

VALIDATION OF THE TECHNOLOGY ACCEPTANCE FOR ELECTRONIC DINAR PAYMENT SYSTEM

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Abstract

This study is intended to solve a few constraints existed in physical gold dinar when used as a form of payment. One dinar is equal to 4.25 gram of fine gold. Specifically, this work proposes the use of ecommerce technology to solve those constraints. But before the actual system can be implemented, this research seeks to find out whether or not the public would be ready to adopt the concept of an electronic dinar payment system. The research framework is based on Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). It measures the user acceptance based on these constructs; performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention to use. In addition, attitude toward using, anxiety and perceived credibility are added as three new constructs. Data collection is based on a questionnaire survey, which was distributed to 1000 respondents throughout Malaysia (Peninsula). The response rate was 87.2% (872 respondents had answered it completely). This paper discusses the the validation of measurement model for electronic dinar payment system using SPSS v17.0 and AMOS v18.0 analytical tools. Based on the analysis of measurement model, it is found that there are a total of 25 factors that may have influenced the intention to use electronic dinar payment system. These 25 factors load successfully into the seven (7) main constructs with acceptable goodness-of-fit indices (GOF > 0.90). The results would be useful for the Malaysian Government, local banks, institutions which offer electronic payment services, wholesalers, retailers, and most importantly for the ordinary consumers.

Keywords: Management Information Systems, Electronic Payment Systems, Inflation, Gold Dinar

1. INTRODUCTION

With the prices of gold and silver having hit a new "all-time" high in September 2011, our society has begun to take notice and thus started to ponder on the importance of the two precious metals (gold and silver). Barisheff (2006) has reported that the US dollar has lost 82% of its purchasing power, as measured by the Consumer Price Index (CPI) since 1971. He further illustrated that if 100 widgets can be bought with \$1 in 1971, only 18 of such widgets can be bought for \$1 in 2006. Mathematics calculation will reveal something even more startling. Back then in 1971 the price of gold was \$35 per ounce (Lewis, 2007). At its highest price (05 September 2011), we need to fork out \$1,896 (Kitco Inc., 2011) to buy exactly the same one ounce of gold. Thus from 1971 to 2011 (in 40 years), in terms of US dollars, the inflation has gone up by 5317% i.e. (1896-35)/35 x 100%. Or equivalently, for the duration of 40 years, the US dollar has lost 5317% of its purchasing power. The strength of purchasing power in gold and silver has become known facts by now and it is widely discussed in many literatures (Lewis, 2007; Meera, 2002; Turk and Rubino, 2004).



2. ISSUES RELATED TO PHYSICAL DINAR COINS

But there is one obvious problem with gold (dinar) when compared to fiat currencies or paper money; it is physically heavier and thus difficult to be carried around for normal daily transactions. For instance, to carry around in one's pocket a 10 dinar (42.5 gram of gold) would be a reluctant experience for many people. Moreover, due to the softness (malleability) of the precious metal, dinar will also be subjected to continuing "wear and tear" process if it was to be used repeatedly among the masses; whether it is done intentionally or otherwise. It was reported in Paarlberg (1993) that during the civilization of the Roman Empire, their ordinary citizens would clip the precious metal from the empire's coins perimeter in order to steal some of the value stored in the coins. He further wrote that slaves during that time "sweated" the coins by jiggling them in woolen bags hour after hour in order to wear-off some of the gold. The bags were then burned to separate the gold from Another issue that needs to be addressed would be how to identify the purities of dinar the ashes. denominations in each transaction such that fraud and cheating cases would be minimized and if possible, totally prevented. Mechanisms to facilitate or possibly bypass the unnecessary checking of purities for each transaction should be included in the dinar based electronic payment system in order to make it realistically acceptable by users. The fourth issue is the divisibility limitation associated with the dinar. In today's price, the value of 1 dinar is in the range of RM850-RM950 a piece, thus making it impractical for buying of a small-priced item. The dirham (silver) denomination is supposed to cater these small-priced transactions. Nevertheless if users still insist on using the dinar still, then the proposed system must be able to offer that small-priced transactions in dinar. Last issue that needs addressing is the possible consumer losses due to the difference in selling and buying prices, which is known as "spread". In practice, the spread will be from 3% to 5% on average (for one dinar), charged by gold/dinar traders to form a profit. In this case, it is not profitable for consumers to use the dinar based payment system immediately after buying it. This is because shop owners would only buy back the same dinar at the "buying price", which is always lower than the "selling price". Table 2.1 below illustrates this point:

