pursuing ODL sessions (Chen, 2017). Motivation to learn and perceived usefulness of ODL is promoted when the knowledge to be learned is perceived to be meaningfully related to learners' aims and expectations. This principle is represented in the second ARCS category - Relevance. Next, is Confidence which incorporates variables related to students' feelings of personal control and expectancy to achieve their success. Confidence is achieved by helping students build positive attitude to accomplish learning activities successfully for best performance and achieving high grade (Keller, 2010). Next, in order for them to have a continuing desire to learn, they must have feelings of satisfaction with the process or results of the learning experience (Park & Yun, 2017). If students are successful in attaining these four motivational goals (attention, relevance, confidence and satisfaction) then they will be motivated to undergo ODL learning activities. In a nutshell, these are the four components of the ARCS model that encompass the major factors that influence motivation to learn (Keller, 2010). This study adapted the ARCS model by adopting learning environment supported by family (Kurniasari et al., 2018), social media (Adams et al., 2018) and friends. The combination of motivational of learning and learning environment develop new readiness cluster in this study known as sociological readiness.

As such this study intended to look into how learning environment affect sociological readiness among students (Bolliger & Halupa, 2018), especially during ODL sessions which took place during the Covid-19 outbreak. Since, majority of UiTMCM students come from the B40 family cluster, elements such as noise and destruction could be expected and these elements could reduce the effectiveness of learning environment (Atan et al., 2005). Moreover, poor learning environment is predicted to influence academic performance and achievement among students. Apart from that, the lack of attention to measure pre-entry of ODL readiness could reduce students' attention, perceived thinking towards the relevancy of ODL, confidence level and satisfaction level towards perceived usefulness of ODL. This study intended to measure environmental factors such as destruction factors which occur at home, sparked by friends and online environment factors which affect learning motivations. In the light of this, the research hypothesis related to sociological readiness is given as follow:

H3: Student sociological readiness will positively affect their perceived usefulness of ODL implementation

Research Methodology
This study is conducted to measure perceived usefulness of ODL implementation, especially during Covid-19 outbreak among undergraduate students in UiTMCM. A survey was disseminated to full time undergraduate students; 656 students from the social sciences and science technology faculties were involved in this study through random sampling. The results revealed that the respondents were predominantly aged between 18 and 21 years, which is 76.5% of the sample. More than 60% of the respondents were diploma students and 44.5% of the respondents were from the Faculty of Business and Management.

Table 1.

The distribution of participants based on age, academic program and field of study

No	Category	Frequency	Percentage %
1.	**Age**		
	18-21	502	76.5
	22-24	148	22.6
	25-27	5	.8
	28-30	1	.2
2.	**Academic Program**		
	Bachelor Degree	229	34.9
	Diploma	426	64.9
	Pra-Diploma	1	.2
3.	**Field of Study**		
	Accountancy	48	7.3
	Art and Design	15	2.3
	Business and Management	292	44.5
	Communication and Media	176	26.8
	Language Study	2	.3
	Science Computer and Mathematic	75	11.4
	Tourism Management	48	7.3

Research Instrument

The instrument used in this research was gathered and compiled through various validated instruments based on literature reviews on students' online learning readiness (SOLR); however, the limitation is that several modifications were made in terms of the wording used to suit the context of this research which focused on ODL implementation. Technological readiness was measured using a scale developed by Hung et al. (2010) known as Online Learning Readiness Scale (OLRS), while self-directed learning was measured using a scale developed by Cheng et al. (2010) to measure psychological readiness. The sociological readiness was measured with a ARCS model by (Chen, 2017). The instrument adapted is a potentially useful tool used to measure students' readiness towards online learning which involved ODL learning whereby learners study at a distance from instructors and learning sessions occur in a collaborative environment.

Data Collection and Analysis

This study uses online questionnaires as a medium of collecting data since all students were off-campus and stayed at home due to Covid-19 outbreak. The questionnaires used the five-point likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Based on the number of respondents (n = 656) with completed data in this study, the sample size is large enough as the population of UITM student is 15000. From Krejcie and Morgan (1970) according to the table of sample size and margin of error 5.0% and confidence level at 99%, based on UiTMCM students' population, the best sample size was 646 and the sample population used in this study reached up to 656 respondents. Initially, a pilot test was conducted before proceeding to the final data collection to ascertain the reliability and validity of the instrument. In fact,

Cronbach Alpha's reliability coefficient for all four variables, above 0.70, showed a good internal consistency (Hair et al., 2010).

Findings

The demographic profile of the surveyed respondents is presented in Table 1. The total sample for the survey consisted of 656 respondents. The gender distribution of the survey respondents was 80.6% females and 19.4% males. The majority of the respondents were Malays, 98.5%. In addition, 56.1% of the students' families came from the B40 income category (median monthly family income of below RM 3,000).

