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ORIGINAL ARTICLE

A REVIEW ON TECHNOLOGY READINESS CONCEPT TO EXPLAIN CONSUMER'S ONLINE PURCHASE INTENTION

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ABSTRACT – Recently in Malaysia, a substantial number of consumers have been found to be avoiding online shopping as they prefer to shop in physical stores. This scenario brings up the issue on whether Malaysian consumers are ready technologically to shop online. To tackle this issue, a review on the concept of technology readiness is made to help explain Malaysian consumers' online purchase intention behaviour. Technology readiness is chosen here because the concept reflects an individual's predisposition in the usage and adoption of new technology. For the purpose of this review, this study selects technology readiness concept as proposed by Parasuraman (2000). From the review, this study found that technology readiness has been measured in the past either as a single (unidimensional) or a multidimensional construct involving four factors, namely, optimism, innovativeness, discomfort and insecurity. A summary on past researchers' findings in identifying the relationship between technology readiness (and its proposed dimensions) with technology usage is included in this review. For example, technology readiness was found to have a significant influence on behavioural intention in using mobile commerce to purchase travel related service. Additionally, technology readiness motivator (optimism and innovativeness) and inhibitor (discomfort and insecurity) were identified to be related to intention to use technology. Based on the review, this study proposes a model to help explain user's intention to purchase online situation. In the proposed model, both technology readiness motivators and inhibitors are suggested to show positive and negative influences respectively on user's intention to purchase online. This review is thought to be beneficial to many. For instance, researchers would find insights on the usefulness of technology readiness and on how it has been and can be applied for further investigation. As for marketing practitioners, the review would help guide them understand the influence technology readiness has on consumers behaviour intention in adopting online shopping which they could apply for future marketing strategy.

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INTRODUCTION

Almost 30 years after its emergence, e-commerce is still considered a global phenomenon (Ramirez-Correa et al., 2019). However, the expectations of its development have not been fully met as there is still a significant difference between online and offline purchases (Ramirez-Correa et al., 2019). Most people still hesitate to engage in online shopping and prefer shopping at traditional (offline) shops. For example, in the USA, more than 90% of consumers' spending continues to occur offline (Glueck, 2017). A similar situation is observed in Malaysia where people's preference is for brick and mortar shopping (Chin, 2016), despite the rise of e-commerce in the country.

The 2018 E-Commerce Consumer Survey carried out in Malaysia reported hesitancy to conduct e-commerce activities for nearly half of the respondents interviewed (48.8%). The main reason for not engaging in online shopping was because they preferred to shop at brick-and-mortar stores (MCMC, 2018). This result seems to be in line with studies identifying that Malaysian consumers contributed less than 5% of total sales from online shopping which includes everything from groceries to clothing and cosmetics (Martin, 2019). The findings indicate that easy access and user-friendly online shopping sites provided by Amazon, Lazada, Alibaba, Shopee, Zalora, and other similar online shops to enhance the shopping experience for consumers by making the shopping process easier for them are not enough to motivate Malaysian consumers to shop online. This brings up the question of whether Malaysians are ready technologically to make online purchases. Finding the answer to this question is critical as e-commerce has become more significant in the current hyper-technological context (Ramirez-Correa et al., 2019). In order to examine Malaysian consumers' readiness to engage in online shopping, this study reviewed the concept of technology readiness (TR) as proposed by Parasuraman (2000). The motivation for this study is the contradicting views found on the TR concept in the literature which requires one to review the concept thoroughly and it is hoped that a model explaining user's intention to adopt technology with TR as a component could be proposed.

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TECHNOLOGY READINESS

According to Parasuraman (2000), technology readiness is a concept that reflects on an individual's predisposition in the usage and adoption of new technology. Other researchers like Blut and Wang (2019) described TR as a trait-like individual difference variable that captures people's general attitude toward accepting new technologies. It is important to note that Parasuraman (2000) was not the first person who introduced this concept as TR has been introduced much earlier. He, however, made an effort to review the concept that was investigated in past studies and synthesized it to fit in with the situations related to how people would act or react to new technology, and make a decision on whether to adopt it or not.

