Exploring Intention to Use Electronic Gold Dinar as Mechanism for Travelling

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Abstract: *Often times the people are complaining if they have (own) gold or dinar, how can they use it to buy things or services? This study is intended to address this issue by using gold dinar for the purpose of travelling. One dinar is equivalent to 4.25 gram of fine gold. It is foreseen that if people can keep their money in a form of gold rather than in paper money, they would be able to buy things or services with greater appreciating value. Therefore, this study is intended to explore whether consumers would be willing to adopt the new concept of using electronic gold dinar (e-dinar) for travelling. The research framework will be adapted from Technology Acceptance Model (TAM). It will measure the user acceptance from this theoretical framework i.e. intention to use, perceived usefulness, perceived ease of use, and attitude toward using. This preliminary study discovered that most of the respondents participated in this survey generally agree with the idea of using electronic gold dinar for travelling.*

Keywords: *Inflation, electronic gold dinar, Technology Acceptance Model (TAM)*

1. Introduction

Since its first inception in 1971, it has already been a known fact and being reported in many literatures that paper money is highly inflationary in nature [1]-[3]. It has been reported in [1] that the US dollar has lost 82% of its purchasing power, as measured by the Consumer Price Index (CPI) since 1971. Mathematics calculation would reveal even more startling figures about paper money's inflation. Back then in 1971 the price of gold was $35 per ounce [2]. At its highest price (05 September 2011), one needs to fork out $1,896 [4] 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.

Due to the ability of central banks to print paper money practically with "no limit", the existing (paper) money would therefore be subjected to continuous and boundless price inflation. According to Merriam-Webster dictionary [5], inflation is defined as "a continuing rise in the general price level usually attributed to an increase in the volume of money and credit relative to available goods and services". The highly inflationary nature of paper money was strongly insisted by [6] whom had claimed that inflation is the world's greatest robber. He stated that inflation steals from widows, orphans, bondholders, retirees, annuitants, beneficiaries of life insurance, and those on fixed salaries by decreasing the value of their incomes. Furthermore, he had analyzed 15 major inflations throughout the history. He recorded historical prices of important commodities for 30 countries, from year 1937 to 1988, in order to illustrate the disastrous effect of paper money inflation. It was reported in [7] that in the last third of the twentieth century, United States had experienced increase in price levels by more than five-fold and the U.K. had it by more than eleven-fold. Table 1 below illustrates this point further. For an instance, in the year 2007, U.S. prices were almost 25 times greater than that in the year 1900 (base year) while for the U.K., the prices were almost 90 times greater than that in the year 1900.

TABLE I: Consumer price levels in the twentieth century

Indices, 1900 = 100

	1900	1935	1965	2000	2007
USA	100	164	378	2,063	2,484
UK	100	173	635	7,302	8,859

Adapted from [7].

Most of the times ordinary people are complaining if they have (own) gold or dinar; how they could use it to buy things or services. This study is intended to address this issue by introducing a new concept of embedding electronic gold dinar as mechanism for travelling. It is foreseen that if people can keep their money in a form of gold rather than in paper money, they would be able to buy things or services with greater appreciating value [8]. As in the case of travelling activities, it is expected that consumers who save their money in gold or dinar would be able to travel earlier compared to those who save it in the form of paper money. The research objectives for this study are as follows:

1) To explore consumers intention to use electronic gold dinar (e-dinar) for travelling.
2) To investigate various factors that influence consumers to adopt e-dinar for travelling.
3) To investigate the effect of attitude toward using variable on the original TAM model.

This research is proposing an electronic dinar (e-dinar) payment system which would be very similar in operation to existing Visa or other debit cards transactions. The only difference is that in the end, the amount of gold dinar would be deducted from users' accounts instead of Ringgit Malaysia (RM). In this case, the users' account would have a value of gold dinar instead of ringgit Malaysia values. For fiat money based system, an example of VISA debit card transaction process is depicted in Figure 1 below. The transaction process for other debit card brands would follow very similar procedures.

Fig. 1: How a Typical Debit Card Transaction Works
Source: http://corporate.visa.com/about-visa/our-business/visa-transaction.shtml

2. 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 dinar's purchasing power when 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 gold dinar.

Tables 2 below illustrate the performance of dinar as compared to the performance of fiat currency (i.e. RM) for fuel prices. It is to be noted that inflation in fuel prices will subsequently give rise to prices of other daily food items [1], [9]. It should be noticed from the tables below that the performance of dinar is much superior as compared to that of RM (or other fiat money). Apparently in the tables, what appears to be a "price increase (inflation)" in RM is simply a "price decrease" in gold dinar. It becomes obvious from the tables that the gold dinar is able to preserve their "intrinsic value"; whereas the paper (fiat) money just could not do so.

