Covid-19 and E-wallet usage intention in Kyrgyzstan

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ABSTRACT— ***The usage of electronic commerce has continued to expand since the Covid-19 pandemic began in developed and developing countries. However, the usage of electronic commerce in Central Asian countries is under-researched. This study aims to determine the factors that influence e-wallet usage intention in Kyrgyzstan. The theory of planned behaviour (TPB) is extended and adopted in developing the hypotheses. Using surveys, 319 questionnaires were collected from young and middle-aged adults in Kyrgyzstan. The findings show that attitude, subjective norm and perceived behavioral control has a positive relationship with intention to use e-wallets. It is also found that attitude and intention will be stronger if the perceived behavioral control is high. The findings suggest ways to enhance the use of e-wallets in in Kyrgyzstan.***

Keywords— Theory of Planned Behavior, Covid-19, e-wallet use, cashless payment, Kyrgyzstan

1. INTRODUCTION

Before the Covid-19 pandemic, making cashless payments through smartphones was already gaining popularity and by 2019 buying products online has become a routine for many people in most developing and developed countries. When the Covid-19 pandemic hit, social distancing was identified as an effective response to minimizing the infection rates of Covid-19 by world governments. At the same time, consumers are concerned about the perceived risks of illnesses from bacteria or viruses being transmitted via physical money. Such perceived risks should positively affect consumers' intention to use forms of non-physical money like electronic payments. In the ASEAN region, previous investigations on this matter had focused on two of the fastest developing economies in South East Asia, Indonesia and Malaysia. These countries have one thing in common, a comparatively well-developed legal and physical infrastructure that is in place to enable electronic commerce. However, studies on how the Covid-19 pandemic effected the way consumers use electronic payment in the poorer countries of Central Asia are relatively uncommon. In particular, one of the smallest economies in Central Asia is Kyrgyzstan. Despite the convenience and safety of using electronic payments, it's still possible that the consumers in Kyrgyzstan may still prefer the traditional forms of payment. The e-commerce market in Kyrgyzstan is still at an early stage of development, with very low volumes of trade. Due to a lack of studies on this topic, the present study contributes to the literature by examining the effects of attitude and subjective norms on the consumers' intention to use electronic payments like e-wallets, moderated by their perceived behavioral control. The findings would reveal whether the Covid-19 pandemic has acted as a catalyst to increase the intention to use e-wallets in Kyrgyzstan.

2. LITERATURE REVIEW

2.1 The use of electronic payments in Kyrgyzstan

Electronic payments offer a more expedient and cost-effective means of moving funds over paper-based payments [1]. In 2018, Kyrgyzstan's GDP per capita was USD 1,280.00, with a population of 6.5 million, with internet penetration in the country at 47%, and a mobile device penetration of 85.7%. However, most of its population is under-banked, with banking penetration at only 40% [2]. As of 2020, ten commercial banks have licenses to issue electronic money, and more than twenty digital payment operators have been registered. According to the National Bank of the Kyrgyzstan, e-wallets increased to 1.9 million accounts in 2019, up from 1.2 million accounts in 2018 [2].

Despite the growth in the usage of electronic banking, the Kyrgyz market is small and e-commerce startups will find the market challenging with potential low returns [3]. In addition, there is low internet penetration, the regulatory strategy for regulating digital financial services needed for electronic payment transactions is unstructured, and there is low Foreign Direct Investment at 13% of GDP [2]. According to KPMG, in comparison to 2018, it's 2022 data shows the e-commerce market in Kyrgyzstan is still at an early stage of development, with very low trade volumes [3, 4]. There is low digital connectivity outside of major cities, and it appears that the Covid-19 pandemic of last few years had adversely affected e-commerce development in Kyrgyzstan, with 37% internet penetration and only 22% mobile connections for its whole population [4].

There were 16.4 million transactions of digital payments for goods and services totaling 5.9 billion Kyrgyz Soms (KGS) in 2019. In addition, 4.6 billion KGS was transferred between e-wallets in 2019, a growth of 84% compared to the previous year. Also, e-wallet replenishments have grown by 50% from 2019 to 2020 [2]. It is estimated that the e-commerce market size in the Kyrgyzstan is USD 162.8 million. These figures pales in comparison to their immediate neighbors Kazakhstan (USD 2,143.4 million) and Uzbekistan (USD 643.9 million) [3].