Importance and neglect of TR

In the literature, TR is either considered important that warrant further usage or one that is ignored by researchers due to its insignificance. Blut and Wang (2019) for instance, are the proponents of TR as an important concept which is useful in linking people's behaviour in technology adoption. As they argue, the results from the investigation between TR and adoption are useful to marketers in identifying segments of customers that are ready or not ready to adopt new technology. This knowledge is important for marketers to plan a suitable strategy for their technology-based products as they now can target those customers that are ready while they can also work on ways to educate those who are not ready. In addition, Heinemann (2019), and Lin and Hsieh (2006) are the other proponents of TR; arguing that TR plays an important role in the development of people's perception and their behaviour towards technology adoption. These researchers are calling for other scholars to focus on TR and conduct more investigation on the concept.

TR is a concept perceived to be neglected when it comes to its usage in information system studies (Makkonen, Frank, & Koivisto, 2017). This view emerged as TR is observed to be not popular and is still not as widely applied by researchers in comparison to other adoption theories like the technology acceptance model (TAM) or diffusion of innovation (DOI) theory (Humbani, 2018). The neglect of TR may be due to criticism of the inconsistency of TR's influence on technology use (Blut & Wang, 2019; Lundberg, 2017). According to Blut and Wang (2019), past studies' findings in regards to TR and technology usage relationships have often been found to be inconsistent with some studies that showed significant support in the relationships tested (e.g. Shirahada, Ho, & Wilson, 2019; Prodanova, Martin, & Jimenez, 2018) while others showing weak or even non-significant support for the relationships (e.g. Berkowsky, Sharit, & Czaja, 2018; Gelderman, Ghijsen, & Van Diemen, 2011; Chen, Chen, & Chen, 2009).

The inconsistent findings have resulted in calls made to researchers to further investigate the use of the TR concept in various studies (Lundberg, 2017; Parasuraman & Colby, 2001); for instance, to make an assessment on whether TR has a relationship with technology usage (Blut & Wang, 2019); or to make an examination on whether individual's belief towards technology (such as TR) will influence their behavioural intention (Chiu & Cho, 2020). According to Pham et al. (2020), there is a gap in the literature on the application of TR with technology usage intention (such as online purchase intention) with a lack of studies that examine the relations between TR and technology usage intention rather than actual adoption.

Paradoxes behind Parasuraman's (2000) TR concept

A review of the literature investigating the adoption of technology-based products and services over the years seems to suggest that consumers can simultaneously show favourable and unfavourable views on new technology adoption and people-technology interaction (Nijssen, Schepers & Belanche, 2016; Mady, 2011; Parasuraman, 2000; Mick & Fournier, 1998). Earlier studies identified both favourable and unfavourable views. Mick and Fournier's (1998) qualitative study on people's reaction to technology for instance even identified eight technology paradoxes, namely, competence/incompetence fulfils/create need, engaging/disengaging, control/chaos, efficiency/inefficiency, freedom/enslavement, assimilation/isolation, and new/obsolete that consumers have to cope with when they are exposed to or have to decide on the usage of new technology. Using the paradox example on competence/incompetence, Mick and Fournier (1998) explained how technology can facilitate consumer's feelings of intelligence or efficacy (competence), while it can also lead to feelings of ignorance or ineptitude (incompetence). For Parasuraman (2000), these paradoxes imply that technology may trigger positive, negative, or both feelings to individuals (users). A combination of negative and positive feelings regarding technology would be proper and adequately serve as the basis for consumer's technology readiness concept. Using this argument, Parasuraman (2000) defined TR as people's propensity to embrace and use new technologies to accomplish goals at home and work. Technology readiness index (TRI) was developed to help measure TR. TRI consists of a multiple-item scale that can assess people's readiness to interact with technology. Originally, TRI consists of 36 items-scale, but Parasuraman's recent work with Colby (i.e. Parasuraman & Colby, 2015) resulted in a refined TRI with the latest TRI2.0 reduced to only 16 items.