Item	Selling price	Buying price	Spread
1 dinar	RM945	RM900	RM45 (or 5 %)
	Initially, customers buy dinar at	For payment, shop owners	Thus, if use immediately,
	this price.	would only accept the same	customers will lose out RM45
		dinar at this lower price.	in value because of this spread.

Table 2.1: Customer would stand to lose out due to the practice of "spread" by shop owners.

Obviously this "spread" issue needs to be solved or else it would be unprofitable and thus impractical for customers to use the proposed dinar based electronic payment system.

Therefore, those issues of portability, wear and tear, purity concern, divisibility and the dinar spread -- all of them must be properly addressed in order for gold dinar payment to be widely accepted by the public. In particular, this work would focus on using the e-commerce technology in a form of an electronic payment system to solve a few physical limitations associated with gold dinar. The reason to introduce the electronic commerce technology in dinar is because it offers several advantages that the physical (brick-and-mortar) methods of dinar transactions simply could not offer.

3. REAL PRICES BASED ON SECONDARY DATA

In order to be as close to a practical situation as possible, this study uses actual data (from real Malaysian market) to show the superior performance of gold's purchasing power as compared to that of Ringgit Malaysia (RM). Prices of a few inflationary items are shown in RM as well as their corresponding prices in dinar (gold). In this case, the price performance (purchasing power) between these two competing currencies can be compared side by side. The readers can therefore make a straight-forward comparison on the performance of purchasing power between fiat currency and that of sound money (dinar and dirham).

Tables 3.1 to 3.4 below illustrate the performance of dinar as compared to the performance of fiat currency (i.e. RM) for various critical consumer items and services. It is to be noted that dinar is to be used for high-valued items whereas dirham is used for low-valued items. Table 3.5 shows salary comparison -- paid in dinar versus paid in Ringgit Malaysia (RM).

Table 3.1: Fuel price comparison (in RM and Dinar)

Petrol (50 liter)	RM	Dinar
2000	60.00	0.428
2011	95.00	0.146
Price increase/decrease	+ 58%	- 66%
Diesel (50 liter)	RM	Dinar
2000	35.50	0.253
2011	90.00	0.138
Price increase/decrease	+ 154%	- 46%

Note:

Prices of gold are USD270 and USD1592.50 respectively per ounce in Oct. 2000 and July 2011 $\dot{\cdot}$ (London fix spot price).

 \div Prices of petrol are RM1.20 and RM1.90 respectively per liter in 2000 and 2011.

 \div Prices of diesel are RM0.71 and RM1.80 respectively per liter in 2000 and 2011.

Table 3.2: Electricity price comparison (in RM and Dinar)				
Electricity (Domestic, 400kWh) RM				
2000	92.52	0.660		
2011	160.00	0.245		
Price increase/decrease	+ 73%	- 63%		
Electricity (Commercial, 1000kWh)	RM	Dinar		
2000	288.00	2.054		
2011	430.00	0.659		
Price increase/decrease	+ 49%	- 68%		
Note				

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Note:

٠ Prices of gold are USD270 and USD1592.50 respectively per ounce in Oct. 2000 and July 2011 (London fix spot price).

* Please refer to http://www.tnb.com.my for electricity tariff.