2.2 The impact of Covid-19 on people's consumption behavior

The pandemic had the impact of changing the consumer behavior in Asia [5]. Indeed, consumers around the world had also been observed engaging in panic buying, some with the motive to hoard supplies, while others buy supplies to prevent hoarders from buying up all the supplies [6]. There was a dramatic increase in consumer spending around the world [7]. In addition, government orders to stay at home and self-quarantine shifted purchases from traditional physical shops to online shops [6]. Demand for home deliveries of food and other purchases increased in Indonesia and Malaysia during this period of enforced isolation [8; 9]. Many of these retailers and delivery companies encouraged their customers to make cashless payments by using e-wallets [6]. In addition, it is known that physical money can be the medium of transmission for the Covid-19 virus when the money is touched by an infected person, and the basis for the WHO to suggest the usage of digital money whenever possible [10]. Some countries in ASEAN have also prioritized digital payments as a way to prevent Covid-19 transmissions [11; 12; 13]. As mentioned earlier, despite a growing trend of using electronic payments in Kyrgyzstan, the amount of transactions is still very small, and suggests that the adoption of cashless payments is low compared to the usage of physical money. It is unclear that the high-risk transmission of Covid-19 through the use of physical money would positively affect the intention of the Kyrgyz consumers to use cashless payments, as the empirical findings on this issue remain understudied.

2.3 Theory of Planned Behavior: use of e-wallets in Kyrgyzstan

Using cashless payments requires a behavioral change on the part of the consumer where the consumer reduces the use of traditional forms of physical money in favor of electronic transfer payments as a medium of exchange for goods and services [14; 15]. E-wallets are a type of electronic money where the money is stored on a server [16]. These innovations became possible due to the lower barrier of entry into the payments business, high penetration of such smartphone apps, and the boom of online e-commerce that required the creation of solutions that help customers make payments digitally [17]. Buying products online has become a routine for many people in most developing and developed countries worldwide [18; 19]. The majority of such purchases were made through smartphones and mobile payment services. The number of people making mobile payments for in-store purchases has reached 34% globally, a 10% increase from 2018 [18].

The theory of planned behaviour (TPB) suggests that an individual's behaviour can be explained by behavioural intention, which is jointly affected by attitude, subjective norms, and perceived behavioural control (PBC). An attitude towards a behaviour is a positive or negative evaluation of performing that behaviour, whereas subjective norm derives from an individual's perceptions of what is significant to others, such as friends and family who are likely to think about the behaviour, while PBC is informed by beliefs about the individual's possession of the opportunities and resources needed to engage in the behavior [20]. The TPB has been the basis for several studies on this topic, including identifying the intention to do online shopping [21; 22; 23]. There is evidence that consumers are concerned about the perceived

risks of illnesses from bacteria or viruses being transmitted via physical money [6; 10]. Such perceived risks should positively affect consumers' intention to use forms of non-physical money like e-wallets [6].

3. METHOD

The 5-point Likert scale questionnaire is administered using telephone interviews using the Russian language, the lingua franca in Kyrgyzstan, resulting in 319 complete responses, after discarding responses that has missing data, straight-lining issues and the like. Since the research goal is to identify the beliefs that influence the usage of e-wallets, a variance-based approach (otherwise known as PLS-SEM) is recommended [24]. Further, this study sought to explore and extend an existing structural theory (TPB), which is again an appropriate use of PLS-SEM [24].