TECHNOLOGY READINESS DIMENSION

As a construct, Parasuraman (2000) operationalized TR as the overall state of mind that comes from a gestalt of mental enablers (motivators) and inhibitors that collectively determine a person's predisposition toward using new technologies. He further proposed measuring TR from four angles; namely, optimism, innovativeness, discomfort, and insecurity which represent both positive and negative aspects of TR. While optimism and innovativeness are both related positively to technology adoption, discomfort, and insecurity, on the other hand, are negatively related to technology adoption too.

Motivators of TR – optimism, and innovativeness

Motivators of TR refer to the positive traits in regards to technology. In this study, they are represented by optimism and innovativeness. According to Parasuraman (2000) which was later supported by Parasuraman and Colby (2015; 2001), optimism refers to the positive view people have on technology, as they believe it offers them increased control, flexibility, and efficiency in their lives. As for innovativeness, it is a trait that leads people to believe that they can be technology pioneers and/or thought leaders.

A review of the literature found other researchers who also view optimism as a positive construct. For instance, Gunawardane (2020), and Lin and Chang (2011) described optimism as a construct that reflects a consumer's general feeling of seeing technology as something positive and a good thing. Past studies have supported the influence of optimism on people's behaviour whereby people with optimism traits were found to be those who would often utilize active coping strategies than pessimists. In addition, active coping strategies were also found to be more effective in creating positive results for people with optimist traits (Humbani & Wiese, 2017; Walczuch, Lemmick & Streukens, 2007).

Optimism has also been found to show a positive relationship to value. Blut and Wang's (2019) study, for example, found that an optimistic individual tends to concentrate on the positive perspective instead of the negative perspective of technology, resulting in the individual putting a higher value evaluation on new technology. According to Pham et al. (2020), the optimism trait will assist people to believe in technology, to perceive the benefits provided by the technology, and to possess a sense of ease to use when it comes to technology. Furthermore, optimistic individual trusts that technology will grant a large number of values and useful functions for them to complete their job in the most efficient and effective way (Pham et al., 2020). Moreover, an individual with high optimism traits is found to convince themselves that new technologies are beneficial to them in boosting their productivity (Adiyarta et al., 2018).

Further review on TR highlighted researchers like Acheampong et al. (2017) and Walczuch et al. (2007) who considered optimism as a construct with an inverse or reverse relation to the feelings of worry, concern about bad experiences, and emotional distress. This suggests that as user's optimism towards technology increases, their feelings of worry, concern about bad experiences, and emotional distress related to technology decreases and vice versa. In contrast, technological pessimism is related to an irrational and negative mentality to condemn technology, disclosing the negative outcome of technology such as repressing, controlling, and enslaving humans (Zhao, 2020). In the time of technology, humans are said to be enslaved by the technology framework where they are required to behave according to technology needs either unconsciously or consciously (Zhao, 2020).

Another motivator of TR is innovativeness. This trait is related to people's inclination to explore and try new things (Parasuraman & Colby, 2001). Innovative people prefer to explore their world which makes them more open to accepting new technology. Another key aspect of innovativeness is the tendency for people to collect and share information. The innovative individual prefers learning new things and develop as they would then tell other people what they have learned. In general, innovative consumers play an important role in giving advice to other consumers (Parasuraman & Colby, 2001). People with high innovativeness traits have been described as those who would possess powerful inherent inspiration when it comes to the use of new technology as they cherish the excitement of trying the innovation (Hemdi et al., 2016). Pham et al. (2020) added that the innovativeness trait represents the degree that individuals want to try and use new technology services and products to become thought leaders on technology-related issues. In particular, these innovative people are also found to be very intrigued towards new technologies in general and in exploring their attributes.