Cement (4 bags=200 kg)	RM	Dinar	
2000	39.60	0.282	
2011	74.00	0.113	
Price increase/decrease	+ 87%	- 60%	
Steel (25 mm, 1 ton)	RM	Dinar	
2000	1085.00	7.740	
2011	2400.00	3.676	
Price increase/decrease	+ 121%	- 53%	

Note:

Prices of gold are USD270 and USD1592.50 respectively per ounce in Oct. 2000 and July 2011 ••• (London fix spot price).

Table 3.4: Cost of Hajj* in RM and Dinar

Cost of Hajj (lowest package)	RM	Dinar
2002	13,500	93.53
2011	20,490	31.39



Price increase/decrease	+ 52%	- 66%

* In general, the cost to perform Hajj is very similar to the cost of travelling (by air). Note:

 Prices of gold are USD278 and USD1592.50 respectively per ounce in 2002 and 2011 (based on London fix spot price).

Cost of Hajj is based on the lowest THTS package as per stated in TH Annual Report. (THTS: TH Travel & Services, TH: Tabung Haji)

Table 3.5: Salary comparison in RM and Dinar

2 1		
Salary Paid (Malaysia)	Dinar	RM
Jan 1992	15.50	1,800*
Jan 2007	15.50	4,968
Feb 2009	15.50	6,975
Oct 2009	15.50	7,838
Jun 2010	15.50	8,560
Sep 2011 (1 dinar=RM800)	15.50	12,400

Note:

Price of gold in Jan. 1992 is USD340 per ounce.

Price of gold in Jan. 2007 is USD690 per ounce.

Price of gold in Feb. 2009 is USD915 per ounce.

Price of gold in Oct. 2009 is USD1050 per ounce.

Price of gold in Jun. 2010 is USD1241 per ounce

Price of gold in Sep. 2011 is USD1896 per ounce.

* RM1800 is an average starting salary for a fresh engineer in Malaysia in 1992.

(All gold prices are based on London fix spot price)

It is to be noted that oil and electricity prices are two inflationary items whereby any price increase in these two items will subsequently give rise to prices of other daily food items (Barisheff, 2006; Leeb and Strathy, 2006). Similarly, construction items will give subsequent price rise to construction-related markets such as commercial (office) and residential (house) buildings. As for the case of salary, Table 3.5 clearly shows that dinar preserve the value of salaries over time. Apparently, salaries paid in dinar appreciate over time automatically, even without annual increments.

It should be noticed from the tables above that the performance of dinar is much superior as compared to that of RM (or other fiat money). Apparently in all tables, what appears to be a "price increase (inflation)" in RM is merely a "price decrease" in dinar. It becomes obvious from the above tables that dinar (gold) is able to preserve their "intrinsic value"; whereas the paper (fiat) money simply could not do that.

4. RESEARCH FRAMEWORK BASED ON UTAUT MODEL

An understanding of technology acceptance models is very important in order to fully appreciate why one model is chosen over the other. Researchers are always confronted with choosing the most appropriate model for their particular researches. Often times, they must "pick and choose" constructs among the various models available. Alternatively, they may choose one "favored model" and largely ignore the possible contributions from other models. Effort by Venkatesh et al. (2003) to solve this predicament is greatly welcomed among the information system (IS) research circles. His team has introduced and tested the new and unified model, known as Unified Theory of Acceptance and Use of Technology (UTAUT) which integrates the previous eight (8) models used in technology acceptance studies. Those eight models are: Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behavior (TPB), a model which combines TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT).

With the objective of introducing a comprehensive model that considers all variables included in the previous eight prominent models, Venkatesh et al. (2003) developed a research to empirically compare and test

each of the constructs in those models. Their research has found that the eight previous models were able to explain (between) 17 percent to 53 percent of the variance in user intentions (that is, to use information technology). Subsequently, a unified model (UTAUT) that integrates elements across the eight models are thereby formulated and empirically validated. With UTAUT, it is found the model had outperformed the previous eight individual models (adjusted R^2 of 69 percent). Later, UTAUT was validated with data from two new organizations; it still gave very similar results (adjusted R^2 of 70 percent). Having had this substantial improvement over its predecessors, UTAUT would thus provide a very useful tool in order to assess the likelihood acceptance factors of introducing a new technology.