3.1 Conceptual Framework

This study has the objective to examine the Kyrgyz consumer's intention to use cashless payment to make their purchases using the updated TPB model, which assumes that the likelihood of performing a behavior is determined by the strength of the intention to perform the behavior [25]. The *intention* construct is the likelihood that a Kyrgyz consumer would use cashless payments, which is in turn influenced by three factors:

a) Attitude towards the behavior. The consumer's positive attitude towards the behavior comes from the strong personal belief that that a favorable outcome will result from its performance, and vice-versa for a negative attitude. It is hypothesized that:

H1: Attitude positively influences behavioral intention to use e-wallets

b) Subjective norms towards the behavior. This is the consumer's individual perception of the opinion of their significant others about their actions. Therefore, there is a greater likelihood of performing the behavior when the significant others in their lives approves of their behavior, and vice-versa when their significant others disapprove of their action. It is hypothesized that:

H2: Subjective Norms positively influences behavioral intention to use e-wallets

c) Perceived Behavioral Control is the consumer's perception of the factors limiting their ability to perform a behavior. It deals with a particular behavior of interest and refers to the perceived degree of control over the behavior, and the factors that determine the perceived degree of control may be internal or external. In the TPB, perceived behavioral control is a moderating variable. Therefore, it is hypothesized that:

H3: The positive relationship between attitude and intention will be stronger when perceived behavioural control is high

H4: The positive relationship between subjective norms and intention will be weaker when perceived behavioural control is high

3.2 Sample

Probability sampling was used to collect respondents. Following [26], power analysis is used to find the minimum sample size. Power analysis determines the minimum sample size by considering the part of a model with the largest number of predictors [27]. Therefore, in considering this study's framework for power analysis (shown in Figure 1), the minimum sample size required by this study is 78. There were 319 suitable responses collected out of 1000 respondents, and the data collected was analysed using SmartPLS 3.2.8. The statistical techniques that will be used for the purpose of this study includes reliability analysis, validity analysis, path analysis and independent *sample t-test.* The indicator loadings, composite reliability (CR) and average variance extracted (AVE) of the reflective constructs are shown in Table 1.

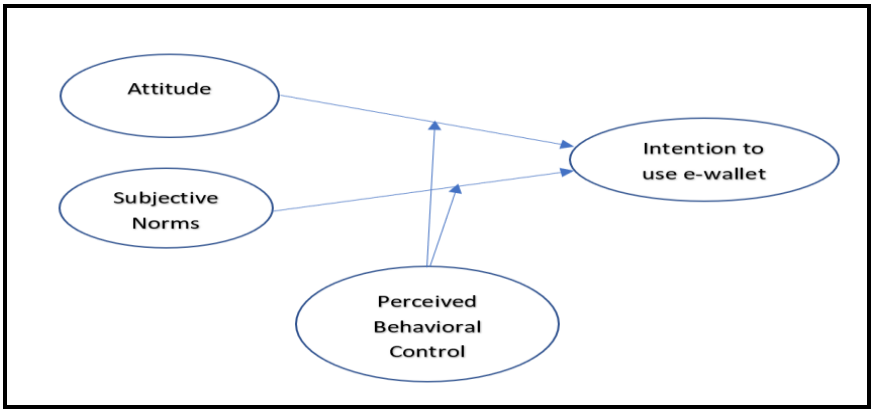


Figure 1: The Conceptual Model

3.3 Data Analysis

Table 1 sets out the profile of the samples in terms of gender, age group, marital status, occupation status, working experience, monthly income, and monthly saving. Of the 319 respondents, 158 (49.5%) were males and 161 (50.5%) were females. The respondents' ages ranged from approximately 18 to 70 years old. However, the average age of 63.6% of the respondents was 37 years old, while 26% of the respondents' average age was 23 years old. In terms of marital status, married respondents were the largest group (63.6%), followed by single respondents (26%) and widowed/divorced respondents (10.4%). The result also showed that the highest percentage of the respondents (80 respondents, 25%) were employees working in the private sector. 44 respondents (13.7%) were government employees, and 38 respondents (12%) were self-employed. Another 46 (14.4%) were working part-time. 175 (58.5%) of the respondents were their respective heads of households. In terms of monthly income, the study found that 62 respondents (19.4%) earned more than 28,000 Kyrgyz som (more than USD 330.30). 28 respondents (8.7%) had monthly income between 20,000 som to 28,000 som (USD 236 to USD 330), and 33 respondents (10.3%) had monthly income between 16000 som to 20000 som (USD 188 to USD 236). The respondents' income levels are not far different from the average household income per month for Kyrgyzstan for the last 23 years at USD 198 [28]. In addition, 124 (38.87%) of the respondents are university graduates, while 68 (21.3%) respondents graduated from vocational schools. 71(22.2%) respondents listed finishing High School, while the rest did not complete their studies.