Other researchers like Morton et al. (2016) explained that on an abstract level, all individuals have an inborn inclination to be attracted to innovation's unique qualities. In general, this is referred to as innate innovativeness and it concerns the inherent propensity that a person has when it comes to desire related to innovation adoption (Morton et al., 2016). Early adopters or innovators of new services and products generally motivated and persuade other people about the innovation's unique quality. This is why consumer's innovativeness can boost the new product learning process (Al-Jundi et al., 2019).

Inhibitors of TR – discomfort, and insecurity

Inhibitors of TR refer to the negative traits in regards to technology, namely, discomfort and insecurity. Parasuraman (2000) defined discomfort as the perceived lack of control over technology and a feeling of being overwhelmed by it. Discomfort also refers to the degree that people might have prejudice towards technology (Lin & Chang, 2011). It represents the degree where people have a general paranoia about technology-based services and products, where they believe that these services and products tend to be exclusionary, rather than being used for all kinds of people (Parasuraman & Colby, 2001). Individuals with high discomfort traits would consider technology as more complex. They believe that technology is too complicated and was not designed to be used by normal people (Massey et al., 2013). As such, they perceive technology as something that is not easy to use (Walczuch et al., 2007). They find technology use as something overwhelming and uncontrollable, which ultimately would lead them to a lower quality perception no matter what the actual outcome would be (Blut & Wang, 2019). Individuals with discomfort traits were described as individuals who become anxious and uncomfortable when it comes to using technology because they think that they are being controlled by technology (Ali et al., 2019). Perceived lack of control is the reason why individuals with high discomfort traits would often possess little confidence when it comes to using technology, henceforth consider using it as more difficult (Blut & Wang, 2019).

Insecurity, the second negative trait or inhibitor is defined as the distrust people have towards technology as well as them having skepticism about the technology's ability to work properly (Parasuraman & Colby, 2015; 2001; Parasuraman, 2000). While it shows some degree of similarity with discomfort, there is a fundamental difference between this facet and discomfort, as insecurity focuses more on specific technology-based transaction aspects rather than lack of comfort pertaining to the technology in general (Parasuraman & Colby, 2001). Parasuraman along with Colby (2015) stated that insecurity is a combination of user's concerns on technology's undesirable consequences, its safety issues, as well as the need for assurance. Hemdi et al. (2016) explained that insecurity resulted from the absence of trust in technology and its capacity to function legitimately. According to Blut and Wang (2019), insecurity is negatively related to value, where skeptical individuals have the tendency to anticipate danger instead of benefit when it comes to using technology and would result in the development of lower value perception on technology and its usage. Customers with the perception that using technology would bring them insecurity usually will start to feel anxious and then pessimistic in regards to the usefulness and benefit of the technology in question (Pham et al., 2020). Insecurity can be caused by a person's concerns about the harmful distraction of technology, impaired confidence towards the online environment, dependency on the technology, and the decline in personal interaction quality factors (Chen & Lin, 2018).

THE IMPORTANCE OF TECHNOLOGY READINESS TOWARDS TECHNOLOGY USAGE INTENTION

A review on TR dimension constructs suggested that each construct is independent of one another (Smit, Lombard, & Mpinganjira, 2018; Parasuraman & Colby, 2001). This view implied that a person can be both praising and fearing technology simultaneously. The literature also noted the important role played by each of the TR dimensions in influencing an individual's technology readiness/TR (Smit et al., 2018; Panday & Purba, 2015; Parasuraman & Colby, 2001).

In this section, TR's importance of technology usage intention will be discussed. Usage intention is defined as the strength of one's intention to use a technology (Blut & Wang, 2019; Davis et al. 1989). The literature also noted another definition of usage intention, where it is defined as a person's intention, plan, or prediction to utilize technology in the future (Zuiderwijk, Janssen & Dwivedi, 2015).

