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THE DRIVERS AND BARRIERS OF ONLINE SHOPPING BEHAVIOURS FOR OLDER ADULTS: A REVIEW

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Abstract:

To date, digitalization is a necessity for all consumers regardless of the age groups to adapt to the online world. However, not all consumers have benefitted from the advantages of online shopping despite its increases importance over the years. One neglected group is the older adults; who is often overlooked by the online shopping industry due to preferences and focus on the youth market. There are also limited studies found in the literature on the topic of older adults' behaviour as online shoppers. A gap in the literature is in lack of understanding on the role played by technology-enabled platforms on aging societies; this raises the needs for researchers and practitioners alike to study the challenges and concerns related to meeting older adults' needs on technology as the group increases in numbers worldwide. In Malaysia, older adults are not active and engaged consumers in online shopping despite the group's high market potential value. Taking note of the online shopping scenario in Malaysia as well as the gap identified in the literature, this study reviews the literature (secondary data) to identify the drivers and barriers of online shopping behaviours among older adults. It is expected that apart from enriching existing literature related to online shopping behaviour for older adults, this review would also benefit future scholars when deciding on possible drivers and/or barriers' selection in the investigation of older adults' online shopping behaviour. As for marketers, the identification of drivers and/or barriers would be useful to consider in planning for their future marketing strategies.

Keywords:

Online Shopping, Online Shopping Behaviors, Older Adults, Drivers, Barriers, Malaysia.

Introduction

Despite being a potential segment to consider in the online shopping market, studies carried out focusing on the older adults' online shopping behavior is still limited. As a potential market, it is thus necessary to review past literature to identify the drivers and barriers for this segment focusing on the group's online shopping behavior. The outcome of this review is expected to be beneficial for future researchers when selecting possible variables to investigate on the topic of online shopping behavior of older adults. This review starts with an introduction of older adults and their online market prospects in Malaysia.

Older Adults

The terminology pertaining to older adults includes the word 'elderly' (Hamid et al., 2018), 'senior citizen' (Chakraborty et al., 2016), mature (Law & Ng, 2016) and 'senior' (Jumadi et al., 2017). Subsequently, the term of 'older models', 'older person', 'older people', 'golden ager' are commonly used in many advertising studies to portray or represent older consumers (Idris, 2016; Lee, Kim & Han, 2006). Among all the terms provided, the term of 'older adult' (Soh et al., 2020) is considered neutral and safest to use (Idris, 2016) that it has been used in many of the past literature to define an older consumer or group (Soh et al., 2020; Helverson et al., 2018; Kim, Nam & Kim, 2018; El Shamy & Hassanein, 2017). In 'older adult' the word older is an expression describing that someone is older than someone else while the word adult expresses the demand a person young or old makes on how s/he would want to be treated as an adult and be respected (Idris, 2016).

Online Market Prospects of Older Adults in Malaysia

The world's adoption of digitalization proves to be a necessity for consumers in all age groups to adapt to the online world (Chandra, 2019). However, not all consumers have benefitted equally from online shopping although its importance continues to increase today (El Shamy & Hassanein, 2018). Older adults are consumers who have been frequently ignored and overlooked by the online shopping industry (Kiattiwittayasakul, 2018); mainly because the focus is on the youth market (Soh et al., 2020; Rahman & Hussain, 2014). There is lack of studies in the literature on the topic of older adults as online shoppers (Soh et al., 2020; Kiattiwittayasakul, 2018; Kuoppamaki et al., 2017) and their behaviours on online platforms (Kiattiwittayasakul, 2018). The inability to examine the role of technology-enabled platforms in terms of the world aging societies and populations is the gap found in research (Nunan & Di Domenico, 2019). Thus, it is imperative for practitioners and researchers alike to address all challenges and concerns related to meeting older adults needs (Tobi et al., 2017) as this segment has increased in number worldwide.

With the coming of the aging society, the role of older adults toward online shopping is becoming more critical (Lian, 2015). Calls for researchers to not neglect older adults in technology related studies such as online shopping can be seen even in earlier studies. Leppel & McCloskey (2011) and McCloskey (2006) for instance has observed the growth of this older adults' group as well as on the lack of attention marketers gave this group as consumers in electronic commerce prompting them to suggest for researchers to explore the drivers and barriers on this consumer's group participation since it is a critical area that needs further examination.