Table 1: Respondent's Profiles

Criteria	Category	Number	Percentage
Gender	Male	158	49.5%
	Female	161	50.5%
Average Age	23 years old	83	26%
	37 years old	203	63.6%
	44.9 years old	33	9.9%
Marital Status	Single	83	26%
	Married	203	63.6%
	Divorced	33	10.4%
Occupation Status	Public sector	44	13.7%
	Private sector	80	25.0%
	Self-employed	38	11.9%
Monthly Income	Less than USD 188	196	61.6%
	USD 188 to USD 236	33	10.3%
	USD 236 to USD 330	28	8.7%
	More than USD 330	62	19.4%
Education Level	University	124	38.87%
	Vocational Education	68	21.3%
	High School	71	22.2%
	Did not complete University	33	10.34%
	Did not complete High School	5	1.56%

3.4 Measurement Model

This study assessed the measurement model's loadings, composite reliability (CR), and the average variance extracted (AVE). [29] and [30] recommend that loadings should be greater than 0.7. However, [29] also states that loadings of 0.5 and 0.6 are also considered acceptable if the scale is in its early development, especially when additional indicators exist for that construct. On the other hand, the CR should be greater than 0.7, and the AVE should be greater than 0.5. Based on the analysis, this study deleted SN 2 and PBC 3 due to low loadings.

As shown in Table 2, the Composite Reliability (CR) was calculated to evaluate discriminant validity. CR for all constructs in this study was higher than the minimum value of 0.7. Due to the fact this was exploratory research, a value of above 0.6 for composite reliabilities was considered acceptable [31]. Finally, the AVE represents the percent of variance captured by a construct after the deletion of items with loading below the acceptable value. As can be seen, the AVE for each construct ranges from 0.588 to 0.796. All of the AVEs are greater than the recommended value of 0.50 level. AVE for each construct is significantly larger than any correlations involving the construct because all constructs share greater variance with their measures than with other constructs in the model.

Table 2: Measurement Model

Variables	Items	Indicator Reliability Outer Loadings > 0.5	Convergent Validity AVE > 0.5	Internal Consistency Reliability	
				Composite Reliability > 0.7	Cronbach's Alpha > 0.7
Intention	INT 1	0.798	0.706	0.828	0.589
	INT 2	0.881			
Attitude	ATT 1	0.676	0.661	0.792	0.528
	ATT 2	0.930			
Subjective Norm	SN 1	0.828	0.464	0.716	0.459
	SN 2	0.544	**(0.588 without SN 2)**	**(0.737 without SN 2)**	**(0.313 without SN2)**
	SN 3	0.642			
PBC	PBC 1	0.910	0.534	0.669	0.318
	PBC 2	0.874			
	PBC 3	-0.103	**(0.796 without PBC3)**	**0.886 (without PBC3)**	**(0.745 without PBC3)**

Following [24], discriminant validity refers to the degree to which indicators differentiate across constructs or measure distinct concepts by examining the correlations between the measures that may be potentially overlapping. It looks at the extent the constructs under investigation are truly distinct from one another. There are several methods available to assess discriminant validity. The Cross Loading and the Fornell and Larckers' criterion is used here. In the Cross-Loading criterion, the loadings on the assigned latent variable should be higher than those on other latent variables. The difference between loadings across latent variables must not be less than 0.1 [29]. The result in Table 3a shows no issues with cross-loading.

Table 3a: Discriminant Validity (Cross-Loadings)

	Attitude	Intention to use e-wallet	Subjective Norm	PBC
ATT1	**0.676**	0.271	0.281	0.215
ATT2	**0.930**	0.544	0.554	0.503
INT1	0.437	**0.798**	0.498	0.402
INT2	0.464	**0.881**	0.529	0.641
PBC1	0.471	0.609	0.448	**0.910**
PBC2	0.383	0.519	0.440	**0.874**
SN1	0.571	0.549	**0.863**	0.485
SN3	0.212	0.367	**0.656**	0.242

In the Fornell and Larcker criterion, the Average Variance Extracted (AVE) of the latent variable should be higher than the squared correlation between the latent variable and all other variables, or the square root of AVE on the diagonal should be higher than the correlation on the off-diagonal [24]. The result in Table 3b (Fornell and Larcker Criterion) shows no issues with any variables correlating/being highly loaded with each other.

