Perceived Knowledge, Anxiety and Relative Advantage as Antecedence of Attitude towards Gold Dinar Acceptance

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The role of gold in providing stability and sustainability in the monetary system has been known and greatly discussed in the literature. Gold dinar on the other hand has been suggested as early as 2002 in Malaysia as a response to the Asian currency crisis in 2007-08. Although there is heightened awareness among the communities regarding the importance of gold dinar in complementing the official currency, until today, the implementation of gold dinar in Malaysia remain challenging. To date however, there has been little discussion on factors that contribute to the acceptance of gold dinar which is imperative to the current development of increased demand of physical gold among the communities of this region. Therefore, it is the objective of this study to explore and analyse the determinants of gold dinar acceptance in the context of Malaysia. A data set of 397 was gathered using an online questionnaire survey distributed to gold dinar social network groups in Malaysia. Data was analysed with a structural equation modelling (SEM) tool. Statistical results showed that perceived knowledge and relative advantage have significant positive impact on attitude while attitude also has significant impact on gold dinar acceptance. Perceived behavioural control is another factor that positively determines gold dinar acceptance while anxiety and subjective norm are not significant contributors. The results, besides indicating the suitability of the SEM in statistical analysis, have also contributed to a better understanding of the gold dinar phenomenon among its community in Malaysia. Findings are useful for academics as well as industrial practitioners to enhance the development of gold dinar usage in complementing the current financial system.

Key words: *Gold dinar, acceptance, complementary money, gold dinar community.*

Introduction

It has been suggested that gold dinar be revived in modern the economy due to the flaws in existing fiat money system. Several studies had suggested a few mechanisms for gold dinar implementation (Ismail, 2013; Yaacob, 2012; Ahmad, 2011; Meera, 2009; El-Diwany, 2007; Mohd Dali, Alrazi, & Abdul Hamid, 2003; Muhayiddin, Ahmed, & Ismail, 2011; Nik Mahani, 2010; Vadillo, 2008;). The proposed mechanism can be divided into two categories; either large scale (nation-based) or small scale (local-based). It is clear that implementation on a large scale is not possible for variety of factors. Lack of strong political will and cooperation with other countries, lack of resources and complex global financial and monetary system are some of the contributing factors. However, a gradual local-based usage of gold dinar is possible in order to prevent economic shock.

The use of gold dinar in complementing the official currency is expected to bring benefits to the local economy. The existence of thousands of complementary currencies around the globe since the 1930s are evidence that a dual currency system is not that farfetched. These complementary currencies have been tolerated by their respective central banks. This fact opens a possibility of gold dinar usage as community money in Malaysia (Majelan, 2016; Kosnin & Ya, 2015; Mahamad Hakimi & Sanusi, 2012). Complementary currencies also known as community or alternative currencies are "agreements within a community to accept something else than national currencies as a means of payment" (Lietaer & Hallsmith, 2006; Udoh, Akpan & Peters, 2017). Instead of replacing the national currency, complementary currencies are used to coexist with official currencies. Majelan (2016) recognized gold dinar as a community currency in some form although currently the usage is very limited. For example in 2010, the Kelantan state government promoted the use of gold dinar as payment of dowry and this was practiced by few families. Gold dinar coins have been used as medium of exchange, wedding gift (*mahr*) and savings as well as for investment purposes in Malaysia (Yaacob, 2012b).

It was more than 15 years that gold dinar revival was first mentioned by the former Prime Minister of Malaysia. Several efforts to re-establish gold dinar had been made by several parties, but its implementation had not come to fruition. The gold dinar movement has stagnated since the beginning of 2014. Nevertheless, the physical gold and gold dinar industry in Malaysia have maintained growing momentum with varieties of gold dinar coins being minted and available on the market. Smaller weights of gold bar (0.5g and 1g) are also becoming popular among lower and middle income groups. From this trend, it is expected there will be an increase of gold being 'held' among the public. Additionally, there are more than 50,000 members in social network groups related to gold and gold dinar that could provide

important data for the gold dinar phenomenon. Currently, in spite of limited usage of physical gold dinar coins, an electronic gold dinar payment system has been established by Dinarpal.

In the light of the discussion above, this paper attempts to investigate factors that determine gold dinar acceptance among the online gold dinar community in Malaysia. The availability of online gold dinar community makes quantitative research in this discipline possible and it will provide better understanding of the gold dinar phenomenon. The community underwent assessment through online survey questionnaires concerning their understanding of the factors that led them to accept the usage of gold dinar as a complement to official money. Specifically, this study examines the extent of perceived knowledge, anxiety and relative advantage towards attitude on gold dinar and the relationships between attitude, social norm, perceived behavioural control and gold dinar acceptance.