Table 2.
Demographic profile of respondents

No	Category	Frequency	Percentage %
1.	**Gender**		
	Male	529	80.6
	Female	127	19.4
2.	**Race**		
	Malay	646	98.5
	Others	10	1.5
4.	**Parents' Income**		
	B40 (below RM3000)	368	56.1
	M40 (below RM6000)	212	32.3
	T20 (above RM13,000)	76	11.6

Reliability Analysis

Based on the Confirmatory Factor Analysis (CFA) results, the researchers analyzed convergent validity, discriminant validity, and reliability of all the multiple-item scales, following the guidelines from previous literature (Fornell & Larcker, 1981). The measurement properties are reported in Tables 3 and 4. Reliability was assessed in terms of composite reliability (CR), which measures the degree to which items are free from random error and therefore yield consistent results. Composite reliabilities in the measurement model ranged from 0.866 to 0.925 (see Table 3), above the recommended cut-off of 0.70 (Fornell & Larcker, 1981; Nunnally & Bernstein, 1994).

Table 3.
Reliability and Factor Loadings

Construct / Measurement items	Standardized Loadings	CR	AVE
Technological Readiness		0.898	0.687
TR1	0.781		
TR2	0.800		
TR3	0.860		
TR4	0.871		
Psychological Readiness		0.917	0.690
PR1	0.825		
PR2	0.877		
PR 3	0.840		
PR 4	0.835		
PR 5	0.773		
Sociological Readiness		0.867	0.621
SR1	0.758		
SR2	0.794		
SR3	0.850		
SR4	0.746		

Convergent validity was assessed in terms of factor loadings and average variance extracted (AVE). According to the prior study, convergent validity requires a factor loading greater than 0.50 and an AVE no less than 0.50. As shown in Table 4, all items had significant factor loadings higher than 0.50. To evaluate discriminant validity, the AVE is used. All constructs have an AVE of at least 0.5 (Fornell & Larcker, 1981) and all the square roots of each AVE value are higher than the off-diagonal correlation elements (Fornell & Larcker, 1981).

Table 4.
Correlation matrix and roots of the AVEs (shown as diagonal elements)

	1	2	3	4
(1) Technological Readiness	0.829			
(2) Psychological Readiness	0.773	0.831		
(3) Sociological Readiness	0.784	0.855	0.788	
(4) Perceive Usefulness of ODL	0.704	0.711	0.841	0.921
Mean	3.545	3.365	3.156	2.889
Std. Deviation	0.922	0.874	0.923	1.020

** Correlation is significant at the 0.01 level (2-tailed).

Analysis of Paths

The test of structural model was performed using SEM. The test of the structural model included: (a) estimating the path coefficients, which indicated the strengths of the relationships between the dependent variables and independent variables, and (b) the R-square value, which represented the amount of variance explained by the independent variables. The path coefficients in the SEM model represented standardized regression coefficients.

The structural model reflecting the assumed linear, causal relationships among the constructs were tested with the data collected from the validated measures. Figure 2 shows the results of the analysis. The square multiple correlation for the structural equations index indicated that 71% of the variation in the dependent variable was explained by the variation in the independent variables. Properties of the causal paths (standardized path coefficients (β), standard error, p-value and hypotheses result) are shown in Table 5.

Table 5.
Goodness-of-fit indices for structural model

	X^2	df	X^2/df	CFI	GFI	NFI	RMSEA	PGFI
Recommended Values	n/a	n/a	<3.0	>0.9	>0.9	>0.9	<0.08	>0.5
Model Values	493.486	108	4.569	0.964	0.915	0.954	0.074	0.646