Davis et al. (1989) developed the technology acceptance model (TAM), a widely adopted model in technology adoption studies. In TAM, usage intention and actual usage have been identified as indicators of user's adoption of technology. This study, however, will focus solely on user technology usage intention instead of their actual usage behaviour. As explained earlier, consumers still show signs of hesitation to engage in online shopping and prefer to shops through traditional (offline) shops (MCMC, 2018; Glueck, 2017; Chin, 2016). This implies that consumers are still not ready to purchase their goods through the internet. Parasuraman and Colby (2001) explained that technology readiness (TR) varies from one individual to the next. Consumers' hesitation to purchase online and their preferences to shop in traditional shops suggest that they have a low online purchase intention. In relation to this situation, online purchase intention is examined in this paper instead of actual online shopping behaviour.

Several scholars examined the concepts of TR in previous studies and discovered that TR significantly influences technology usage intention (Prodanova et al., 2018; El Alfy et al., 2017; Mummalenani et al., 2016). This finding is consistent with Lin and Hsieh (2006) arguments who stated that TR is an important driver towards user behavioural intention. Henceforth, it was suggested that TR plays an important role in the development of user intention to adopt the technology.

However, researchers were mentioned to give little attention to TR application in information system studies (Makkonen et al., 2017). For instance, it was mentioned that there is still an unclear understanding related to how individual belief towards technology (such as TR) will influence their behavioural intention (Chiu & Cho, 2020). From this, it can be concluded that there is still a gap in regards to the literature related to TR relationships with technology usage intentions. Therefore, it was deemed necessary for future researchers to further examine the relations between TR and technology usage intention.

PROPOSED TECHNOLOGY READINESS MODEL

The influence of technology readiness (and its' dimensions) on technology usage intention has been acknowledged in previous literature (Pham et al., 2020; Blut & Wang, 2019; Chen et al., 2018; Prodanova et al., 2018; El Alfy et al., 2017; Hallikainen et al., 2017; Mummalaneni et al., 2016; Hwang & Good, 2014). Therefore, it can be implied that the TR concepts proposed by Parasuraman (2000) were capable to serve as an important determinant towards online purchase intention. This is supported by several other studies that looked into the impact that TR has on user technology usage intention and found significant relations between them. For example, Prodanova et al. (2018) found that TR plays a significant role in influencing intention to purchase travel-related services by mobile phone among Spanish citizens. Similar findings were identified in a meta-analysis done by Blut and Wang (2019), where TR motivators (optimism & innovativeness) and inhibitors (discomfort & insecurity) were found to be related to the technology usage intention. Meanwhile, El Alfy et al. (2017) looked into instructor technology readiness influence over their intention towards e-learning technology. The study was held in two different universities in Egypt and the United Arab Emirates (U.A.E). They found that technology readiness influences the intention to use e-learning technology in both universities. However, while Egypt university showed a negative influence regarding technology readiness on the intention to use e-learning, U.A.E University showed a positive influence of TR on the intention to use e-learning (El Alfy et al., 2017). Subsequently,

Mummalaneni et al. (2016) who examined Chinese university students' likelihood to purchase online, reported that TR has a direct impact on intention to purchase online.

On the other hand, when being examined from the multidimensional perspective, TR was also found to have a strong prediction strength towards technology usage intention. For instance, the motivators dimension of TR (optimism and innovativeness) was found to have a positive influence on technology usage intention (Chen et al., 2018; Hallikainen et al., 2017; Hwang & Good, 2014). Furthermore, the inhibitor dimension of TR (discomfort and insecurity) was identified to have a negative relationship with technology usage intention (Pham et al., 2020; Hallikainen et al., 2017; Hwang & Good, 2014). These aforementioned studies, hence, support the proposition that TR and its dimensions of optimism, innovativeness, discomfort, and insecurity have a significant relationship with user technology usage intention.

