DETERMINANTS OF INTENTION TO REPURCHASE ANTIGEN TEST KIT (ATK) PRODUCT

Long Kim1,*, Teerasak Jindabot2, Sook Fern Yeo3, and Songpan Janthong4

Abstract

ATK test kits have been used widely to test for the Covid-19 virus. This has led to a significant demand and strong repurchase intentions for consumption by many people, including Thai people. From the marketing management perspective, repurchase intentions have been regarded as a competitive advantage which can greatly support firms not only to provide sufficient supply to the market but also to achieve business sustainability. Hence, many businesses have continued evaluating certain determinants which significantly influence their customers’ intentions to rebuy their products. In this regard, investigating the factors influencing repurchase intentions is essential to many businesses. Accordingly, this research aims to investigate how switching costs, brand experience, and brand loyalty, influence consumers’ intentions to rebuy antigen test kits (ATK) for testing for Covid-19 among Thai citizens. A google form survey was developed to survey 670 people who had previously bought an ATK. However, there were only 523 responses deemed valid and usable for analysis through a structural equation model. Results revealed that brand loyalty was significantly influenced by brand experience and switching costs. Consumers remained loyal to the same ATK brand if they were satisfied with their experience of using the ATK product. This could happen when they faced a high barrier of switching to another brand. Repurchase intentions were significantly influenced by brand loyalty and brand experience, but not switching cost. People rebought the ATK product when they remained loyal with the current ATK brand. Their intentions to rebuy became even higher once they had a good experience of using the product.

Keywords: Thai Citizens, ATK, Switching Cost, Loyalty, Repurchase Intentions

1. INTRODUCTION

Recently, with advances in technology and digital disruption, customers are more proactive than in the last decade, co-creating their own consumption, conducting intelligent decision making, and researching significant information about products and services (Phuong and Trang, 2018). These actions contribute to the way in which a certain action

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is conducted in the future by influencing the likelihood of repurchasing the same brand (Bălău, 2018; Herjanto & Amin, 2020). Many scholars (Ali & Bhasin, 2019; Herjanto & Amin, 2020; Chatzoglou et al., 2022) have mentioned that repurchase intentions can be effected by different factors such as socio-cultural factors, lifestyles, or attitude. Therefore, marketing professionals must employ these insights to strengthen the marketing competitive advantages of their respective business (Ali & Bhasin, 2019; Herjanto & Amin, 2020). In recent times, many firms have continued to find specific factors that greatly affect repurchase intentions among their customers so that they can develop and launch a new marketing campaign to promote their customers repurchase intentions on their products (Herjanto & Amin, 2020).

The world has now experienced more than two years of the Covid-19 pandemic which marks such a public health crisis in the history (Ravelo & Jerving, 2022). Meanwhile, more than 4 million Thais have been infected with 30,000 confirmed cases (WHO, 2022). As the Covid-19 pandemic continues, becoming infected by the Covid-19 viruses remains a possibility. Therefore, Thai people still require a method of self-testing for the Covid-19 virus using the Antigen Test Kit (ATK) product to reduce the risks both for themselves and others (Sayabovorn et al., 2022). However, there are many ATK brands competing in the market such that marketing professionals must understand the factors influencing consumers’ intentions to rebuy the product in order to develop marketing and branding strategies which can effectively promote the products and gain consumers’ repeat purchases of the same brand in the future (Syifa Johan et al., 2020).

So far, business success and sustainability has relied significantly on the degree of customer repurchase intentions; therefore, different researchers, from different contextual studies have developed different suggestions to enhance repurchase intentions, but the study of the determinants of repurchase intentions towards the ATK products is still unfolding. For instance, Xue et al. (2021) from the perspective of the textile industry suggest building an effective switching cost for customers. Customers will possibly remain with the same firms, buying the same products again in the future, once they perceive that the cost of changing from the current brand is high. Second, Gao and Fan (2021) from the omni-channel industry suggest enhancing brand experience. When customers receive positive experiences in using a particular product from a particular firm, they will consider the current product as their first choice. Finally, Chatzoglou et al. (2022) from the retail shopping service industry, suggest building brand loyalty. Loyalty creates trust and a willingness to stay with the same firms, therefore, if customers have high brand loyalty, they remain supportive to the same brand in the future.

Therefore, this paper sheds light on understanding certain reasons why consumers intend to rebuy a particular ATK product. As a result, investigating the factors which influence consumers’ intentions to rebuy an ATK product is very important to all related firms. In fact, a common similarity between the prior mentioned contextual studies and the current contextual study is that the firms offer products for customers to use. However, the degree of the attitudes and behaviors among customers towards intentions to repurchase the product is quite opposite from those customers’ attitudes and behavior as it has been claimed that customers who are from different contexts show different perspectives on the products under certain brand names (Kim et al., 2022). Therefore, despite previous studies indicating the above factors (e.g., switching cost, brand experience, and loyalty) as the main determinants of repurchase intentions, their impacts on repurchase intentions remain unclear in the context of the ATK product. Based on this research gap, it is identified that the existing literature has not yet demonstrated sufficient information to explain the impacts of the above factors on intentions to repurchase the ATK product. This circumstance illustrates the current low understanding of customers’ insights, regarding how individuals’ repurchase intentions
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are influenced by the above factors, in the ATK product context.