The next section presents a review of related literature. This is followed by data analysis using Structural Equation Modelling technique (SEM) and presentation of findings. The last section is on discussion, implications and conclusion with suggestions for future research.

Literature review

Though there are limited studies on gold dinar acceptance, qualitative studies by Yaacob (2012b) investigated the feasibility of gold dinar as currency in a nation-wide context by identifying the needs of infrastructure to be developed, while Kosnin & Ahmad (2014) explored the phenomenon of gold dinar usage among its users through an interview in Pasar Besar TTDI, Kuala Lumpur. From these qualitative studies, Yaacob (2012b) found that the implementation of physical gold dinar on a nation-wide is not possible without strong political will, sufficient gold reserves, and sufficient awareness from the society, while Kosnin & Ahmad (2014) found several exchanges were effected on mutual understanding using physical gold dinar and silver dirham. Although there are only several gold dinar participants in the market, the experience of transacting using other than official money shows that gold dinar as complementary money is possible with sufficient support from the government and community, as well as availability of facilities and a platform for transaction.

The success factors of gold dinar usage are dependant upon the awareness and acceptance level of the society, yet there are scarce empirical studies in determining factors of gold dinar acceptance. Existing studies such as Adewale, Yusuf, Ghani, Meera, & Manap (2012) found institutional trust, attitude and perceived behavioral control as significant factors of gold dinar adoption in the state of Kelantan. While Muhayiddin's (2014) study found performance expectancy, effort expectancy, perceived credibility, anxiety, attitude, social influence and facilitating condition have significant influence on intention to use the electronic gold dinar payment system in Malaysia. Therefore, the aim of this research is to expand studies in this

area and provide a better understanding of gold dinar acceptance among the gold dinar community in Malaysia.

Theoretical underpinning

There are various theories of behaviour and some are variations of the others. In this research a review of several behavioural theories such as social cognitive theory (Bandura, 2001), theory of reasoned action (TRA) (Ajzen & Fishbein, 1977), theory of planned behaviour (TPB) (Ajzen, 1991), diffusion of innovation (DoI) (E. M. Rogers, 1983), and technology acceptance model (TAM) (Davis, 1986) was conducted. Some of these theories share key constructs such as attitude, social influence and self-efficacy, or assumptions such as several stages of antecedences before behaviours are adopted (Glanz, Rimer, & Viswanath, 2008). The aim of this research is to examine behavioural factors on gold dinar acceptance through the theory of planned behaviour (TPB) and diffusion of innovation theory (DoI).

According to the TPB, an individual's actual behaviour is directly influenced by his or her behavioural intention, which is jointly determined by his or her attitude, subjective norms, and perceived behavioural controls toward performing the behaviour. This theory postulates that the sequence leading from beliefs to behaviour is a rational process, where individuals systematically consider, process and utilize the information available to them to arrive at a behavioural decision. The utility of this approach lies in its potential for developing successful behavioural interventions, targeted at whichever component is most important with a view to modifying behaviour (Donald, Cooper, & Conchie, 2014; Ugbor et al., 2017).

"An innovation is an idea, practice, or project that is perceived as new by an individual or other unit of adoption" (Rogers, 1983, p. 12). An innovation may have been invented a long time ago, but if individuals perceive it as new, then it may still be an innovation for them. With gold dinar and silver dirham even though not unfamiliar, their existence in modern monetary system is still new to many. Therefore, introduction to the currency system can be considered as an innovation. Diffusion of innovation theory helps us to understand how behaviour is formed for something that is new in the society. Rogers, (1983) defines diffusion as a "process by which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication in that the messages are concerned with new ideas." When new ideas are invented, diffused, and are adopted or rejected, leading to certain consequences, social change occurs. According to this theory, behaviour will change more quickly if innovations are perceived as being better than previous options (relative advantage) and consistent with the existing values, experiences and needs of potential adopters/users (compatibility), if they are easy to understand (complexity), testable via limited trials (trial ability) and their results are visible (observability).