Table 3b: Fornell and Larcker Criterion

	Attitude	Intention to use e-wallet	Subjective Norm	PBC
Attitude	**0.813**			
Intention to use e-wallet	0.536	**0.841**		
Perceived Behavioural Control	0.481	0.635		**0.892**
Subjective Norm	0.548	0.610	**0.767**	0.497

3.5 Structural Model

Once the measurement model is assessed, the structural model can be analyzed. The assessment for collinearity is crucial to ensure no bias in the regression results. [32] showed that predictor constructs could have a high probability of collinearity issues if they have a VIF value of 5 or higher. [33] set a more stringent requirement, where a VIF value of 3.3 already indicates a potential collinearity problem.

Table 4a: Inner VIF Values

Factors	**Intention to use e-wallet**
Attitude	1.558
Subjective Norm	1.589
Perceived Behavioural Control	1.448

The result shows Inner VIF values below the VIF value of 3.3 [33], therefore collinearity is not a problem. Next, the structural model relationships are examined. Bootstrapping was used to generate the t-statistics for all paths to test the significance level. The bootstrapping was set to a 0.05 significance level, with a one-tailed test and 500 subsamples. [24] provided a guideline that the critical values for one-tailed tests at 1 percent significance level ($\alpha = 0.01$) are 2.33, 5 percent significance level ($\alpha = 0.05$) are 1.645 and 10 percent significance level ($\alpha = 0.10$) are 1.28.

Table 4b: Relationship Values

Relationship	**Path Coefficients**	**t-value**	**P Values**
Attitude -> Intention to use e-wallet	0.170	2.533	0.006
Perceived Behavioural Control -> Intention to use e-wallet	0.394	7.024	0.00
Subjective Norm -> Intention to use e-wallet	0.322	5.347	0.00

The t-values, as shown in Table 4b, reveal that the t-values for attitude-> intention to use e-wallet (2.533), perceived behavioral control -> intention to use e-wallet (7.024), Subjective Norms -> Intention to use e-wallet (5.347) all show more than 2.33.

Based on the findings in Table 4b, the value of the Path Coefficients should have a standardized value of between -1 and +1, and the sample has path coefficients of between 0.394 and 0.170. Following [32] the weaker relationships correlate with close to 0 values of estimated path coefficients while strong positive relationships correlate with values close to +1. A p-value measure the probability that an observed difference could have happened just by random chance. The lower the p-value, the less likely the statistical significance of the observed difference is due to simple random chance [32]. Therefore, in interpreting all the values together:

a) Attitude -> Intention to use e-wallet

Attitude positively correlates to intention to use an e-wallet as its path coefficient is 0.170. Furthermore, it's t-values (2.533) are higher than 2.33 (one-tailed), and the p-value of 0.006 is below 0.01, making it a significant relationship.

b) Perceived behavioural control -> intention to use e-wallet

Perceived Behavioral Control positively relates to the Intention to use e-wallets as its path coefficient is 0.394. Its t-values (7.024) are higher than 2.33 (one-tailed), and the p-value of 0.00 is below 0.01, making it a significant relationship.

c) Subjective norms -> intention to use e-wallet

Subjective norms positively relate to the Intention to use an e-wallet as its path coefficient is 0.322. Furthermore, it's t-values (5.347) are higher than 2.33 (one-tailed), and the p-value of 0.00 is below the benchmark of 0.01, making it a significant relationship.

Next, the predictive accuracy of the model is measured. Following [24], R^2 determines the model's explanatory power and predictive accuracy and is the combined effect of exogenous variables on endogenous variable(s). The effect ranges from 0 to 1, with the higher values indicating higher levels of predictive accuracy. According to [29], an R^2 value of 0.67 represents substantial predictive power, 0.33 represents moderate predictive power, and 0.19 represents weak predictive power. [32] stated that an R^2 value of 0.75 represents substantial predictive power, 0.50 represents moderate predictive power, and 0.25 represents weak predictive power. Table 5 illustrates the R^2 values.