This paper aims to contribute to the existing literature by integrating the above factors (e.g., switching cost, brand experience, and loyalty) into a new theoretical framework for repurchase intentions, examining relationships among the variables. This study uses a structural equation model (SEM) to examine the variables’ relationships as this technique can conduct linear regressions even for multiple and complex relationships as among the variables in this study. The following section discusses the literature regarding repurchase intentions, brand experience, brand loyalty, and switching costs. Section 3 describes the methodology and data collection. Section 4 provides the empirical data for repurchasing, while Section 5 presents the theoretical and managerial implications, and the final section provides the conclusions of the study.

2. LITERATURE REVIEW

2.1 Repurchase Intentions and Theoretical Foundations

A repurchase intention is conceptualized as an individual’s decision to buy a product from the same firm after using it (Salem & Kiss, 2022). Based on the theory of planned behavior (TPB), an individual’s intentions may lead to an actual behavior (Ajzen, 1985). The main aspect of the TPB is the behavioral intention which outlines a person’s intention to perform a certain activity following his or her attitude along with his or her subjective norms. Thus, as the TPB can explain individuals’ behavioral intentions, it has been used to predict individuals’ actual behavior (Intayos et al., 2021). Regarding behavioral intention attitudes, Chaisuwan (2021) explains that a consequence of attitudes is the development of behavior under the significant influences of contextual factors. These contextual factors may be related to costs, monetary incentives, physical constraints and capabilities, institutional goals, legal factors, interpersonal influences, social norms or environmental influences. These can influence individuals’ intentions which allow them to react toward a specific circumstance. In this regard, if he or she possesses a high repurchase intention for the same brand, his or her actual repurchase can definitely happen in the future (Yasri et al., 2020). For marketers, repurchase intentions have become their main concern as this kind of consumer attitude is a key advantage to maintain their firms’ business success and sustainability (Ali & Bhasin, 2019; Herjanto & Amin, 2020). Though, researchers have found that repurchase intentions are a complex and subjective decision-making process among individuals (Herjanto & Amin, 2020). In the middle of the process, customers are generally affected by timing and various stimuli such as cultural, personal, and psychological, as well as technical characteristics which cause more difficulty to marketers in understanding their customers (Herjanto & Amins, 2020). Therefore, understanding the repurchase intention phenomenon requires ongoing investigation with current customers. The above theoretical standpoint clearly indicates that repurchase intention is the main focus variable which must be investigated as repurchase intentions are outlined as a valid factor predicting individuals’ actual repurchase behavior. Hence, seeking further awareness of repurchase intentions among consumers is very important. Furthermore, despite the ATK product industry being an emerging industry during the pandemic of Covid-19, this type of product has been widely used among consumers to test for the Covid-19 virus. Therefore, investigating repurchase intentions among ATK users is absolutely significant to support ATK producers in predicting the actual number of repurchases so that they can continue to supply sufficient ATK products in the current market.

Subsequently, various studies have highlighted several factors which affect individuals’ repurchase intentions in different industries. For instance, Sulistiowati and Chan (2021) used a partial least square (PLS) analysis to examine the impact of ease of use, promotion, security, and satisfaction, on repurchase intentions in the banking industry.
In the fashion industry, Bakhti et al. (2021) used PLS analysis to examine the impact of price, quality, and perceived value, on repurchase intentions. In the hotel industry, Shinegi and Widjaja (2022) used smart PLS analysis to examine the impact of interior, customer process, design, and satisfaction, on repurchase intentions. In the restaurant industry, Kundiarto and Suciarto (2022) used an analytical technique to examine the impact of service-scape, service quality, and satisfaction, on repurchase intentions. In the telecommunications service industry, Salem and Kiss (2022) used structural equation modelling to examine the impact of price perception and service quality on repurchase intentions.

Regarding the analysis of research gaps, despite the fact that previous studies have demonstrated the impacts of various factors on repurchase intentions in their specific contexts, investigating the impacts of brand experience, switching costs, and brand loyalty, on repurchase intentions in the ATK product industry remains absent in the current literature. Furthermore, even though previous studies have individually raised brand experience (Gao & Fan, 2021), switching costs (Xue et al., 2022), and brand loyalty (Chatzoglou et al., 2022) as significant factors impacting repurchase intentions among ATK consumers remain unclear, as consumers from different contexts have different perspectives toward the products in question (L. Kim, Pongsakornrungsilp, et al., 2022). Consequently, this reveals a lack of consumer study indicating low awareness of consumers’ insights regarding how these factors influence intentions to rebuy ATK products. Therefore, this study aims to integrate these factors, testing their impacts on consumers’ intentions to repurchase the ATK product for self-administered Covid-19 testing.

2.2 Brand Experience and Brand Loyalty

Brand experience refers to an individual’s responses (e.g., sensation, feeling, and cognitions) relating to brand design and identity after using products with the respective firm (Brakus, Schmitt, & Zarantonello, 2009). To understand brand experience, marketers are required to check five dimensions of brand experience (sensory, affective, behavioral, intellectual, and social experience) (Liang, 2022). A person can gain experiences from a certain brand once he or she has interacted either directly or indirectly via various points such as different sources, social media and other channels.

Good brand experiences can develop a positive evaluation among consumers (Liang, 2022) while high loyalty can create continuous support for a specific provider (Donsuchit & Nuangjamnong, 2022). These concepts display a similar direction. In hospitality service experience, a person develops a strong sense of belonging with the same service provider after he or she receives a satisfactory experience from the service provider (Liu & Hu, 2022). In the online shopping experience, consumers highly dedicate a strong desire to shop with the same firm after having a good time with their shopping services (Beig & Nika, 2022). Based on theoretical explanations, brand experience and loyalty are likely to have a positive relationship. In the banking industry, Rasool et al. (2021) reveal that good brand experience leads to strong brand loyalty. Similarly, ATK users may feel loyal to the same brand if they are satisfied with the experience received from the current brand. Accordingly, the relationship is hypothesized as follows:

H1: Strong brand experience develops strong ATK brand loyalty.