Figure 1. Estimated Research Model
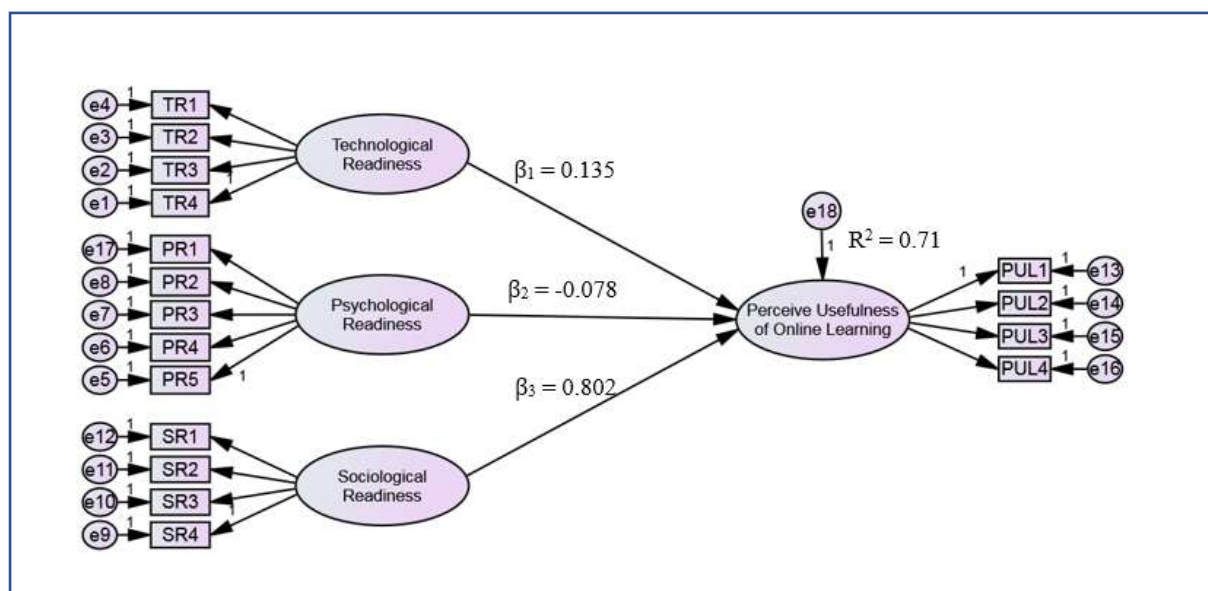
Perceive Usefulness of ODL
The effect of technological readiness on Perceive Usefulness of Online Learning was significant at 0.05 level (β_1 = 0.135), as presented in Figure 2. Thus, H1 was supported as presented at Table 6. Using technological readiness would improve students Perceived Usefulness of ODL implementation. With a good technological readiness, students are expected to have high computer and Internet literacy to engage in ODL activities. However, psychological readiness had insignificant influence on Perceived Usefulness of Online Learning at 0.05 level (β_2 = -0.078) as stated in Figure 2, which did not support H2 (refer to Table 6). The psychological readiness has no significant positive effect on Perceived Usefulness of Online Learning predictors reported in this study. This means that students would not be able to do self-manage course due to ODL implementation. As expected, sociological readiness had a significant positive influence on Perceived Usefulness of Online Learning among UiTM student (β_3 = 0.802) as mentioned in Figure 2. Thus, H3 was supported (refers Table 6). The sociological readiness had a significant positive influence with perceived usefulness of ODL implementation during the pandemic outbreak reflected that the

undergraduate students experience effective learning environment supported by family, social media and friends.

Table 6.
Result of Hypotheses test

Path			β	S.E.	p	Result
H1	Perceive Usefulness of Online Learning	<--- Technological Readiness	.135	.057	.014	Supported
H2	Perceive Usefulness of Online Learning	<--- Psychological Readiness	-.078	.097	.296	Not Supported
H3	Perceive Usefulness of Online Learning	<--- Sociological Readiness	.802	.117	***	Supported

Notes: Path = Relationship between independent variable on dependent variable;
β = Standardized regression coefficient; S.E. = Standard error; p = Level of significance

Discussions
The results of this study have opened to the new discussions on analyzing students' readiness towards perceived usefulness of ODL implementation. This study presented a new cluster of variables to measure students' readiness by highlighting that technological readiness, psychological readiness and sociological readiness influence perceived usefulness of ODL implementation. As mentioned in the early discussions, students are expected to have high technological readiness (Laux et al., 2016). These are the skills that the cluster with regards to technological readiness which affected perceived usefulness of ODL implementation in UiTMCM. During the ODL implementation, the university students were predicted to possess high technological readiness. In terms of accessibility and availability of technology devices, university students are expected to have more skilful than others, especially in using smartphone applications (Bolliger & Halupa, 2018), browsing the Internet, using Google Classroom (Bhat et al., 2018) and exploring software using the laptops.

In addition, many undergraduate students who enrolled in the academic program were expected to have knowledge and skills to operate the computer and search the Internet whereby these skills were already exposed to them during their secondary school years or in daily experiences with mobile and internet technology. Unpredictably, many undergraduate students who were predicted to have less experiences and moments of undergoing e-learning reported high technological readiness and felt confident to use any online applications or software for ODL such as Google Meet, Google Classroom (Nizal et al., 2016), etc. As supported by the previous studies, university students reported high addiction towards gaming, chatting in social media, shopping and updating daily activities (Yu et al., 2020). Perhaps, using any online applications or software for ODL was not a big challenge for them, especially teenage students, as the young generation come from a technology-savvy group (Jung & Lee, 2018). Even though, the majority of the UiTMCM undergraduate students come the B40 income group, it was found that using the computer, browsing the Internet, downloading or uploading documents and using online applications or software for ODL has consistent significant to perceived usefulness of ODL implementation (Firat & Bozkurt, 2020).