Therefore, the research framework for this work is adapted from UTAUT with three additional variables added. This study intends to find out the consumer acceptance of electronic dinar payment system based on the four original constructs of UTAUT model. Those constructs are performance expectancy, effort expectancy, social influence, and facilitating conditions. This research also intends to find out how significant is the contributions of moderators in this case. Out of four moderators in the original UTAUT model, only three would be applied in this study. Those three moderators are gender, age, and experience while the fourth moderator (voluntariness of use) is not included since the proposed electronic dinar payment system would be purely voluntary in nature and therefore its purpose is irrelevant in this case. The three additional variables, attitude toward using, perceived credibility, and anxiety, are hypothesized to be very relevant to this study and therefore their influence is expected to be significant in the proposed model. Attitude toward using is adapted from Davis (1989), and Taylor and Todd (1995), anxiety is adapted from Compeau and Higgins (1995) as well as Venkatesh et al. (2003) while perceived credibility is adapted from Wang et al. (2003). Figure 4.1 illustrates the model of research framework used for this study. Table 4.1 explains all constructs included in this research framework.



Figure 4.1: Research framework for user acceptance of electronic dinar payment system.

Table 4.1 Research framework core constructs used in this study



Core Constructs	Definitions
Performance Expectancy	The perception that using electronic dinar payment system would benefit users in terms of purchasing power, asset preservation, and safe-haven capability. This construct is adapted from UTAUT model (Venkatesh et al., 2003).
Effort Expectancy	It is defined as the ease of using electronic dinar payment system for purchasing. This construct is adapted from UTAUT model (Venkatesh et al., 2003).
Social Influence	It is defined as the social factors (i.e. important persons) which influence users to adopt electronic dinar payment system. This construct is adapted from UTAUT model (Venkatesh et al., 2003).
Facilitating Conditions	It is defined as the existence of external factors that could facilitate the usage of electronic dinar payment system (such as good ICT infrastructure, government initiatives and so on). This construct is adapted from UTAUT model (Venkatesh et al., 2003).
Anxiety	To measure the fear of the public in using electronic dinar payment system i.e. fear of password/card stolen and fear of price fluctuation, and fear of gold investment scam. This construct is adapted from Compeau and Higgins (1995) as well as from Venkatesh et al. (2003).
Perceived Credibility	To measure the data security and privacy, misuse of data, the safety of electronic dinar payment system. This construct is adapted from Wang et al. (2003).
Attitude toward Using	To measure consumers' positive or negative feeling toward using electronic dinar payment system. This construct is adapted from Davis (1989) and Taylor & Todd (1995).

5. METHODOLOGY

This research is a quantitative research whereby an analysis and classification of numerical data will be collected from survey questionnaires. The questionnaires will be developed based on research frameworks which is adapted from the Unified Theory of Acceptance and Use of Technology (UTAUT) model -- with three extra variables added (attitude toward using, anxiety, and perceived credibility). The introduction of three variables is specifically tailored to reflect the individual technology acceptance of electronic dinar payment system. All surveys consist of a closed-ended question. Respondents will only choose answers already provided with the questions. This paper investigates the measurement model analysis results, of which the survey was distributed to 1000 respondents throughout Malaysia (Peninsula). The response rate was 87.2% (872) respondents had answered it completely). The first section of the survey contains questions related to respondents' experiences with e-commerce, gold, and dinar. Section A contains questions related to performance expectancy. Section B mesures questions related to effort expectancy. Section C consists of questions related to social influence. Section D investigates questions related to facilitating conditions. Section E investigates factors related to anxiety (concerns) of adopting the proposed electronic dinar payment system. Section F measures perceived credibility (risk, security and privacy concerns). Section G contains four questions measuring respondents' attitude toward using the electronic dinar payment system. Section H contains three questions measuring respondents' behavioural intention to use the electronic dinar payment system. The last section of the survey consists of questions related to respondents' information such as gender, race, age, monthly income, educational attainment, marital status, and employment status. A five-point Likert scale is used to measure to what extent an individual agree or disagree to the questions being asked. Likert scale is measured as follows: '1' is for Strongly Disagree, '2' is for Disagree, '3' is for Neither agree nor disagree, '4' is for