2.3 Brand Experience and Repurchase Intentions

Having a satisfactory brand experience also promotes customer satisfaction (Liang, 2022) while strong repurchase intentions can indicate a strong desire to make repeat purchases with the same firm (Yasri et al., 2020). The concepts between brand experience and repurchase intentions indicate a positive direction. In the omni-channel experience, when consumers feel comfortable with using
with a firm’s services, they appear to show a high willingness to repeat their purchases with the same firm (Gao & Fan, 2021). Based on consumer experience in snack products, good experiences can gain high consumer interest which is likely to create a high propensity for buying products from the same brand in the future (Yasri et al., 2020). The above theoretical discussions reveal that there is a positive connection between brand experience and repurchase intentions. In the mobile phone industry, Ebrahim et al. (2016) have found that providing good brand experiences can create high consumer repurchase intentions. Likewise, ATK users are likely to want to rebuy the same ATK product in the future when they have received good experiences from the current brand. The relationship is therefore hypothesized as follows: 

H2: Strong brand experience develops high intentions to repurchase an ATK product among Thai consumers.

2.4 Switching Costs and Brand Loyalty

Switching cost refers to the cost which is incurred as a consequence when any consumer decides to switch their product or brand (Soeryohadi et al., 2021). In fact, the primary concept of switching cost emphasizes the level to which consumers have a sense of being locked into a relationship with their current firm (Han, Kim, & Hyun, 2011; Mosavi, Sangari, & Keramati, 2018). Switching cost can be in different forms such as the time, effort, and money, which consumers have already invested and which they benefit from in using the current products from the current firms (Agha, Rashid, Rasheed, Khan, & Khan, 2021). Once these costs grow larger, they become major barriers which force consumers to maintain their relationship with their current firm (Wu, Ye, Zheng, & Law, 2021).

Switching costs can lead to the development of a strong relationship (Ganaie & Bhat, 2021), while loyalty indicates a stable relationship with the current firm (Opata, Xiao, Nusenu, Tetteh, & Asante Boadi, 2021). Switching costs and loyalty display a positive direction. Based on the switching cost perspective in the telecom service, when a product offers consumers greater benefits, this strengthens consumers’ relationships with the firm (Agha et al., 2021). From the hospitality service perspective, individuals stay with their current firm when they perceive that changing to use services at other firms will result in obtaining less benefits than are obtained from the current firm (Wu et al., 2021). Based on theoretical discussions, switching costs and brand loyalty possibly have a positive connection. In a study of retail stores, Ganaie and Bhat (2021) highlighted switching cost as a positive determinant of brand loyalty. In the ATK context, users may have brand loyalty if they face high switching costs. It is therefore hypothesized that:

H3: Strong switching costs are positively associated with the development of strong ATK brand loyalty.

2.5 Switching Costs and Repurchase Intentions

Development of switching cost can create a significant influence on a customer’s decision to remain connected with their current firm (Sohaib, 2022) whilst having a strong propensity for repurchases can result in actual purchases in the future (Ashfaq, Yun, Waheed, Khan, & Farrukh, 2019). These two concepts indicate a similar direction. In B2B purchase perspectives, once a product can serve a person’s utility purposes with less time and effort, the product greatly attracts repurchase intentions from him or her (Russo, Confente, Gligor, & Cobelli, 2017). Based on online repurchase attitudes, consumers who enjoy greater benefits from their product utilities are likely to return for another purchase from the same shops (Du, Xu, Tang, & Jiang, 2022). The above theoretical discussions underscore the positive connection between switching cost and repurchase intentions. In the B2B industry, Xue et al. (2021) have outlined switching cost as a positive predictor of repurchase intentions. Similarly, ATK consumers want to repurchase the product when facing high switching costs. It is therefore hypothesized that:
H4: Strong switching cost develops high intentions to repurchase ATK products among Thai consumers.

2.6 Brand Loyalty and Repurchase Intentions

Brand loyalty refers to the degree of an individuals’ commitment to continue their support for the same brand in the future (Molina-Gómez et al., 2021). Likewise, Chokpitakkul et al. (2020) further explain that when consumers demonstrate their loyalty to a certain brand name, they keep buying the products under that brand name over time despite some changes in prices or competitors’ marketing efforts. Loyalty toward a certain brand can be checked through various stages (e.g., affective, cognitive, action, and conative loyalty) (Oliver, 1999). Although, loyalty can be explained based on other variables (e.g., attitude or behavior) (Harris & Goode, 2004). In theoretical perspectives of loyalty, the theory of planned behavior (TPB) which can predict individuals’ actions, can be used by marketers to explain the tendency for repeat purchases in the future (Molina-Gómez et al., 2021).

Based on conceptual comparisons, strong loyalty can result in a high tendency for repurchases (Molina-Gómez et al., 2021) while increasing the intention to repurchase will lead to an actual repeat purchase (Yasri et al., 2020). These concepts show positive views. Based on food delivery service attitude, when consumers remain supporting the same brand, they are likely to buy the products again (Donsuchit & Nuangjammong, 2022). In tourism repurchase attitudes, as long as a person remains positive with the current firm, he or she has high desire to use the service again in the future (Laparojkit & Suttipun, 2022). Theoretical discussions reveal that brand loyalty appears to be a positive predictor of repurchase intentions. In the retail shopping industry, Chatzoglou et al. (2022) highlight brand loyalty as a positive factor influencing repurchase intentions. In the ATK context, consumers really want to rebuy the product when they have strong loyalty. Accordingly, the relationship is hypothesized as follows: H5: Strong brand loyalty develops high intentions to repurchase ATK products among Thai consumers.