The recent 2016 The State of User Experience report stated that in U.S, '49% of elderly who age 52 to 70 years old was spending at least 11 hours on internet in a week' (Bryan, 2017; Limelight Network, 2016). The report also stated that 'older adult user has been spending more time on internet, with 31% of them engaging in online activities for more than 15 hours per week (as compared to 27 percent for Millennials and 24 percent for Gen X)' (Limelight Network, 2016). As the older adults are using the Internet more frequently, they are thus becoming an important segment with potential for an online shopping market (Soh et al., 2020; Kiattiwittayasakul, 2018). This is believed to be so for the Malaysian market too (Soh et al., 2020). According to the 2018 Internet User Survey report, elderly who is 50 years old and above that use internet have increased from 7.3% in 2014 to 18.1% in 2018 (MCMC, 2018a). The increase in Internet usage by Malaysian older adults makes them a highly potential market for online shopping.

Despite its high market potential, older Malaysian adults happen to show the least percentage compared to the other age groups as online shoppers (Soh et al., 2020). In 2018 for example, 85% of Malaysians who purchase online were those under the age of 35 years old (The Sun Daily, May 3, 2018). In 2017, statista data reported that shopping rate for online shoppers aged 45 to 54 years old and those aged 55 to 64 years old comprised only 14% and 4.4% respectively (Statista, 2018) while shopping rate for younger online shoppers aged between 25 to 34 years old showed a higher percentage at 34.3%. Similar trend is shown in a report published by MCMC (2018b) whereby only 25.7% and 9.9% of older adults aged 50-59 and 60+ years old respectively were found to adopt e-commerce compared to other age groups, namely, shoppers aged 20-29 years old and 30-39 years old whose e-commerce adoption rate are 54.1% and 56.6% respectively (MCMC, 2018b). In short, the statistics on Malaysia's online shoppers indicate a low engagement of older adults in online shopping despite their market potential for online retailers.

Taking note of the online shopping scenario in Malaysia as well as the gap identified in the literature, the purpose of this study is to identify the drivers and barriers of online shopping behaviours for older adults. The identification of the drivers and barriers will be made based on a review from past literature (secondary data). The findings would benefit future scholars when deciding on the selection of possible drivers and/or barriers for investigation of older adults' online shopping behaviour. They would help to enrich existing literature related to online shopping behaviour for older adults. As for marketers, the identification of drivers and/or barriers would be useful for consideration in the planning of their future marketing strategies.

Methodology for Literature Review

To locate suitable studies pertaining to the interest of this study namely; the drivers and barriers of older adults online shopping behaviors, an electronic search using google scholar was conducted. This is where title and abstracts of articles in the literature were reviewed to identify their suitability and relevancy. This attempt was enhanced by usage of 13 keywords and their combination (older adult, older consumer, senior consumer, grey consumer, mature consumer, e-commerce, online shopping, online shopping behavior, online purchase intention, motivators, drivers, barriers and challenges) to help in searching for relevant studies. Using this method, 10 studies that examine the drivers and/or barriers of older adults online shopping behaviors were found, shortlisted and used for the current study's review. The studies were obtained from the Journal of Ambient Intelligence and Humanized Computing, Global

Business Review, Decision Support System, International Journal of Business and Society, Computers in Human Behaviour, Journal of Consumer Behaviour, and Journal of Fashion Marketing and Management. The review exercise also include similar topics found from postgraduate theses and conference papers on drivers and barriers focused on older adults' online shopping behaviors. To provide a review that is up-to-date and critical, only relevant studies published in google scholar from 2010 to 2020 were included for analysis.

Literature on Drivers and Barriers of Older Adults Online Shopping Behaviors
A review on past literature pertaining to the drivers and barriers of older adults' online shopping behaviour is summarized in Table 1. The summary shows the list of ten studies, including the most recent ones, namely, Soh et al. (2020), Roy, Basu, & Ray (2020) and Kiattiwittayasakul (2018) that have been identified in the literature which investigated the topic of older adults' online shopping behaviours as well as both drivers and/or barriers. Drivers investigated in these studies were found to be quite varied, from performance expectancy to price and shopping experience while most of the barriers were risk related factors. From the summary, it can be seen that online shopping behaviours investigated were varied which include both intention and actual purchase. These will be discussed further in sub-sections 3.1 and 3.2.