TABLE II: 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 (London fix spot price).
- Prices of petrol are RM1.20 and RM1.90 respectively per liter in 2000 and 2011.
- Prices of diesel are RM0.71 and RM1.80 respectively per liter in 2000 and 2011.

Source: Reference [10].

Based on the tables above that the paper money has obvious weaknesses in preserving the true value of money itself. Therefore this study is proposing a new concept to counter that effect of price inflations; by focusing on using gold dinar as mechanism for travelling. In order to illustrate the effect of price on travelling, this paper has considered the price of pilgrimage (Hajj) travelling in Malaysia. The reason for selecting this segment of travelling is that because the price of Hajj travelling is properly recorded in the annual reports of the Pilgrimage Fund by the Malaysian government. The fund is popularly known as *Tabung Haji* among the Malaysian people.

Historical prices for cost of Hajj travelling (i.e. the cheapest package) are shown Table 3 below. As an illustration, from 1989 to 2009 (20 years), the price of performing Hajj had increased by exorbitant rate of 216.8% i.e. (19,990-6,309)/6,309 x 100%. Thus, in order to counter this disastrous effect of inflation in paper money as per shown in the table, this study proposes that the saving to go for Hajj travelling be kept in gold dinar instead of in paper money. Based on the performance of gold dinar in Table 2 and 3; it is expected that the price to go for travelling in terms of gold dinar will give a better result i.e. cost of travelling in terms of gold dinar will be decreasing. This is due to the appreciation of gold dinar's value compared to the value of paper money. Both of the tables clearly depicts this superior performance of gold dinar compared to paper money. Referring to Table 4, from 2002 to 2011 (9 years), the cost of Hajj travelling in Ringgit Malaysia has increased by +52%. Ironically, the same cost of Hajj travelling in gold dinar for the same duration has decreased by -66%. So no inflation in gold dinar in this particular case.

TABLE III: Historical Cost of Hajj travelling in Malaysia

Cost of Hajj* (Cheapest package)	**RM**
1989	6,309
1994	8,990
2002	13,500
2007	14,990
2008	16,490
2009	19,990
2010	19,490
2011	20,490
2012	23,490

*Data taken from Tabung Haji (TH) Annual Report, Malaysia.

Note:
In general, the cost to perform Hajj is very similar to the cost of travelling (by air).
All prices are based on the cheapest THTS package, except for year 1989 which is operated by Al-Hussam travel agency.
(THTS: TH Travel & Services)
Source: Reference [10].

TABLE IV: Cost of Hajj travelling in RM and Dinar

Cost of Hajj* (cheapest package THTS)	RM	Dinar
2002	13,500	93.53
2011	20,490	31.39
Price increase/decrease	**+ 52%**	**- 66%**

*Data taken from Tabung Haji (TH) Annual Report, Malaysia.

Note:
Prices of gold are USD278 and USD1592.50 respectively per ounce in 2002 and 2011 (based on London fix spot price).
Source: Reference [10].

3. Theoretical Framework

An understanding of user 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. Most of the 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. The Technology Acceptance Model (TAM), developed by [11] is an adaptation from Theory of Reasoned Action (TRA) and it is specifically tailored for information systems (IS) usage. TAM suggests that two determinants, **perceived usefulness** and **perceived ease of use**, are primarily relevance to the understanding of computer acceptance behaviors. The research framework for this work is adapted from TAM with another additional variable added. This study intends to find out the consumer intention of using e-dinar for travelling based on the original constructs of TAM model. Those constructs are perceived usefulness and perceived ease of use. The additional variable, attitude toward using, is hypothesized to be very relevant to this study. Due to the fact that e-dinar will be a new product in a payment system, therefore their influence is expected to be significant in the proposed model. Attitude toward using technology is adapted from [12] as well as [13]. In a previous study [14], it is found that the mediating effect of attitudes on perceived usefulness and perceived ease of use on behavior is not fully supported. The constructs used in this research framework are explained in Table 5 below.

TABLE V: Research framework constructs

Core Constructs	Definitions
Perceived Usefulness	"the degree of which a person believes that using a particular system would enhance his or her job performance" ([14], p. 320).
Perceived Ease of Use	"the degree of which a person believes that using a particular system would be free of effort" ([14], p. 320).
Attitude Toward Using	"defined as an individual's overall affective reaction to using a system" ([15], p. 455).