3. RESEARCH METHOD

3.1 Sample and Data Collection

In sample size analysis, a sample size relating to a certain proportion of the population can determine adequate representativeness of the sample. Based on sample size and quality analysis classification, it is recommended that analysis results obtain good quality representativeness when the actual sample size is at least 300 samples (good), followed by very good at 500 samples and excellent at 1,000 samples, as recommended by Comrey and Lee (1992) in Table 1. In practicality, the quality of the sample size can be judged similarly based on Table 1. For

![Figure 1 Repurchase Intention Framework](image-url)
instance, this research applied a structural equation modeling (SEM) method which requires data from 200-300 responses following the suggestion of Siddiqui (2013). To reach high representativeness of the sample, it was determined that between 500 and 1,000 responses should be collected. As a result, 670 respondents from around Thailand were invited to join the survey process.

Regardless of the sample criteria, it was necessary for all respondents of this research to pass two main conditions in order to be qualified respondents for the research. First, they should be at least 18 years old. Second, they should have experience in buying any ATK product for home testing of Covid-19 as the main objective of this research was to investigate individual’s repurchase intentions for ATK products. Based on these conditions, screening questions were developed to verify all related respondents.

Regarding the selection of respondents, a convenience sampling method was applied, in which the researchers used social media (e.g., Face Book, Messenger, Line, and Instagram) as a tools to invite people to complete the self-administered questionnaires. For this, posts were constructed in which respondents were asked to participate. This was done through posting on Face Book and through direct contact in Messenger or Line with the main screening question “Have you bought any ATK product for testing for the Covid-19 virus before?” Once respondents selected “Yes”, participants were asked for their consent to join the survey. Meanwhile, some people also volunteered to comments “Yes” and answered a self-administered questionnaire. Last but not least, respondents were provided with the google survey link and a specified length of time (15 minutes) to provide their answers.

### 3.2 Survey Instrument

The survey instrument used in this research consisted of measurement items for four main variables, adopted from previous research. All variables consisted of items with high reliability scores (Cronbach’s Alpha scores > 0.7) as demonstrated in previous publications. For example, the three components of switching cost, which achieved a Cronbach’s Alpha score of 0.89 were adopted from Bolen (2020). Meanwhile, the three components of brand experience which achieved a Cronbach’s Alpha score of 0.84 were adopted from Ahn and Back (2019). The three components of brand loyalty which achieved a Cronbach’s Alpha score of 0.81 were adopted from Mosavi et al. (2018). Finally, the three items of purchase intention which obtained a Cronbach’s Alpha score of 0.89 were adopted from Ali and Bhasin (2019).

Regarding the characteristics of item adoptions, the above variables’ items were taken from different contextual studies (e.g., smartphone, tourism, bank, and delivery services) all of which contained highly reliable contents. Therefore, the content constructs were deemed to be highly acceptable and easy to understand by respondents. In this research, the contents of items were slightly modified

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Very Poor</td>
</tr>
<tr>
<td>10</td>
<td>Poor</td>
</tr>
<tr>
<td>200</td>
<td>Fair</td>
</tr>
<tr>
<td>300</td>
<td>Good</td>
</tr>
<tr>
<td>500</td>
<td>Very Good</td>
</tr>
<tr>
<td>1,000</td>
<td>Excellent</td>
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*Note. This statistical technique is recommended by Comrey and Lee (1992).*
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into the context of the ATK product. Thus, the contents of the research were accordingly differentiated from previous publications. In this regard, all items were made to ensure that respondents remained focused on the context of the ATK product and that items did not contain overlapping contents.

In addition, a 5-point Likert scale was applied to allow participants to rate their answers. This rating method is considered to be suitable for data collection process as the 5-point Likert scale contains a mid-scale (3 = neutral) (Kim et al., 2021) which creates a clear cut between negative and positive scales for the participants (Kim et al., 2022). This design helps to reduce the time and effort taken by participants in completing the whole survey.

Regarding questionnaire validity, two steps were conducted. First, a pilot test was conducted with 40 respondents in Thailand. In this step, the content reliability was checked using Cronbach’s Alpha with all items yielding scores above 0.7 (Kim et al., 2023) helping to ensure low content confusion. As shown in Table 2, all variables obtained scores higher than the recommended thresholds indicating sufficient content reliability. At the same time, some items of the studied variables were slightly modified to improve the clarity of the questionnaires following the suggestions of some pilot test respondents. Finally, a full scale of data collection was conducted with 670 respondents from around Thailand after rigorously finalizing all the questionnaire contents. Particularly of note is that data collection was completed at the end of January 2023, after three months (November 2022-January 2023) of data collection.

Regarding the response rate, this could be said to be 100% as all efforts were made to ensure full collection of data from the 670 respondents around Thailand. All required data were received by 29th January 2023.