Table 1: Summary of Drivers and Barriers of Older Adults' Online Shopping Behaviours

Authors	Drivers	Barriers	Online Shopping Behaviours
Soh et al. (2020)	1. Performance Expectancy 2. Social Influence 3. Facilitating Condition	1. Usage Barrier 2. Value Barrier 3. Risk Barrier 4. Tradition Barrier	Perceptions, Acceptance & Willingness towards Online Shopping
Roy, Basu, & Ray (2020)	1. Adoption of eWOM (Online Review)	NA	Online Purchase Intention
Kiattiwittayasakul (2018)	1. Attitude towards online buying	NA	Intention to purchase products in online platform
Kiattiwittayasakul (2018)	1. Perceived Usefulness 2. Perceived Ease of Use	NA	Attitude towards online buying
Chakraborty et al., (2016)	1. E-Commerce Attitude 2. Trusting Belief in Shopping Service	1. Perceived Severity 2. Perceived Online Shopping Risk	Post-Breach Online Shopping Intention
Lian (2015)	NA	1. Usage Barrier 2. Value Barrier	Online Shopping Intention

Rahman & Hussain (2014)	1. Perceived Ease of Use	1. Internet Safety Perception 2. Attitude Issue	Online Purchase Intention
Lian & Yen (2014)	1. Performance Expectation. 2. Social Influence	1. Value Barrier 2. Risk Barrier 3. Tradition Barrier	Online Shopping Intention
Lignell (2014)	1. Price Level 2. Convenience 3. First Shopping Experience 4. Trust 5. ProductsVariety	1. Perceived Risk 2. Store Orientated Mindset	Online Purchase
Leppel & McCloskey (2011)	1. Perceived Usefulness	1. Security Issue 2. Financial Risk	E-Commerce Adoption
Kwon & Noh (2010)	1. Product and Price Offering Benefit		Online Purchase Intention (Apparel Products)

Source: Self-developed

Drivers of Older Adults' Online Shopping Behaviors

The review on the literature identified several drivers for older adults' online shopping behaviour which is quite diverse as shown in Table 1. Of the four suggested drivers, namely, effort expectation, performance expectancy, social influence and facilitating condition that supposed to affect older adults' perceptions, acceptance and willingness towards online shopping in Malaysia, Soh et al.'s (2020) study found that only performance expectancy, social influence and facilitating condition were drivers while effort expectation was not. According to Soh et al. (2020), this happens possibly because Malaysian older adults who took up online shopping were more receptive in how they use their time online where they took effort to learn on how they can shop online effectively instead of believing that one can shop online easily without any effort. In this study, older adults were operationalized as individuals who are 50 years old and above.

Through the review exercise, it was found that Soh et al.'s (2020) study was similar in design with previous study by Lian & Yen (2014). Lian & Yen (2014) had also investigated the same four drivers, namely, effort expectation, performance expectancy, social influence and facilitating condition on online shopping intention of older adults. However, Lian & Yen's (2014) study that was conducted in Taiwan reported only two significant drivers out of the four they investigated, namely, performance expectancy and social influence. This study defined older adults as people over the age of 50.

e-WOM is another driver identified in the literature as found by Roy et al.'s (2020) study. With 202 older adults' consumers aged 50 years old and above as respondents in India, this study found that positive e-WOM adoption acted as the driver for older adults' online purchase intention.

In Thailand, perceived usefulness, perceived ease of use and attitude towards online buying were reported to be drivers for older adults' intention to purchase products in online platform. Kiattiwittayasakul's (2018) study tested the drivers on both older adults' online shoppers and non-online shoppers. In this study, perceived usefulness and perceived ease of use were assumed to drive older adults' attitude towards online buying while their attitude towards online buying was also hypothesised to be the driver for older adults' intention to purchase products. Kiattiwittayasakul (2018) found that perceived usefulness and perceived ease of use affect both groups' attitude towards online buying, thus, identifying the two as the drivers for online and non-online shoppers of older adults. As for attitude towards online buying, Kiattiwittayasakul's (2018) study managed to identify it as a driver for older adults' purchase intention only for non-online shoppers since the influence between attitude towards online buying with online purchase intention for the online shopper group was not tested. Still, from the findings, this study managed to identify all three factors as drivers for the older adults' online purchase intention. This study operationalized older adults as those who age 50 years old and above.