Agree, and '5' is for Strongly Agree. The AMOS and SPSS software have been used to carry out the analysis of measurement model of the collected data.

5.1 Assessment of Measurement Model Validity

A measurement model is carried out in order to assess the convergent and discriminant validity whereas a structural model is conducted to assess the nomological validity (Schumacker & Lomax, 2010). These three (3) types of validity constitute the construct validity of a hypothesized model. Whether or not a measurement model is valid will depend on the acceptable level of goodness-of-fit (GOF) of a particular hypothesized model in question (Hair et al., 2010). The basic of goodness-of-fit lies on how close is the actual data (observed variables) matches that of theoretical data (estimated covariance matrices). There is no simple rule for determination of index values that distinguishes good models from poor models. However several guidelines are available in various literatures (Byrne, 2010; Hair et al., 2010) has suggested using three to four indices is sufficient to prove evidence of model fit i.e. one from absolute fit index, one from incremental fit index, and the other one from parsimonious fit index. Researchers need not to report all GOF indices, because that practice is deemed as redundant. A SEM report which consists of Chi-square (**(12)** values and degrees of freedom, either CFI or TLI, and the RMSEA indices will typically be sufficient to evaluate a hypothesized model (Hair et al., 2010). This thesis would adopt GOF indices as per suggested by Hair et al. (2010) with two more indices added namely GFI and AGFI, for comparison purposes.

6. **RESULTS**

Table 6.1 shows the general profiles of the respondents participated in this study. About 58.1% of the respondents are male while the remaining 41.9% are coming from female respondents. In terms of age, most of the respondents are coming from young and middle age groups (25-39), which contributes to 75.7% of the total respondents. The other 6.8% is from <24 age group while another 17.5% is coming from >40 age group. Of the total respondents, 51.8% has experience of buying (physical) dinar while the remaining 48.2% has no experience of buying it.

Table 0.1. I follies of the respondents			
	Items	Frequency	Percent
Gender	Male	507	58.1
	Female	365	41.9
Age	Below 24	59	6.8
-	25-39	660	75.7
	40 and above	153	17.5
Experience(buying dinar)	Yes	452	51.8
	No	420	48.2

Table 6.1: Profiles of the respondents

6.1 Goodness-of-fit (GOF) Summary and Model Modification

Selected AMOS output for goodness-of-fit of the initial measurement model (Figure 6.1) is provided in Table 6.2.

Table 6.2	Goodness-of-fit	indices (in	nitial me	asurement	model)

Indices	Values
Chi-square (([†] 2)	4679.866
Degrees of Freedom (df)	791
p-value	0.000
(¹ 2/df	5.916
TLI	0.839
CFI	0.852
RMSEA	0.075
GFI	0.782
AGFI	0.751





Figure 6.1: The measurement model of electronic dinar payment system (initial).

As can be clearly seen from the Table 6.2, the value of CFI, TLI, GFI, and AGFI are all below the 0.90 cutoff value. Moreover, the value of RMSEA is 0.075 which is well above the 0.05 cutoff value for a good fit. So obviously, the present hypothesized model does not meet the criteria to be a good fit and therefore need to be modified and corrected appropriately. The process of model modification is discussed next.