Table 2 Survey Construct and Pilot Testing Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items</th>
<th>Alpha (a)</th>
<th>Results</th>
</tr>
</thead>
</table>
| Brand Experience     | 1. After testing for Covid-19, I received my test result within a short time.  
2. I spent little effort to complete the whole process of testing for Covid-19.  
3. After using this ATK brand, I felt impressed with its overall performance. | 0.781     | Passed  |
| Switching Cost       | If I change to use another ATK brand,  
1. It will cost me more effort to learn about new product functions.  
2. It may cause me to feel stressed to understand new product functions.  
3. I may spend more money to buy the ATK product.                   | 0.860     | Passed  |
| Brand Loyalty        | 1. I consider myself as a loyal customer to this ATK brand.  
2. If I want to test myself for Covid-19, I always think about this ATK brand.  
3. Compared to other ATK brands, I’m still willing to pay for the current ATK brand. | 0.925     | Passed  |
| Repurchase Intention | 1. I want to buy this ATK brand again in the future.  
2. I will consider this ATK brand as my first choice.  
3. Although its price changes, I will continue buying this brand next time. | 0.778     | Passed  |
3.3 Data Analysis

All valid data were analyzed using a structural equation model (SEM). The SEM of this study employed Maximum Likelihood as the most used method for estimation and testing in normal theory. In this technique, all parameter estimates were acquired by maximizing the likelihood function derived from the multivariate normal distribution. Before analyzing the data, a data clearing process was conducted, while variable measurements were reported and model fitness was constructed. During the data clearing process, a Mahalanobis technique was applied to identify and eliminate any outliers using possibility distance scores for all data (possibility scores < 0.0001 indicate outliers) (Kim et al., 2023). Many researchers have used this technique to purify their data and obtain high data validity so that they can receive reliable results as all data containing errors, missing values, or bias answers will be deleted from the data set in the SPSS software (Arifin, 2015; Grande, 2015; Kim et al., 2022). Accordingly, 147 outliers were identified; thus, the 523 remaining data were considered as valid data after the data clearance process. These valid data were used to perform the statistical results shown in the following sections.

The SEM technique, requires the use of some statistical analyses such as confirmatory factor analysis (CFA), convergent validity, discriminant validity and model fitness. Based on the CFA, it is necessary to find loading factors, Cronbach’s alpha, composite reliability (CR) and average variance extracted (AVE) (Kitjaroenchai & Chaipoopiratana, 2022; Sangthong & Soonsan, 2023). During factor loading, only items which obtain scores above 0.6 will be retained for further performing regressions. Meanwhile, all variables obtained suitable Cronbach’s Alpha (α) and composite reliability (CR) scores (α and CR scores > 0.7) indicating acceptable content reliability (Kim et al., 2022).

Regarding convergent validity, the average variance extracted (AVE) scores were checked, whereby each score should be greater than 0.5 to indicate adequate convergent validity (Suwannakul & Khetjenkarn, 2022). Table 3 shows that all variables obtained AVE scores higher than 0.5 confirming convergent validity.

Regarding discriminant validity, discriminant validity among variables was evaluated using a comparison between the square root of the AVEs and the correlations (Kitjaroenchai & Chaipoopiratana, 2022). As a rule of thumb, the square root of the AVEs are required to obtain scores greater than the

Table 3 Variable Measurements

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items</th>
<th>Loading Factor</th>
<th>Alpha (α)</th>
<th>CR</th>
<th>AVE</th>
<th>Discriminant Validity Test</th>
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<td>1</td>
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<tr>
<td>Brand Experience</td>
<td>BE1</td>
<td>0.83</td>
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<td>0.75</td>
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<tr>
<td></td>
<td>BE2</td>
<td>0.90</td>
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<td></td>
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<tr>
<td></td>
<td>BE3</td>
<td>0.74</td>
<td></td>
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<tr>
<td>Switching Cost</td>
<td>SC1</td>
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<tr>
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<td>SC2</td>
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<tr>
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<td>SC3</td>
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<td>Brand Loyalty</td>
<td>BL1</td>
<td>0.73</td>
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<tr>
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<tr>
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<td>BL3</td>
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<tr>
<td>Repurchase Intention</td>
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<td></td>
<td></td>
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<td>0.93</td>
</tr>
<tr>
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<td>RI3</td>
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Note: The bold numbers indicate the square root of the AVE.
scores of the associated correlations (Kim et al., 2022; Kundi et al., 2022). As shown in Table 3, all variables demonstrated a square root of the AVE greater than the associated correlation demonstrating acceptable discriminant validity.

Model fitness was constructed by applying confirmatory factor analysis to modify the fitness indicators (CMIN²/df, GFI, NFI, CFI, AGFI, RMSEA, and PCLOSE) as suggested by Kim et al. (2021). Before modification, the fitness indicators obtained scores lower than the minimum requirement. To meet the model fit conditions, two main correlations among the items (BE1 – BE2 and RI2 – RI3) were conducted as these four items had high modification indices; therefore, this could enhance the propensity of the fitness indicators leading to better overall model fitness. Based on the results shown in Table 4, the fitness indicators passed all minimum requirements; thus, the model obtained good fitness.

### Table 4 Model Fitness

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Index</th>
<th>Before Modification</th>
<th>After Modification</th>
<th>Thresholds</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMIN²/df</td>
<td></td>
<td>2.833</td>
<td>2.506</td>
<td>≤ 3</td>
<td>Passed</td>
</tr>
<tr>
<td>GFI</td>
<td></td>
<td>0.896</td>
<td>0.922</td>
<td>&gt;0.9</td>
<td>Passed</td>
</tr>
<tr>
<td>NFI</td>
<td></td>
<td>0.903</td>
<td>0.951</td>
<td>&gt;0.9</td>
<td>Passed</td>
</tr>
<tr>
<td>CFI</td>
<td></td>
<td>0.889</td>
<td>0.908</td>
<td>&gt;0.9</td>
<td>Passed</td>
</tr>
<tr>
<td>AGFI</td>
<td></td>
<td>0.788</td>
<td>0.817</td>
<td>&gt;0.8</td>
<td>Passed</td>
</tr>
<tr>
<td>RMSEA</td>
<td></td>
<td>0.097</td>
<td>0.794</td>
<td>&lt;0.08</td>
<td>Passed</td>
</tr>
<tr>
<td>PCLOSE</td>
<td></td>
<td>0.089</td>
<td>0.095</td>
<td>&gt;0.05</td>
<td>Passed</td>
</tr>
</tbody>
</table>