A different approach was used by Lignell (2014) with focus group technique involving three groups of older adults in Finland; the first group consisted of male older adults who never shop online before, the second group consists of male older adults with online shopping experience while the third group consists of female older adults with online shopping experiences. The participants were individuals aged 60 years old and above. The focus groups' results identified price level as an important driver towards online purchasing. For instance, low price was frequently cited as one of the reasons when non-shoppers were speculating reasons to start purchasing online. Similarly, price level was an important factor for online shoppers when deciding on preferable inexpensive product choices. This study also identified convenience and easiness as other drivers for older adults' online purchasing where the two were cited several times in the interview to represent the benefits of online shopping. For example, purchasing online is perceived to be more convenient for older adults as it makes selection of products easier for them; particularly when trying to locate for specific products, with minimal physical effort and time saving. Lignell (2014) also found that the positive experiences that older adults experienced during their first online shopping was a critical driver for assuring their next online purchase. A good positive experience will strengthen their opinion that electronic channel is a good alternative for shopping. Furthermore, perceived trust towards online vendor and channel is found to serve as the driver for older adult to adopt online shopping. Lastly, variety of products selection in online shops was a driver that can interest older adults to engage in online shopping with products that they were not able to purchase outside of online shop.

In USA, trusting belief in online shopping services and attitude towards e-commerce are two drivers identified by Chakraborty et al. (2016) for the older adults' user post breach online shopping intentions. Breaches can result in loss of personal data belonging to customers, thus,

examining them was imperative. This study defined older adults as individuals who are above 55 years old.

In another study held in Pennsylvania, USA, Leppel & McCloskey (2011) identified perceived usefulness as driver for older adults' e-commerce adoption. They found that woman is more likely than man to agree that online shopping makes their life easier through time saving and convenience. In addition, older adults who have purchased from online channel were more likely than those who didn't, to agree that online shopping is easier compared to offline shopping. This study's older adults' respondents consisted of individuals who are over the age of 50.

Benefit of products and price offering are the only two drivers for older adults' apparel online purchase intention found by Kwon & Noh (2010) in the U.S. while the benefit of convenience, comfortable shopping and the benefit of hedonic enjoyment that were investigated in the study were not. This study was held in USA with older adults' participants aged 43 years old and above.

In Malaysia, perceived ease of use of the website was the driver found by Rahman & Hussain, (2014) for Malaysian older adults' online purchase intention. A website that makes shopping process easier for older adults will serve as a great source of motivations for them to participate in online shopping. For instance, older adults' consumers are slow in action, have poor eyesight and weak memory. Thus, website developers must properly consider these factors when designing the website if they wish to reach and target older adults' consumers segments. This study was held in Klang Valley, Malaysia with older adults aged 40 years old and above as respondents.

Barriers of Older Adults' Online Shopping Behaviors

This section will discuss the barriers of older adults' online shopping behaviour. The review found three studies that examined the same five barriers, namely, usage barrier, value barrier, risk barrier, tradition barrier and image barrier but with different results. Lian's (2015) study in Taiwan for instance found study only usage and value barrier as the two barriers on older adults online shopping intention while Lian and Yen (2014) found three barriers (value barrier, risk barrier and tradition barrier) and that Soh et al. (2020) found four barriers instead (usage barrier, value barrier, risk barrier, and tradition barrier). In Soh et al.'s (2020) study, the four barriers showed negative relationship with older adults' behaviour (i.e. perceptions, acceptance and willingness towards online shopping). According to Soh et al. (2020), image barrier happened due to the stereotype thinking that hamper the adoption of an innovation; mainly because some users have an unfavourable image towards the innovation due to it being the opposite of their preference. Thus, possible explanation for image barrier insignificance was because most Malaysian older adults considered online shopping as something that is difficult to use even when they have a positive impression on it. Furthermore, despite holding a positive impression on online shopping, older adults might still not participate in it due to limited internet access or being stopped by their family member from shopping online. Another reason is despite having a negative impression on online shopping, older adults might still choose to shop online due to reason such as health condition that restricts them from going outside to shops and due to low quality products sold in the physical stores.