For measurement model modifications process, several steps will be used as per suggested by Hair et al. (2010). The first step is to drop factors with standardized loadings <0.5 or preferably <0.7. In AMOS this standardized loadings is reported as "standardized regression weights". The second step is to introduce new connections as per suggested by modification indices (MI) values. After following a total sixteen of (16) modification steps as per suggested by Hair et al. (2010) above, the final GOF indices have shown a significantly acceptable fit model. A total of 13 factors have been dropped and two new connections have been introduced throughout the modification processes. The comparison of GOF indices between the initial and the final models is shown in Table 6.3 below. Therefore it is decided that this last particular measurement model, Model 16 has exhibited the most parsimonious model among the other competing models. The AMOS representation of the finalized Model 16 (standardized) is shown in Figure 6.2. This final measurement model will therefore be used to test the acceptable fit of the subsequent structural model, the topic of which will be covered in our future publications.



Table 6.3 GOF indices (after modification) continue				
Indices	Original	Model 16		
		(final)		
Chi-square ((¹ 2)	4679.866	825.472		
Degrees of Freedom (df)	791	321		
p-value	0.000	0.000		
([†] 2/df	5.916	2.572		
TLI	0.839	0.968		
CFI	0.852	0.973		
RMSEA	0.075	0.042		
GFI	0.782	0.937		
AGFI	0.751	0.920		



Table 6.4 shows the results of descriptive analysis of all the eight (8) constructs. Only the final and acceptable factors that may have influenced the intention to use electronic dinar payment system are shown in the table. Overall, most of the respondents in this study would agree on the idea of using electronic dinar payment system. This is based on their ratings of behavioral intention to use which range from 4.06 to 4.10 (mean rating of 4.08). This is a positive result and in agreement with the ratings of independent variables that are supposed to influence it.

Table 6.4: Ratings of BI and	factors affecting respondents'	intention to use e-dinar	payment system
0	0		1 2 2

Performance Expectancy	Mean	SD
PE1: gold's appreciation	4.12	0.661
PE2: gold's purchasing power	4.08	0.636
PE3: protection against inflation	4.14	0.678
Effort Expectancy	Mean	SD
EE1: easy to use	4.07	0.545



EE2: easy to learn	4.04	0.550
EE3: easy to interact	4.02	0.575
EE4: compatibility	3.99	0.632
Facilitating Conditions	Mean	SD
FC1: safe (to carry)	4.24	0.593
FC2: safety (banks keep it)	4.21	0.589
FC3: 'wear and tear' issue	4.22	0.615
FC4: protected from rubbing, clipping	4.20	0.650
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Social Influence	Mean	SD
SI1: people who influence	3.88	0.601
SI2: people who are important	3.89	0.630
SI3: family factor	3.87	0.651
SI4: friends factor	3.88	0.647
Perceived Credibility	Mean	SD
PCR6: backed by physical dinar coins	4 42	0.610
PCR7: physical dinar coins withdrawal allowed	4 41	0.603
PCR7: widely accepted	4.52	0.544
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Anxiety	Mean	SD
ANX1: gold investment scam	4.05	0.975
ANX2: computer hacking	4.11	0.862
ANX3: gold price fluctuation	3.74	1.065
Attitude Toward Using	Mean	SD
ATT1: e-dinar is a good idea	4.15	0.534
ATT2: another option to make payment	4.13	0.509
ATT3: like to see use of dinar as payment	4.15	0.554
ATT4: interesting to use e-dinar	4.20	0.555
Behavioral Intention to Use (BI)	Mean	SD
BI1: intend to use	4.07	0.547
BI2: predict to use	4.06	0.571
BI3: plan to use	4.10	0.590
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As for modifications of the initial measurement model, model number 16 has been discovered to be the most parsimonious among the other competing models. In this model 16, seven (7) predictors have been found to have influence on behavioural intention to use electronic dinar payment system, based on the acceptable goodness-of-fit indices. Those predictors are performance expectancy, effort expectancy, facilitating conditions, social influence, anxiety, perceived credibility, and attitude toward using. There are a total of 28 observed variables accepted for this measurement model. Of those 28 observed variables, effort expectancy, facilitating conditions, social influence, and attitude toward using consist of 4 observed variables each. Meanwhile performance expectancy, perceived credibility, anxiety, and behavioural intention to use consists of 3 observed variables each.