### Table 5 Demographic Information

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>235</td>
<td>45.0</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>288</td>
<td>56.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>523</td>
<td>100</td>
</tr>
<tr>
<td>Age</td>
<td>18-28 years</td>
<td>107</td>
<td>20.1</td>
</tr>
<tr>
<td></td>
<td>29-39 years</td>
<td>219</td>
<td>41.9</td>
</tr>
<tr>
<td></td>
<td>40-50 years</td>
<td>136</td>
<td>26.0</td>
</tr>
<tr>
<td></td>
<td>Above 50 years</td>
<td>61</td>
<td>12.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>523</td>
<td>100</td>
</tr>
<tr>
<td>Education</td>
<td>Below Bachelor’s Degree</td>
<td>49</td>
<td>9.4</td>
</tr>
<tr>
<td></td>
<td>Bachelor’s Degree</td>
<td>263</td>
<td>50.4</td>
</tr>
<tr>
<td></td>
<td>Master’s Degree</td>
<td>177</td>
<td>18.7</td>
</tr>
<tr>
<td></td>
<td>PhD’s Degree</td>
<td>34</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>523</td>
<td>100</td>
</tr>
<tr>
<td>Income</td>
<td>Below 15,000 baht</td>
<td>36</td>
<td>6.8</td>
</tr>
<tr>
<td></td>
<td>15,000-20,000 baht</td>
<td>112</td>
<td>21.4</td>
</tr>
<tr>
<td></td>
<td>20,001-25,000 baht</td>
<td>105</td>
<td>20.2</td>
</tr>
<tr>
<td></td>
<td>25,001-30,000 baht</td>
<td>178</td>
<td>34.0</td>
</tr>
<tr>
<td></td>
<td>Above 30,000 baht</td>
<td>92</td>
<td>17.6</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>523</td>
<td>100</td>
</tr>
</tbody>
</table>
4. RESULTS

4.1 Demographic Information

Table 5 indicates the respondents’ basic information. Regarding gender, male respondents made up 45% of respondents, while female respondents accounted for 56%. Regarding respondents’ age, the greatest proportion of respondents were 29-39 years of age (41.9%), followed by 40-50 years (26%), 18-28 years (20.1%), and finally above 50 years (12%). Regarding education, most respondents had received a Bachelor’s degree (50.4%), followed by those who had obtained a Master’s degree (18.7%), lower than a Bachelor’s degree (9.7%) or a PhD degree or higher (6.5%). Regarding income, the respondents who received a monthly income of 25,001-30,000 baht accounted for 34% of respondents, followed by those receiving 15,000-20,000 baht (21.4%), 20,001-25,000 baht (20.2%), above 30,000 baht (17.6%) and below 15,000 baht (6.8%).

4.2 Results of the Structural Equation Model

All major critical results are briefly reported in Figure 2 and Table 6. Regarding the relationships with brand loyalty, brand experience was shown to have a significant relationship ($\beta=0.42$, $p<0.001$) leading to the acceptance of hypothesis 1. Switching cost also showed a significant relationship with brand loyalty ($\beta=0.52$, $p<0.001$) leading to the acceptance of hypothesis 3.

Regarding the relationships with repurchase intentions, brand loyalty was shown to have a significant relationship ($\beta=0.78$, $p<0.001$) leading to the acceptance of hypothesis 5. Next, brand experience also showed a significant relationship with repurchase intentions ($\beta=0.28$, $p<0.05$). In contrast, switching cost did not show any significant relationship with repurchase intentions ($\beta=0.02$, $p>0.05$) leading to the rejection of hypothesis 4.

Regarding the mediation testing of switching cost $\rightarrow$ brand loyalty $\rightarrow$ repurchase intention.
Table 6 Results Summary by Hypothesis

<table>
<thead>
<tr>
<th>Hyp. No.</th>
<th>Proposed Relationships</th>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Std. Beta (β)</th>
<th>p-value</th>
<th>Sig. Level</th>
<th>Hyp. Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brand Experience</td>
<td>Brand Loyalty</td>
<td>0.42</td>
<td>.000**</td>
<td>Sig.</td>
<td>Accepted</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Brand Experience</td>
<td>Repurchase Intentions</td>
<td>0.28</td>
<td>.014*</td>
<td>Sig.</td>
<td>Accepted</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Switching Cost</td>
<td>Brand Loyalty</td>
<td>0.52</td>
<td>.000**</td>
<td>Sig.</td>
<td>Accepted</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Switching Cost</td>
<td>Repurchase Intentions</td>
<td>.02</td>
<td>.408</td>
<td>Insig.</td>
<td>Rejected</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Brand Loyalty</td>
<td>Repurchase Intentions</td>
<td>0.78</td>
<td>.000**</td>
<td>Sig.</td>
<td>Accepted</td>
<td></td>
</tr>
</tbody>
</table>

Panel B: Mediation Testing

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Indirect</th>
<th>Direct</th>
<th>Mediation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switching Cost→Brand Loyalty→Repurchase Intentions</td>
<td>0.37**</td>
<td>.02</td>
<td>Full Mediation</td>
<td>Sig.</td>
</tr>
</tbody>
</table>

Note. *indicates p < 0.05 whilst ** indicates p < 0.001.

intentions, the results revealed a significant indirect impact of switching cost on repurchase intentions (β=0.37, p<.001) while its direct impact on repurchase intentions was insignificant (β=.02, p>.05). Therefore, brand loyalty was found to be a full mediator between switching cost and repurchase intentions. Based on the above results, hypothesis testing results are shown accordingly in Table 6.