4. Methodology

This research focuses on quantitative results whereby an analysis and classification of numerical data will be collected from survey questionnaires. The questionnaires will be developed based on various literature reviews and based on TAM with one new variable added namely attitude toward using. All surveys consist of a closed-ended question. Respondents will only choose answers already provided with the questions. In this preliminary study, the survey was distributed to 40 online respondents in Malaysia, with 32 of those respondents had responded to this survey completely. Section A of the survey consists of questions related to respondents' information such as gender, race, age, monthly income, educational attainment, marital status, employment status. Other sections contain questions related to 3 variables coming from the research framework namely, perceived usefulness, perceived ease of use, and attitude toward using. Lastly, there will be questions which measure behavioral intention to use electronic gold dinar for travelling.

5. Results

Table 6 and 7 show the gender and age groups of respondents participated in this study. Table 8 presents the results of factors affecting the respondents' acceptance (independent variables) and intention to use the electronic dinar payment system (dependent variables).

TABLE VI: Gender distribution of the respondents

Gender	Frequency	Percent
Male	12	62.5
Female	20	37.5
Total	32	100.0

TABLE VII: Age group distribution of the respondents

Age Group	Frequency	Percent
18-24	2	6.3
25-29	20	62.5
30-34	7	21.9
35-39	2	6.3
40 or older	1	3.1
Total	32	100.0

TABLE VIII: Ratings of BI and factors affecting respondents' intention to use

Perceived Usefulness (PU)	Mean	SD
PE1: gold's appreciation	3.94	0.840
PE2: gold's purchasing power	3.97	0.782
PE3: protection against inflation	3.97	0.822
PE4: protection during currency crisis	4.13	0.751

Perceived Ease of Use (PEOU)	Mean	SD
EE1: easy to use	3.84	0.723
EE2: easy to learn	3.84	0.677
EE3: easy to interact	3.91	0.689
EE4: compatibility	3.97	0.538

Attitude toward Using (ATT)	Mean	SD
ATT1: e-dinar is a good idea	3.97	0.538
ATT2: another option to make payment	4.09	0.530
ATT3: like to see use of dinar as payment	4.03	0.400
ATT4: interesting to use e-dinar	4.06	0.619

Behavioral Intention (BI)	Mean	SD
BI1: intend to use	4.06	0.619
BI2: predict to use	4.00	0.568
BI3: plan to use	4.03	0.595

6. Discussion

Overall, most of the respondents in this pilot study would agree on the idea of using electronic gold dinar payment system. This is based on their ratings of behavioral intention to use which are greater than 4.00 in all questions. It is expected that the more people understand about gold dinar, the more likely they would want to accept the electronic gold dinar for travelling.

Perceived Usefulness

It can be concluded that the respondents agree on the first four (4) factors of the perceived usefulness construct (Table 8) with its ratings ranging from 3.94 to 4.13. The ratings which are very close 4.00 show that most respondents agree with the advantage of electronic gold dinar in terms of appreciating values, purchasing power, inflation proof and "safe haven" capability.

Perceived Ease of Use

Most of the respondents agree that electronic gold dinar for travelling would be easy to use, to learn, and to interact if is similar to existing e-commerce card systems (ratings of 3.84 to 3.97). Therefore these early results indicate that it is very important for the electronic gold dinar payment system for travelling to be similar to the existing electronic payment system as much as possible.

Attitude toward Using

The average score for this construct is greater than 4.00. The range is from 3.97 to 4.09. Most of the respondents agree that electronic dinar is a good and interesting idea. Most of them also agree that they would like to see dinar being used as a mean of payment and most of them believe electronic dinar would give users another option to make payments.

7. Conclusion and Limitations

This study added a new research framework to an acceptance study of a gold dinar in Malaysia, particularly in the study of the electronic version of the gold dinar payment sytem. The framework for this research is adapted from TAM model with one additional construct; to suitably explore an 'intention to use' electronic gold dinar payment system for travelling. This preliminary study discovered that most of the respondents generally agree to accept the idea of using the proposed system. It is expected that researchers and practitioners in gold dinar institutions would benefit from this study. This result has given an early indication as to what would be the public's acceptance of electronic gold dinar in the near future. This research is limited in its generalization due to the fact that only 32 pilot samples are used in the final analysis. The results would have been more significant if larger samples (in excess of 384 samples) are collected for the analysis. Furthermore, due to the time constraints and length of the paper, the effects of moderating variables (such as age, gender, experience) have not been examined in this initial study. These two limitations will be taken up in later stage of this study.

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