Meanwhile, Chakraborty et al. (2016) identified perceived severity and perceived online shopping risk as barrier that negatively impacted on older adults' intention to engage in online shopping after a security breach. As they explained, perceived severity of any kind of data breach in an e-commerce system will reduces the likelihood of user engaging in online shopping. In consumer's mind, perceived severity towards the security breach manifested itself in the form of fear towards a potential consequence of an event. These consequences are the source of consumer's fear as they are afraid that it will create a personal problem for them. Thus, consumers would develop a negative feeling towards these severities on security breach once they are aware that the websites that they frequently use to shop have suffered data breaches. This ultimately serves as a strong barrier that prevents them from shopping online. Additionally, perceived online shopping risk was also discovered to negatively impact older adults post breach shopping intention.

In Malaysia's case, Rahman & Hussain (2014) have discovered factors such as internet safety perception can hamper older adults' online purchase intention mainly because they have great concerns pertaining to the security and privacy. Despite possessing the intent to adopt online shopping, older adults might choose to avoid purchasing through online channels due to their concerns on the security and safety (Rahman & Hussain, 2014). Similarly, Leppel and McCloskey (2011) discovered that security is one of the main concerns of older adults when shopping online, where they are more likely than younger people to worry about giving their financial and personal information during the shopping process.

In addition, older adults' consumers might refuse to engage in online purchase due to their attitude issue (Rahman & Hussain, 2014). Rahman & Hussain (2014) suggest that to target this consumer group, marketers must try to promote a better understanding about the advantages of online shopping to older adults in order to change their attitude. According to Trocchia & Janda (2000), the reasons why some older adult's users refused to use internet is due to their experiences with technology in the past which might not be pleasant. Furthermore, their refusal to adopt internet for shopping purpose are also due to their perception of reality where they prefer to touch and feel the physical product before they decide to purchase it. Lastly, older adults perceived that purchasing through online channel as less advantageous, hence unable to motivate them in using it. Hence, marketers must consider these reasons when they are trying to promote the advantages of online shopping to older adults.

Meanwhile, among the Finland older adults', it was found that factors such as perceived risk and store-oriented mindset can serve as the barriers that can inhibits older adults' behaviour towards online purchasing (Lignell, 2014). For instance, older adults' online shoppers and non-online shoppers state that they perceived some risk in online shopping environment. Due to stories related to online shopping frauds, older adults become more concerns and tend to be more careful when they shop online. Online shopping risk is also linked to credit card stealing and fear in supplying personal information especially when it involves foreign vendors. Older adults are hesitated to purchase from foreign vendor because they are worried that once they provide the credit information and made the order, they might not receive the product. In this case, they might face difficulty to claim the said product. Lignell (2014) also found that store-oriented mindset deters older adults from purchasing online. Store oriented shoppers are more motivated by physical store orientation which led them to have less interest in online shopping. Generally, store oriented shoppers consisted of non-online shoppers. They perceive that shopping at the physical stores to be more advantageous. Furthermore, they also perceived

that social interaction and leaving their home as important. Finally, store-oriented shopper wants to immediately obtain the product they bought after the transaction, making online shopping that require time to deliver the product unappealing to them. Due to this, they prefer to purchase for their product at a physical store. Hence, store oriented mindset have a significant inhibiting effects on older adults' user online purchase behaviour.

Another study by Kwon & Noh (2010) discovered that perceived financial risk to be the significant barrier for older adults' apparel online purchase intention. Therefore, if older adults perceived that there is a financial risk involved when they are trying to shop online, their intention to proceed with the purchase will start to decline. Interestingly, they did not find the other two dimensions of perceived risk; namely, product and convenience/time risk to show no significant inhibiting effects on older adults' apparel online purchase intention (Kwon & Noh, 2010).