5. DISCUSSION

Regarding the relationships with brand loyalty, brand experience demonstrated a positive relationship. Having good brand experience indicates individuals’ satisfactory experience with using a particular product under a specific brand name (Beig & Nika, 2022; Liu & Hu, 2022). As individuals possessed this experience moment with the ATK brand, their perspectives with the ATK brand remained positive. These experiences could include strong support, willingness to help, quick solutions, and the quality of the services and products, which consumers received from the firm (Khan & Fatma, 2023). Based on behavioral attitudes in the Covid-19 era, Kim et al. (2023) presented that a satisfactory experience could promote individuals’ attempts and desire to continue their support to current service providers. Obviously, good brand experiences create a strong bond between product users and firms as good brand experiences make users happy such that they continue buying products from their current firms (Ziarani et al., 2023). Based on the evidence, having good experiences in using the ATK products can prompt ATK users to remain with the same ATK brand and to consider it as their primary option for future Covid-19 testing procedures. Next, switching costs demonstrated a positive relationship with brand loyalty. Based on consumption perspectives, switching costs indicate consequences such as wasting time, money, and effort, which create barriers for consumers (Agha et al., 2021; Wu et al., 2021). It was found that a high switching cost creates a greater barrier which can prevent individuals’ desire from leaving the current firm. Based on consumers’ psychological response behavior, Evanschitzky et al. (2022) similarly explained that when consumers receive high benefits from using the products of the current firm, they have high desire to stay with that firm. Furthermore, they may not be sure that they could find another firm which could provide
such benefits similar to the current firm. Thus, changing brands or leaving the current firm causes consumers to face great losses in terms of the above benefits (Li et al., 2023; Yuen et al., 2023). For example, if they changed to buy a new brand, they may face high price, use more time learning the use of the new products, experience high frustration or other problems with the new products. Based on this scenario, when the ATK brand can provide benefits in serving the individuals’ testing needs for their Covid-19 testing, it makes ATK users feel satisfied with the brand and they will be likely to continue supporting the brand.

Regarding the relationships with repurchase intentions, brand loyalty demonstrated a positive relationship. Strong loyalty indicates a positive attitude and behavior which results in remaining in support of a particular brand (Donsuchit & Nuangjamnong, 2022; Laparojkit & Suttipun, 2022). Based on the theory of norm reciprocity, Gouldner (1960) emphasized that humans normally provide similar responses to other people (e.g., returning a favor for a favor and hatred for a hatred). In particular, consumers who receive high product quality are not only happy with their firms but will also be loyal to the firms (Shen & Tang, 2018). As a result, they provide positive favors by repurchasing the products from the same firms. In this situation, any consumer who sees himself or herself as a loyal customer intentionally has high willingness to repeat his or her purchases with the same brand despite there being some changes in price. This scenario highlights the positive desire among Thai consumers who seem to remain with the same ATK brand and rebuy the same product for their future Covid-19 testing.

Brand experience demonstrated a positive relationship with repurchase intentions. Based on the consumer perspective, when a person has a satisfactory experience of using a product, he or she is likely to value the brand (Gao & Fan, 2021; Yasri et al., 2020). This situation underlines the individual’s positive emotions and satisfaction which lead to a positive attitude with the ATK brand. According to the consumer preference perspective, Ho and Chow (2023) similarly explained that consumers felt happy and responded with great favors toward their service providers when they were treated well. Accordingly, these experiences become good moments which influence them to remember the product and stimulate an intent to prioritize the current firm for their future purchases (Lu & Yi, 2023; Zhe et al., 2023). Therefore, it has been highly noticed that people who have good experiences using products are normally observed to use or buy the same products or services from the same brand again (Nazir et al., 2023). These explanations underline the idea that consumers make great attempts to buy their ATK products from the same brand for future Covid-19 testing.

In contrast, switching costs demonstrated a negative relationship with repurchase intentions, although this relationship was insignificant. Unlike previous studies (Du et al., 2022; Siraphatthada & Thitivesa, 2019; Xue et al., 2021), this research found no significant impact of switching cost on Thai consumers’ intentions to repurchase a specific ATK brand. Based on the statistical results, this insignificant relationship with repurchase intentions happened as a side effect of the mediating impact of brand loyalty, causing switching cost to have only an indirect influence on repurchase intentions. Regarding consumers’ responses to product consumption in the midst of the Covid-19 threat, Campbell et al. (2020) explained that people needed to prioritize their safety and were required to use products (e.g., masks, medicines, ATK and alcohol) which had high quality. Once they found the good ones for their needs, they would respond with continuous support for the same brands. Therefore, this could be considered a great barrier product switching, promoting their loyalty which ultimately enhanced their repeat purchases of specific brands. In this regard, this situation clearly indicates that switching cost promoted individuals’ brand loyalty which further developed their attempts to buy a specific ATK product for their Covid-19 testing in the future.
6. THEORETICAL AND MANAGERIAL IMPLICATIONS