From the reviews made, a TR model to explain TR's dimensions serving as the antecedents to consumer's online purchase intention (figure 1) is proposed here. In this model, it is proposed that optimism and innovativeness (as the motivators of TR) show significant positive influences on consumer's online purchase intention (H1 & H2). In the same model, it is proposed that discomfort and insecurity (as the inhibitors of TR) show a significant negative relationship with consumer's online purchase intention as suggested from past research (H3 & H4). Subsequently, the literature defined online purchase intention as the measurement of consumer willingness to perform an online purchase through an online retailer (Singh & Srivastava, 2018).

It is argued here that as optimistic individuals, they are assumed to be less likely to focus on negative events of technology, and would instead be confronting technology more openly. With optimism on their side, they would be more likely to accept their situation rather than be escapists. This is why optimistic people would be more willing to use new technologies available to them (Nugroho & Fajar, 2017; Walczuch et al., 2007). Meanwhile, Ali et al. (2019) stated that an optimistic person is generally less inclined to focus on negative aspects and they tend to adopt technology easier as they consider it as easy to use and beneficial. Using the same line of argument, in the case of online purchase, it means that consumers with optimism would be more likely to have the intention to purchase online (H1).

The relationship between optimism and technology usage intention was supported by several scholars. For example, Chen et al. (2018) found that optimism positively affects the consumer's intention to use the self-service parcel delivery service. In another study that examines business to business (B2B) customer intention to use digital services in their procurement processes, it was identified that optimism serves as the most influential dimension of TR followed by innovativeness, discomfort, and insecurity respectively (Hallikainen et al., 2017). Hwang and Good (2014) also found a strong positive relationship between optimism and adoption intention to use intelligent-sensor-based services, both when consumers received positive and negative information about the technology.

Additionally, it is also argued here that consumer's innovativeness to have a similar influence on their purchase intention as shown from past literature. Rogers (1995) suggested that in regards to technology adoption, it can be expected that people with a high degree of innate innovativeness will show inherent interest in trying new technologies, and thus, they would be more likely to become early adopters than others. Recent literature also suggested similar views. For instance, people with the same intrinsic individual characteristic were reported to show a high correlation to their intention to buy and use new products (Al-Jundi et al., 2019; Hassan, 2017). Following these findings from the literature, in the case of online purchase, it is proposed that consumers with innovativeness would be more likely to have the intention to purchase online (H2).

Several previous empirical studies also supported the relationships between innovativeness and technology usage intention. For example, innovativeness was found to have a significant positive relationship with the intention to use SST parcel delivery (Chen et al., 2018). Chen et al. (2018) also found that individual factors such as optimism and innovativeness have more explanatory power than situational factors such as location convenience and perceived time pressure. The significant positive relationship between innovativeness and intention to use technology was also found in Hallikainen et al.'s (2017) study. Furthermore, innovativeness was also reported to serve as the second-highest dimension to influence intention to use B2B digital services, surpassed only by optimism (Hallikainen et al., 2017).

Meanwhile, according to Blut and Wang (2019), in general, individuals with high discomfort level feel that using technology could lead them to an unpleasant and overwhelming feeling. This would be the reason for them to avoid using technology. Ramirez-Correa et al. (2019) also added that people who have a high level of discomfort towards technology feel that technology is complex and hence, are not willing to use it. Additionally, if an individual feels discomfort about a certain action, it can lead to an adverse and unfavourable effect on that individual new technology usage intention (Prodanova et al., 2018). Using the same line of argument, in the case of online purchase, it means that consumers with discomfort would be more likely to not have the intention to purchase online (H3).

In line with this proposition, subsequent review of the literature found reports on the influence of discomfort as the inhibitor dimension of TR over user technology usage intention. For example, Hallikainen et al. (2017) reported on the negative relationship they found between discomfort and user intention to adopt B2B digital services. A similar finding was reported by Hwang and Good (2014) who investigated the role of consumer characteristics and information in explaining their shopping intention regarding intelligent sensor-based services. They found that discomfort has a significant negative impact on shopping intention during a negative information condition. This means that consumer who held a discomfort attitude towards innovative technology will reduce their intention to shop when they are exposed to negative information.