Besides technological readiness, this study was conducted to explore the effects of psychological readiness that was expected to contribute towards perceived usefulness of ODL implementation. Surprisingly, psychological readiness is not significant to increase the

perceived usefulness of ODL implementation. This study found that the ability for students to do self-manage course such as course registration, carry out their study plan, managing learning time, setting up learning goals and managing learning performance were not significant to increase perceived usefulness of ODL implementation. The result was contradictory to a previous study which reported that students with high self-manage course were more independent in managing their learning and had a greater probability of success in their online classes (Albelbisi & Yusop, 2019) and high-level perceived usefulness of ODL implementation.

This phenomenon predicted was due to the differences in students' psychological readiness towards ODL implementation based on gender, age, field of study, or level of education (Adams et al., 2018). Apart from that, no significant influence of psychological readiness towards perceived usefulness of ODL implementation reported in this study expected due to the nature of academic program (full time undergraduate student) that common in practice guided by the lecturer on course management items. The Covid-19 outbreak expected increase their anxiety and feeling less confident to do self-manage course with less f2f interaction with the lecturer (Keis et al., 2017).

In addition, the sudden implementation of ODL took place during the Covid-19 pandemic outbreak. The ODL implementation seemed to undergo new norms not only for the lecturers but also to the students which might spark negative emotions such as anxiety, stress and depression (S. Li et al., 2020). In fact, the nature of the academic program in a full-time mode which permit students to meet their academic advisor or lecturers for course registration, setup current semester learning goals and monitoring academic performance (Keis et al., 2017). While the ODL implementation forces them to do self-manage and self-directed learning to achieve the best academic achievement. Most probably factors such as competent lecturer, high academic performance monitoring by the academic advisor (Morton et al., 2016), in addition to developing effective digital content (Sagorika & Hasegawa, 2020) are expected to probably influence high level of perceived usefulness towards ODL implementation (Lunnay et al., 2015) and predicted as an indicator to measure psychological readiness towards perceived usefulness of ODL implementation.

Another cluster that was predicted to be significant to influence perceived usefulness of ODL implementation was sociological readiness. In this study, sociological readiness measured on how learning environment affect motivational of learning among student, especially during Covid-19 outbreak. Since, majority of the UiTMCM students come from the B40 family group, noise and destruction were expected to probably reduce the effectiveness of learning environment. And, poor learning environment could influence academic performance and achievement of student.

Significantly, the study proved that sociological readiness significantly influenced perceived usefulness of ODL implementation by measuring students' learning environment at home, ability to ignore online destruction such as chatting with friends, sending email, doing online shopping etc and adapting to the new norms of online academic learning environment such as preparing online presentation, attending virtual class and performing online assessment. The findings of this study are consistent with those of previous studies. According to Brindley et al (2009), ODL activities contributed positively towards the effectiveness of small collaborative learning groups in the online environment which enhanced a sense of online community that reduced online destruction. In addition, it was found that ODL activities could promote a sense of belonging and ensure peer interaction

(Peacock et al., 2020), and consequently reduce home destruction as students engaged in the ODL activities.

Conclusion

Previous studies on online distance learning have emphasized on students' readiness towards perceived usefulness of ODL implementation in measuring the level of computer readiness, self-directed learning readiness and motivational of learning readiness but there seemed to be a knowledge gap, and little is known about technological readiness, psychological readiness and sociological readiness based on ODL implementations. There is a decrease level in terms of student readiness towards Open Distance Learning (ODL) and this issue seemed to be the frequent problems observed, especially during the Covid-19 outbreak. These situations could reduce students' perceived usefulness towards ODL implementation and reflected their academic performance. This study presented a new cluster which measures the readiness towards perceived usefulness of ODL implementation; 1) technological readiness, 2) psychological readiness and 3) sociological readiness. By using descriptive statistical analysis, this study found that technological and sociological readiness among undergraduate students have strong significant predictors of perceived usefulness towards ODL implementation, while psychological readiness reported no significant predictor of perceived usefulness towards ODL implementation. Furthermore, the contributions of this study are firstly, the findings could contribute towards understanding ODL implementations in the higher education institutions, especially for developing countries such as Malaysia who had just abruptly experienced the ODL implementation due to the closures of schools during lockdowns. Moreover, the findings presented to the Academic Affairs, UiTMCM could assist to guide lecturers in the preparations towards designing the best ODL course design, implementation, and measurement to enable students to experience the best practices and output during ODL implementations in higher learning institutions in the Malaysian context.

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