Table 5: R^2 Values

Relationship	R square
Attitude -> Intention	0.537
Subjective Norm -> Intention	
Perceived Behavioural Control -> Intention	

Accordingly, attitude, subjective norms and perceived behavioural control combined can account for 53.7% of the variance in intention. Therefore, the model has moderate explanatory power and predictive accuracy.

Next, an assessment of effect size is conducted. The effect size (f^2) – otherwise known as Cohen's f^2 - is the measurement of the relative impact of a predictor construct on an endogenous construct [34]. It assesses how strongly one exogenous construct contributes to explaining a certain endogenous construct in terms of R^2 [24]. Therefore, the difference in R^2 values for estimating the model with and without the predecessor construct is known as the effect size (f^2). According to [34], f^2 values of 0.35 is considered a large effect size, while 0.15 is a medium effect size and 0.02 is considered a small effect size. [29] suggested values of 0.67 or higher as substantial, 0.33 or higher as moderate, and 0.19 or below as weak. More recently, [32] suggested values of 0.75 or higher as substantial, 0.50 or higher as moderate and 0.25 or below as weak. Therefore, as illustrated in Table 6, the relative impact of the relationships in the model can be considered weak [32] to medium effect size [34].

Table 6: Effect size (f^2)

Factors	Intention to use e-wallet
Intention to use e-wallet	
Attitude	0.040
Subjective Norm	0.141
Perceived Behavioural Control	0.231

Next, the predictive relevance of the model is assessed. To assess the predictive relevance of this study's model, the blindfolding procedure was suggested by [32]. Following [35], for the model to have sufficient predictive relevance, it must have values higher than 0 ($Q^2 > 0$).

Table 7: Q^2 Predictive relevance

Relationship	Q^2 After Blindfolding
Attitude -> Intention	0.355
Subjective Norm -> Intention	
Perceived Behavioural Control -> Intention	

As shown above, all relationships show values higher than 0. This indicates that the model has sufficient predictive relevance.

Next, the moderation analysis is performed. Based on the moderating relationship guideline provided by [36], the standards for small effect size have a value of 0.005; medium effect size has a value of 0.01, while a large effect size has a value of 0.025 [24].

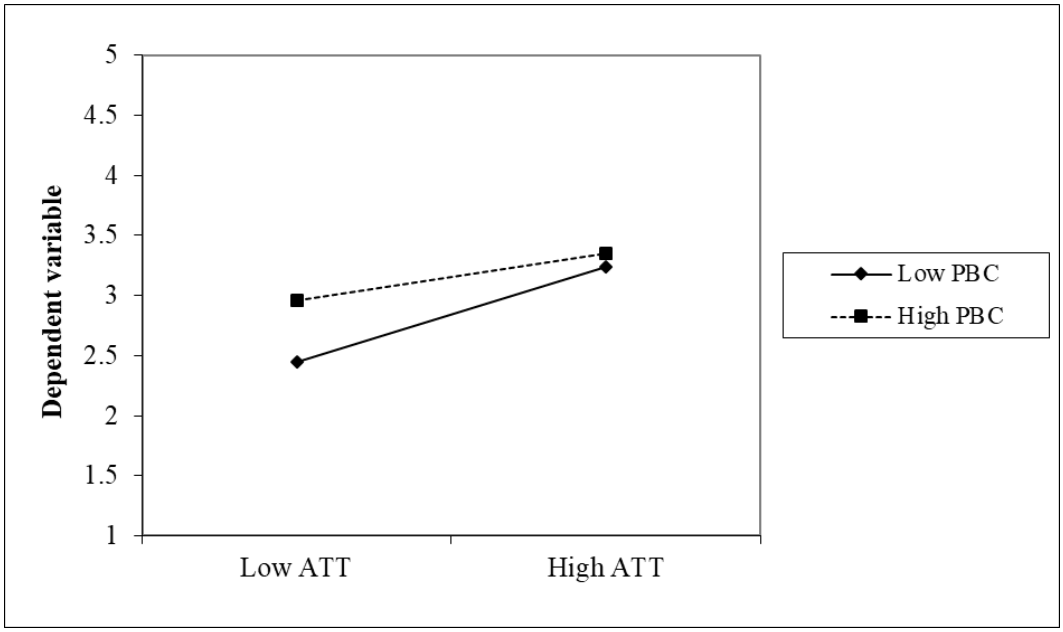
[34] had proposed that the f^2 values can also be used to measure effect size (0.02 – small effect, 0.15 – medium effect size, and 0.35 – large effect size). Therefore, the same analysis will be taken for each moderation relationship in the model. The first step is to look at the R^2 values of each of the relationships to determine the effect size of the moderation.