Lastly, in concern to insecurity, the review of the literature pointed to the view that people who are skeptical about using technology and naturally possess distrustful nature would tend to expect technology to lead them to danger than benefit. Thus, insecure people would find ways to avoid using technology. Blut and Wang (2019), for instance, have

proposed a negative relationship to happen between people with insecurity trait and technology usage (Blut & Wang, 2019). Ramirez-Correa et al. (2019) explained that insecure individuals, due to their innate fear associate with technology, will choose to avoid using technology. Additionally, insecure consumers are also more likely to feel doubtful towards technology and might even refuse to try it regardless of the technology potential benefit to them (Kamble, Gunasekaran, & Arha, 2018). Following these findings from the literature, in the case of online purchase, it is proposed that consumers with insecurity would be more likely to not have the intention to purchase online (H4).

Consistent with this proposition, several previous studies reported on the significant relationship found between insecurity and technology usage intention. For instance, insecurity was found to be negatively related to intention to adopt technology in Hallikainen et al.'s (2017) study that examined B2B digital service. In another study, Pham et al. (2020) also reported a negative influence of consumer's insecurity over their purchase intention. Pham et al.'s (2020) study focused their investigation on the impact of TR in the context of luxury hotel room booking in Vietnam's major city. The respondents of this study were 668 international tourists with experience staying in luxury hotels.

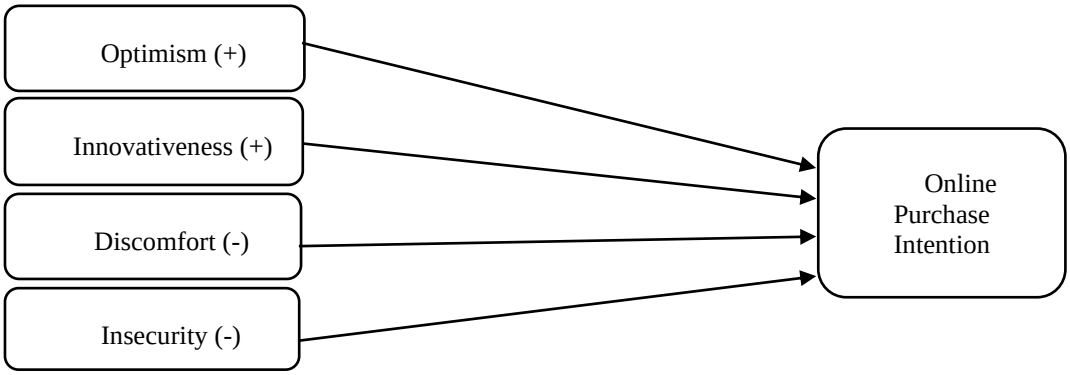

Figure 1. The proposed model of TR relationship with online purchase intention

METHODOLOGY

In this section, suggestion regarding possible approach future researchers may take is provided. Regarding sampling design, researchers can adopt a probability sampling technique such as simple random sampling in their study. In this sampling technique, every element in the population has a known and equal probability of being chosen as the study subject. Additionally, this sampling also has the advantage of having the least bias as well as providing the most generalizability (Sekaran & Bougie, 2016). Subsequently, researchers can also use the area samplings technique if they aim to collect information in a localized area. Area sampling is a specific type of cluster sampling in which the clusters consist of one geographic area such as counties, city blocks, or particular boundaries within the local area. Area sampling is not dependent on the sampling frame and it is also less expensive when compared to other sampling designs (Sekaran & Bougie, 2016). This sampling technique is suitable if the researchers want to focus on retrieving data from a specific location only. On the other hand, in a situation where the population frame is not available or the researchers are not prioritizing sample representativeness, researchers can consider using a non-probability sampling technique such as convenience sampling which refers to the gathering of data from populations members who are conveniently available and can give it to the researchers (Sekaran & Bougie, 2016). This particular sampling technique is frequently used during the exploratory phase of a research project and was perhaps the best method to obtain some basic information efficiently and in a short time (Sekaran & Bougie, 2016).