In the light of this research, the theoretical model developed in this research offers significant contributions to the existing literature. The theoretical model extensively investigates how switching cost, brand experience, and brand loyalty, affect consumer intentions to repurchase in the ATK product industry. In contradiction to previous industries (Kundadiarto & Suciarto, 2022; Salem & Kiss, 2022; Sulistiowati & Chan, 2021), the extended theoretical model enhances the current knowledge of how ATK product users’ intentions to rebuy specific ATK products for their future Covid-19 testing develops once switching costs, brand experience, and loyalty change. In particular, the study deepens understanding of how consumers are responding to the current threat of Covid-19 in their lives in which they require significant tools (e.g., ATK product) to assist them so that they can reduce the degree of risk. This can be an opportunity which allows firms to be involved and to look for significant factors influencing their behavior (e.g., repurchases or continuance intentions). Based on the consumer and market interplay in responding to the Covid-19 threat, Campbell et al. (2020) also support the idea that consumers’ concerns for protecting themselves from the viruses can be key advantages to firms which must investigate and offer appropriate products to satisfy consumer needs. Therefore, this research has contributed additional knowledge of how switching cost, brand experience, and loyalty, influence repurchase intentions in the midst of a public health crisis. In addition, the mediating role of brand loyalty from the current theoretical model significantly outlines an indirect impact of switching cost on repurchase intentions in the ATK product industry. Based on this scenario, there are two major aspects, regarding consumer insights (wants and needs) which could be drawn from the current situation. First, the study highlights individuals’ perspectives toward how switching cost does not directly change customers’ propensity to rebuy specific ATK products, marking a clear difference in consumer perspectives compared to those studied in previous industries (Du et al., 2022; Russo et al., 2017; Xue et al., 2021). Second, the theoretical model has enhanced understanding of how individuals’ loyalty can mediate the relationship between switching cost and repurchase intentions in the ATK product industry. In particular, consumers realized themselves as loyal consumers to a certain ATK brand once they have seen a high switching barrier or consequences of changing from their current ATK brand. Therefore, consumers’ attitudes and behaviors toward repurchase intentions in the ATK product industry have remained highly constant.

Regarding the consumer and market adaptive responses, the condition of the public health crisis caused by Covid-19 has become a major threat to consumers. Consequently, consumers are frustrated and stressed with their new lives (e.g., social distancing, shopping and consumption behavior, etc.) as the virus remains in their communities, resulting in an on-going threat. Therefore, they require certain Covid-19 product measures (e.g., ATK product testing) which can help them to continue detecting and understanding their current health conditions so that they can prepare themselves for upcoming infections. Based on the current market response, firms can see that consumers are living and adapting themselves with the new living environment and new medical equipment (e.g., ATK product testing) for virus testing in their own homes. Therefore, many specialized firms in the medical equipment industry must have a significant understanding regarding their consumers’ purchasing attitudes, particularly repurchase intentions, so that the products can meet their consumers’ expectations. From the marketing management perspective, the findings of this research outline brand loyalty as a major factor of intentions to repurchase an ATK product. Thus, marketing and product development managers should promote brand loyalty to their consumers. First, brand loyalty can be promoted through enhancing switching cost. The ATK products should be produced with high quality which...
reaches the requirements of the ministry of public health. At the same time, the products must have clear usage instructions which accurately guide users to effectively receive their Covid-19 test results. Next, brand loyalty can be enhanced through providing a better brand experience to consumers. Therefore, ATK products should contain clear usage instructions which make the kit more convenient to use. This can further help consumers to save time and effort in completing their Covid-19 testing. Thus, it can become a satisfactory experience for the consumers who in turn trust the products and repeat their purchases with the same ATK brand in the future.

7. CONCLUSION

The main objective of this research was to examine the impacts of switching cost, brand experience, and brand loyalty, on intentions to repurchase ATK products among Thai citizens. To complete this objective, researchers used a google form to survey 670 Thai people who had previously bought ATK products for self-testing for the Covid-19 virus. During data analysis, a structural equation model was applied to analyze the data from 523 valid questionnaire responses. Results revealed that brand loyalty was influenced by brand experience and switching cost. Finally, repurchase intentions were influenced by brand loyalty and brand experience, but not directly by switching cost. In summary, although consumers repurchase intentions were significantly influenced by brand experience and brand loyalty, the degree of their intentions to repurchase ATK products depended significantly upon the level of their loyalty since brand loyalty was the strongest determinant of repurchase intentions.

Regarding model fitness modification, the model used in this study was modified using correlation constructs on certain items (e.g., BE1 – BE2 and RI2 – RI3) to obtain an acceptable level of model fit as this ensures that the regression results of each relationship also reach the acceptable levels in the complex relationships using the SEM. Regarding quantitative research, modifying fitness indicators using correlation constructs on the studied items that contained high modification indices is very important as all statistical results of the SEM are reliable and suitable for discussion after obtaining a good model fit.

In spite of completing the main objective of this research, there were some limitations found in this research. First, there is a possibility that some respondents lied during the research due to answering the google survey forms by themselves, potentially leading to some bias answers or results. Therefore, future research should adopt a new survey technique (e.g., convenience sampling method) to at least observe and control the individuals’ answers to some extent (Kim et al., 2023). Second, the study focused mainly upon how switching cost, brand experience, and brand loyalty, influenced intentions to repurchase ATK products. However, there could be some other potential factors which could influence repurchase intentions in the ATK product industry (Kim et al., 2023). Therefore, future research could include more variables to further investigate how those variables develop individuals’ intentions to repurchase the ATK product in the future. Finally, the results can be applied mainly on the ATK product industry rather than other industries such as banks, hotels, restaurants, etc. Thus, future research can reapply these variables to further test their impacts on repurchase intentions in other industries. Based on the above awareness of limitations, the study design called for surveying more than 600 people from different backgrounds and locations to minimize the potential for bias in this research.

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