8. CONCLUSION AND LIMITATIONS

This research added a new research framework to an acceptance study of a dinar payment system in Malaysia, particularly in the study of the electronic dinar payment system. The framework for this research is adapted from UTAUT model with an addition of three new constructs; to suitably explore the 'intention to use' of an electronic dinar payment system. This study discovered that most of the respondents generally agree to accept the idea of using the proposed electronic dinar payment system. Apparently, it is found that certain factors are perceived to have stronger influence than the others. This is generally expected in any information system (IS) acceptance studies whereby different factors do exert various degree of influence on different constructs. The performance expectancy, facilitating condition, attitude toward using, and perceived credibility

carry the most weight (4.00 and above) among all of the constructs. Based on the analysis of measurement model, it is found that there are a total of 25 factors that may have influenced the intention to use electronic dinar payment system. These 25 factors load successfully into the seven (7) main constructs with acceptable goodness-of-fit indices (GOF > 0.90). It is expected that researchers and practitioners in dinar institution would benefit from this study. This result has given an early indication as to what would be the public's acceptance of electronic dinar payment system in the near future. The results would be useful for the Malaysian Government, local banks, institutions which offer electronic payment services, wholesalers, retailers, and most importantly for the ordinary consumers. It is to be noted that this research employs a convenient sampling data collection method. Therefore, the results are limited as far as its generalization is concerned. Furthermore, due to the constraints on the length of the paper, the structural model analysis and the effects of moderating variables (such as age, gender, and experience) have not been examined in this paper. These two limitations will be taken up later in our future research or publications.

REFERENCES

Barisheff, N. (2006). *August 15, 1971: Inflation Unleashed* [Online]. Available: http://www.bmgbullion.com/document/316 [2012, March 20].

Byrne, B. M. (2010). Structural Equation Modeling with AMOS. New York: Routledge Academic.

Compeau, D. R. and Higgins, C. A. (1995). Computer Self-Efficacy: Development of a Measure and Initial Test. *MIS Quarterly*. 19(2), 189-211.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13, 319-340.

Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R. E. (2010). *Multivariate Data Analysis*. United States: Pearson Education.

Kitco Inc. (2011). *Past Historical London Fix*, [Online]. Available: http://www.kitco.com/gold.londonfix.html [2012, March 20].

Leeb, S. and Strathy, G. C. (2006). *The Coming Economic Collapse: How You Can Thrive When Oil Costs* \$200 *a Barrel*. New York: Warner Business Books.

Lewis, N. (2007). Gold, the Once and Future Money. New Jersey: John Wiley & Sons.

Meera, A.K.M. (2002). The Islamic Gold Dinar. Selangor, Malaysia: Pelanduk Publication.

Paarlberg, D. (1993). An Analysis and History of Inflation. Connecticut: Praeger Publishers.

Schumacker, R. E. and Lomax, R. G. (2010). *A Beginner's Guide to Structural Equation Modeling*. New York: Routledge.

Shin, D-H. (2009). Towards an Understanding of the Consumer Acceptance of Mobile Wallet. *Computers in Human Behavior*, 25(2009), 1343-1354.

Taylor, S. and Todd, P. A. (1995). Understanding Information Technology Usage: A Test of Competing Models. *Information System Research*, 6(2), 144-176.

Turk, J. and Rubino, J. (2004). *The Coming Collapse of The Dollar and How to Profit From It*. United States: Currency Doubleday (Division of Random House Inc.).

Venkatesh, V., Morris M. G., Davis, G. B., and Davis, F. D. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, 27(3), 425-478.

Wang, Y. S., Wang, Y. M., Lin, H. H., and Tang, T. I. (2003). Determinants of user acceptance of internet banking: An empirical study. *International Journal of Service Industry Management*, 14(5), 501-519.



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