Moreover, it is also suggested that future researchers adopt the measurement scales proposed in TRI 2.0 (Parasuraman and Colby, 2015) instead of TRI 1.0 (Parasuraman, 2000). According to Parasuraman as well as Colby in 2015, one of the critical limitations of TRI 1.0 is its measurement length, having 36 items. In comparison, TRI 2.0 only has 16 items scale. Parasuraman and Colby (2015) stated that researchers often chose to apply only a subset of item scales from TRI 1.0 in order to lower respondents' burden in answering the surveys. Therefore, Parasuraman and Colby (2015) argued that the more parsimonious but meticulous developed TRI 2.0 should be more practical to be applied in the upcoming future researches. In addition, TRI 2.0 also possessed wider applicability due to it being more concise, which led to less burden when it comes to measuring multiple constructs other than just TR. Moreover, various other refinement made to TRI 2.0 has made it more robust to be applied across different study settings and over time (Parasuraman & Colby, 2015).

CONCLUSION

From the review made on the literature, it can be concluded that TR which was earlier proposed by Parasuraman (2000) is an important concept and cannot be ignored as a determinant in assessing customer's intent to adopt technology-based services. This is true in Malaysia's case as statistics provided by MCMC (2018) show that Malaysians prefer to purchase at a physical shop than doing online shopping which has brought up the issue of their technology readiness in online shopping.

Secondly, it can also be concluded that Parasuraman's (2000) TR concept reviewed in this study was found acceptable and acknowledged by other researchers. His TR concept reflects on an individual's predisposition in the usage and adoption of new technology and this has been found to be supported by various studies to date as described in this review. A brief summary of past researchers' findings in identifying the relationship between technology readiness (and its proposed dimensions) and technology usage intention has been included in the earlier section of this paper. Parasuraman himself along with Colby (2015), for instance, had suggested that TR is an important predictor of technology-related behaviours, particularly in the e-services domain while Lin and Hsieh (2006) acknowledged TR as an important driver of behavioural intention.

Thirdly, the review made on TR led to the conclusion that TR would have shown a different impact on people. For instance, Parasuraman and Colby (2001) found that customer segments with differing TR profiles show a significant difference in terms of their internet-related behaviours. Mainly, as Yen (2005) pointed out, the difference is due to the fact that not all users would be equally ready to embrace technology-assisted services. Thus, TR cannot be ignored when it comes to assessing customers' adoption of SSTs because it plays an important role in consumer's perceptions and behaviours (Heinemann, 2019; Lin & Hsieh, 2006).

Lastly, the conclusion made on the review led to the proposed TR model where TR's four dimensions, namely, optimism, innovativeness, discomfort, and insecurity have all been hypothesized to have a significant (positive or negative) relationship with consumer's intention to purchase online. Consumer optimism and innovativeness, for instance, would show positive relationships with the intention to purchase online (H1, H2) while their discomfort and insecurity would show a negative relationship (H3, H4).

IMPLICATION

From the theoretical perspective, this paper contributed by providing a recent review on the relationship between technology readiness and its dimension with technology usage intention. From the review of previous studies in regards to these relationships, this paper also proposed a model that hypothesizes the relationships between technology readiness dimension (motivators and inhibitors) with online purchase intention. This model can be used by future researchers to help them select the determinants for their studies that are related to online shopping or other technology. Subsequently, researchers would find insights on the usefulness of technology readiness and on how it has been and can be applied for further investigation. Meanwhile, from the practical perspective, the insight provided in this review is believed to indirectly motivate more study regarding this topic, especially for the emerging market such as Malaysia, as well as other South East Asian countries. Additionally, the review would help guide marketing practitioners to understand the influence that technology readiness and its dimension has towards consumer's behavioural intention in adopting online shopping which they could apply for future marketing strategy.

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