First, the relationship between attitude (ATT) and intention moderated by perceived behavioral control (PBC) is analyzed. The R^2 value of 0.476 indicates that the ATT and PBC (moderator) can explain 47.6 % of the variance in Intention. Next, the moderation interaction is created in SmartPLS. Since the moderator is a continuous variable, the Orthogonalization Approach is selected. The new R^2 result is 0.498. The difference in the R^2 result between the original result and the new interaction term is 2.2 % (additional variance). These results are shown in Table 8a below.

Table 8a: Moderation Affects ATT*PBC

	Before Moderation	**After Moderation**
R square	0.476	**0.498**

Table 8b: Interaction Plot



As illustrated in Table 8b, the interaction plot reveals a difference in the interaction between Attitude and Intention. Therefore, to analyze the hypothesis:

H3: The positive relationship between attitude and intention will be stronger when perceived behavioural control is high

The steepness of the slope for Low PBC compared to the High PBC and the positive direction of the slopes indicates the positive relationship between ATT and Intention is stronger when PBC is lower, thus disconfirming the hypothesis.

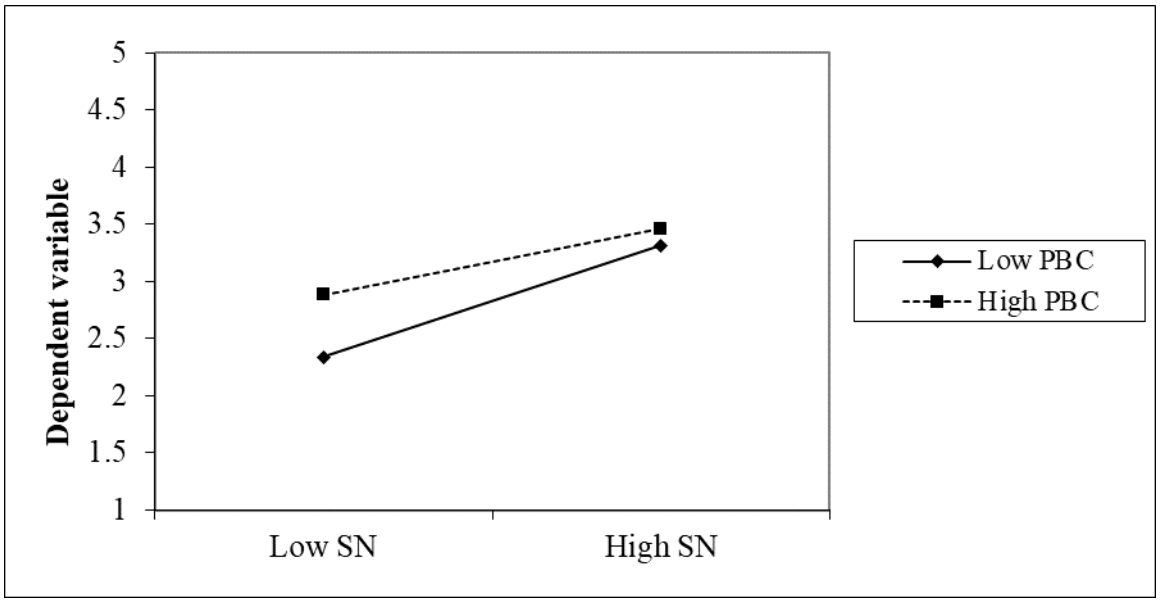
Next, the relationship between Subjective Norms (SN) and Intention moderated by Perceived Behavioural Control (PBC) is analysed. The R^2 value of 0.520 indicates that the SN and PBC (moderator) can explain 52% of the variance in the Intention to use e-wallets.