Discussion

The aim of this study is to review previous literature pertaining older adults' online shopping behaviors' and identifying their drivers and barriers. From the extensive review on the 10 studies provided earlier, it was noticed that there is several operationalization of older adults' age. While some studies consider the age of older adults started from 40 years old and above (Rahman & Hussain, 2014), others define older adults as individuals who aged 43 years old and above (Kwon & Noh, 2010), 50 years old and above (Soh et al., 2020; Roy et al., 2020; Kiattiwittayasakul; Lian, 2015; Lian & Yen, 2014; Leppel & McCloskey, 2011), 55 years old and above (Chakraborty et al., 2016) and even 60 years old and above (Lignell, 2014). This lack of consistency happens because there is no set of agreement on which age an individual could be regarded as an older adult (Rahman & Hussain, 2014). In consumer's domain, an older adult is generally defined as someone who is over 65 years old where they are already retired (Rahman & Hussain, 2014). Regardless, recent literatures have begun to consider those who are 60 years old and above and sometime even 50 years old and above as older adult consumers (Rahman & Hussain, 2014).

In 2016, a more detailed review on age operationalization and consumer behavior was conducted by Zniva and Weitzl. In consumer behavior domain, the boundary of older adult age can range from 40 to 69 years old (Zniva & Weitzl, 2016). The reason 40 years old are chosen are due to it being the definition of baby boomer as well as the starting age for most of the transactional events. Meanwhile, 50 years old and above was chosen due to it being the age limit for marketer, general and organizations to define old age. Another reason to choose 50 years old and above is due to it being the age limit for some age-related services. On the other hand, 55 years old and above are used because it was the age where people share similar value, the age suggested by review and other studies, the beginning age for research on retired individuals, the age suitable to investigated active older adults, and the age to compare the categories of young-old with old-old. Lastly, the age of 60 years old and above was used due to it being the retirement age in some countries (e.g U. S and Japan) (Zniva & Weitzl, 2016).

The lack of consistency on the operationalization of older adults' lower age limit has made it difficult to compare between studies and countries (Idris, 2016; Chang, 2008). Therefore, this study suggested that the age of 50 years old and above as a suitable lower age limit when operationalizing older adult age in marketing studies. 50 years old and above was suggested as it is the starting point for the so-called Silver or Senior market (Idris, 2016). Furthermore,

it was mentioned that 50 years and above are the limit that marketer used to define old age (Zniva & Weitzl, 2016). Additionally, while there is a difference in the retirement median ages across country, it can be suggested that senior consumers are individuals who are 50 years old and above. General agreement among the practitioners, academics, charities and gerontologists has resulted to 50 years old becoming the inclusion point for target market, studies and policies. Moreover, people who are over 50 are found to have a significant purchasing power (Riley, Kohlbacher, & Hofmeister, 2012). Lastly, the lower age limit of 50 years old are suggested on the basis that this is the starting age for various age-related services that is provided to older adults' consumer (Zniva & Weitzl, 2016; Sudbury & Simcock, 2009). Hence, 50 years old and above are deemed to be a suitable age limit to represented older adults' consumers in marketing and consumer behaviour studies.

On the other hand, risk barrier was frequently cited in the reviewed studies as one of the barriers for older adults when they are engaging in online shopping (Soh et al., 2020; Chakraborty et al., 2016; Lian, 2015; Lian & Yen, 2014; Lignell, 2014; Kwon & Noh, 2010). This could be contributed to the fact that older adults have limited understanding and experienced towards online shopping which makes them more averse to purchasing through online channels (Reisenwitz et al., 2007). Hence the presence of risk in online shopping will hamper them from using this innovation. Therefore, it was deemed necessary to further investigate about perceived risks and its impact on older adults online shopping behavior.

While the studies reviewed in this paper have indeed examine the impact of risk barrier on older adults, the full extent of risk impact on older adults online shopping behavior remain unexplored. For example, most of the studies reviewed here investigate risk barrier from the perspective of single construct. Generally, when shopping online, consumer tend to experience many types of risk. Previous literature shows that each risk type (dimensions) gave a different level of fears to consumer. For instant, financial risk was stated as the risks consumer most worried about when shopping online, followed by performance risk, time risk, delivery risk, privacy risk, psychological risk, and social risk (Ariff et al., 2014). This imply that despite being the same risk constructs, consumer degree of fear and concern will be different depending on the risk dimensions. While some risk dimensions can cause consumers to worry when shopping online, others may not be considered important enough to warrant a concern. For instant, Kwon and Noh (2010) find that while financial risk is a significant barrier towards older adults' intent to purchase online, performance and convenience/time risk are not. This might be due to older adults perceiving financial lost as a more relevant issue compared to products and time lost during online shopping.