Since the moderator is a continuous variable, the Orthogonalization Approach is used. The new R^2 result is 0.545, as illustrated in Table 8c. The difference in the R^2 result between the original result and the new interaction term is 2.5% (additional variance).

Table 8c: Moderation Affects SN*PBC

	Before Moderation	**After Moderation**
R square	0.520	**0.545**

Table 8d: Interaction Plot



As illustrated in Table 8d, the interaction plot reveals a difference in the interaction between subjective norms and intention. Therefore, to analyze the hypothesis:

H4: The positive relationship between subjective norms and intention will be weaker when perceived behavioural control is high

The higher steepness of the slope for Low PBC compared to the High PBC and the positive direction of the slopes indicates the positive relationship between subjective norms and Intention is indeed stronger when PBC is weaker, thus confirming the hypothesis.

4. RESULTS AND DISCUSSION

It was hypothesised that the Attitude and Subjective Norms of Kyrgyz consumers would positively influence their behavioural intention to use e-wallets for their purchases. From the structural model analysis, Attitude and Subjective Norm has a positive relationship to intention and its t-values and p-value indicates that it is a significant relationship. Further, the R^2 and its f^2 values both indicated that the relative predictive accuracy and impact of the predictor constructs on an endogenous construct (Intention) is moderate. Therefore, both H1 and H2 hypothesis is supported.

The moderation analysis of H3 suggested that Perceived Behavioural Control did not have a significant effect on Attitude and the Kyrgyz consumer's intention to use e-wallets. This result is surprising, as recent studies in TPB had indicated that perceived behavioural control moderated the relationship between Attitude and intention of the study participants [37, 38, 39]. In such situations, [37] suggested that the measure of attitude in the study could be less reliable, thus causing an insignificant interaction between attitude and perceived behavioural control. They found that a lower Cronbach Alpha value for Attitude (0.55 in their study) caused the moderation effects to be insignificant. The Cronbach Alpha result for Attitude in this study is 0.528 (below the required Cronbach Alpha value of 0.7) and supports this assertion from [37].

The moderation analysis of H4 suggested that Perceived Behavioural Control did have an appreciable effect on Subjective Norms and the Kyrgyz consumer's intention to use e-wallets. In practical terms, the collectivistic nature of Subjective Norms goes against the nature of Perceived Behavioural Control, in which a person sought to rely on personal skills, traits and resources to overcome perceived barriers. As a person increasingly become more individualistic, they become more reliant on the internal (individual skills, knowledge, intelligence) and external (legal barriers, money, equipment, time) factors that are present to perform their responsibilities. This result hints that the Kyrgyz consumers have a strong collectivistic culture, as the perceived approval from their family and friends of their use of e-wallets was important to them. In addition, it is also possible that the Kyrgyz consumers realise (explicitly or implicitly) that the use of e-wallets could help keep their loved ones safe from Covid-19 infection. This is an apt reflection of Kyrgyz societal norms.

5. CONCLUSION

This study aims to determine the factors that influence e-wallet usage intention among the people in Kyrgyzstan and how these factors interact with the application of the theory of planned behavior.

This study has several findings. First, the attitude and subjective norms of the Kyrgyz sample were positively related to the intention to use e-wallets. Further, it was found that the positive relationship between attitude and intention to use e-wallets gets stronger when perceived behavior control is low. In addition, the findings indicate that the positive relationship between subjective norm and intention to use e-wallets gets weaker when perceived behavior control is stronger. It would seem that there is a strong desire among Kyrgyz consumers to keep family members safe during the pandemic by using e-wallets to pay for transactions. Together the findings indicate a strong intention to use e-wallets in Kyrgyzstan during the Covid-19 epidemic. This bodes well for the future growth of businesses transitioning to electronic payment systems, and in particular, e-commerce growth, in Kyrgyzstan.

There are several directions for further research. First, other factors may exist that can further explain individual behavioral intention to use e-wallets. Therefore, further research is recommended to include other factors which may include technology readiness and trust. Second, the conceptual model contains only three factors – attitude, subjective norm and perceived behavioral control that measures behavioral intention. Future research should include the measure of actual behavior and explore the decompositions of attitude, subjective norm, and PBC so that more in-depth insights could be obtained.

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