Hence, when examining risk impact on older adults online shopping behaviors, it was suggested to examine them from a multidimensional perspective. Scholars have investigated perceived risk concept in the past and confirm that risk associate with online shopping is multifaceted (Dai, Forsythe & Kwon, 2014). Investigating perceived risk from multidimensional perspective can help in explaining which kind of risk that consumers face when shopping online (Almousa, 2014). In addition, to reduce online consumers risk perception and increase their possibility to purchase online, it is critical for online retailers to know which risk dimension are the greatest concern to consumers and which risk reduction strategy do they prefer to employ (Zheng, Favier, Huang & Coat, 2012).

Subsequently, the extensive review on the 10 studies also discovered that most of the reviewed studies didn't focus on a specific product type when examining online shopping behaviours among older adults. Consumers do not necessarily show the same behaviour when purchasing different product type through online channel. The factors that was considered important when purchasing one product may no longer be important when purchasing another type of products (Keisidou, Sarigiannidis & Maditinos, 2011). Additionally, depending on the type of products, some drivers and/or barriers are more salient to shoppers. For example, Singh and Srivastava (2018) discovered that when shopping online, consumer will perceive more benefit and usefulness when purchasing electronic products compared to when purchasing fashion products. Right now, online shopping has been segmented by products type and the market has matured with more players with product niche (Singh & Srivastava, 2018). Hence, it was implied that consumers online shopping behaviours towards different products type is becoming an important subject to be investigated. This also apply to older adults' consumers.

Kwon and Noh (2010) is one of the studies that was reviewed in this paper to examine older adults online shopping behaviours on a specific product types; namely apparel product. However, their study only examines one type of products. Keisidou, Sarigiannidis & Maditinos (2011) previously mention that study that only examine one product, or one category of similar products will restrict the generalisation of the study results to only a limited number of products. Therefore, it was suggested that a study involving several products type of different categories be conducted in the future to better understand the impact of different products type on older adults online shopping behaviours.

Conclusion

The review made on the literature had led to several conclusions. Firstly, the review made on the literature identified performance expectancy, social influence, facilitating condition, adoption of online word of mouth, positive attitude towards online buying, trust, price level, convenience, shopping experiences, products variety, perceived ease of use, perceived usefulness and benefits of products & price offering as the drivers of older adults' online shopping behavior.

Secondly, the review identified several barriers on older adults' online shopping behavior. Namely, they are usage barrier, value barrier, risk barrier, tradition barrier, security issue, perceived severity, attitude issue and store-oriented mindset.

Thirdly, there is no consensus in regards to the operationalization of older adult age limit with various age identified such as 40 years old and above, 50 years old and above, 55 years old and above and even 60 years old and above. This makes it hard to make a direct comparison between the studies as well as the definition of older adult itself. Taking into consideration all arguments found in the literature, this study suggests that 50 years old and above may be suitable for operationalization of older adults' age in marketing domain.

Fourthly, most of the reviewed studies discovered online shopping risk as the barrier for older adults' online shopping behaviors. However, most of them have investigated risk barrier from a single construct which might hinder further understanding regarding the influence of risk towards older adults' online shopping behavior. Hence, this study has suggested to examine risk barrier from a multidimensional perspective when investigating its influence over older adults' online shopping behaviors.

Lastly, there seemed to be limited studies that examine the difference between product type when examining the drivers and/or barriers toward older adults' online shopping behaviors. However, depending on the product type, consumers will behave differently when purchasing through online channel. Hence, it was suggested that future study examine multiple product type when investigating older adults online shopping behaviors.

Implication

This paper has contributed to the literature by providing reviews regarding the drivers and barriers of older adults online shopping behaviours. This review would benefit future scholars when deciding in the selection of possible drivers and/or barriers in the investigation of older adults' online shopping behaviour. Additionally, this review would also help to enrich existing literature related to online shopping behaviour of older adults. The review provided in this paper is also believed to encourage more study related to older adult online shopping behaviour to be conducted. Subsequently, the reviews of this study can also guide marketing practitioner to better understand about the factors that can serve as the drivers and/or barriers towards older adults online shopping behaviour. This would be useful to them when developing their future marketing strategy to target this consumers' groups.

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