Since gold dinar is a new phenomenon, this study approach uses various techniques in a preliminary study in order to develop the research framework conceptually. Besides reviewing literature on existing theories of behaviour, several other approaches are used in the preliminary study such as observations, document analysis and interviews with relevant parties. In this study, TPB (Ajzen, 1991), will be used as theoretical anchor in explaining the behaviour of accepting gold dinar in Malaysia because TPB model has been widely used to predict and explain a variety of behaviours across a wide range of domains. At the same time, this study predicted that some of the elements in TPB would be able to explain the phenomenon of gold dinar acceptance. With regard to acceptance of gold dinar, a person will probably use gold dinar as an alternative mode of payment if they evaluate the usage positively (attitude), engage in social pressure to use it (subjective norms), and believe they have the necessary opportunities and skills to use it (perceived behavioural control).

However according to Donald et al., (2014) research (Armitage & Conner, 2001 and Conner & Armitage, 1998) has shown that some intentions and behaviours are influenced by domain-specific factors not contained in the model. Ajzen & Fishbein, (1980) also highlight the need of other than a consideration of psychological traits in predicting behaviour. It may be argued that broad attitudes and personality traits have an impact on specific behaviours only indirectly by influencing some of the factors that are more closely linked to the behaviour in question. Attitude, subjective norms and perceived behavioural control are the main elements in TPB and relative advantage is one of the elements in DoI that will be included in the research framework.

Since TPB and DoI might be insufficient in explaining the phenomenon of gold dinar acceptance, other elements relevant to this study will also be included. The emergence of other factors such as prior knowledge regarding gold dinar and fiat money and anxiety associated with gold dinar will also be included in the research framework.

Hypotheses:
Perceived Knowledge

The current research is based on Ajzen's (1991) conceptualisation and proposed perceived knowledge as an additional construct that may provide motivation for individuals to accept gold dinar. In consumer behaviour research, perceived knowledge measures self-assessment of how much one thinks he or she knows about a product. It has been shown that as an individual gains more knowledge about a product and its use, his or her confidence in regards to making the correct behavioural decision will also increase and will result in the individual performing the behaviour of interest (Flynn & Goldsmith, 1999). Essentially, perceived knowledge reflects one's perception rather than the actual extent of one's knowledge.

The existence of a relationship between knowledge and intention of behaviour is supported both empirically and theoretically (Ramayah & Rahbar, 2013). In the study presented by Sanchez, (2010), more knowledge about genetically modified (GM) food results in a willingness to pay more for avoiding GM food. From the perspective of gold dinar, Brugnoni (2009) highlights the role of knowledge among the local communities in order for them to be able to take part in and integrate the use of gold dinar as a medium of exchange in daily life. J. Rogers (2011) also highlighted education as one critical success factor that determines acceptance and continuity using complementary currencies.

Therefore, the operational definition of perceived knowledge in this thesis refers to self-assessment measures of how much one thinks he/she knows about the relevant information about money. Any individual who perceives to have some knowledge regarding the foundation and stability of existing fiat money, gold advantage and gold dinar will have the tendency to build positive attitude towards acceptance of gold dinar. Therefore, this research proposed the hypothesis as follows:

H1: Perceived Knowledge has significant positive relationship towards attitude on gold dinar

Anxiety

Previous research shows the effect of anxiety has extensively being studied in technology acceptance research (Akour & Dwairi, 2004; Muhayiddin et al., 2011; Saadé & Kira, 2006). Saadé & Kira, (2006) studied the effect of computer anxiety on perception of an online learning system in higher education. The study supports the role of anxiety towards perceived ease of use and perceived usefulness of an online learning system. Additionally, Akour & Dwairi, (2004) found anxiety had a significant negative effect towards computer usage among faculty members of Jordanian universities. Muhayiddin et al., (2011) who include anxiety as a construct to measure electronic dinar adoption found a negative effect of anxiety on adoption of electronic dinar.

Anxiety refers to a state of mind of being fearful or apprehensive when using or considering the use of a technology (Saadé & Kira, 2006). Venkatesh et al. (2003) defined anxiety as evoking of anxious or emotional reactions (negative response) when it comes to performing a specific behaviour. In the context of gold dinar acceptance, anxiety measures the public fear of using gold dinar payment system related to fear of price fluctuation and fear of fraudulent gold investment schemes (Muhayiddin et al., 2011).

A meta-analysis studiy by Powell (2013) found that anxiety directly and indirectly influences individual acceptance and use of information technology (Celik, 2016). Nevertheless, empirical evidence shows its direct effect is less significant compared to its indirect effect on behavioural adoption. In the context of this study, anxiety might contribute negatively towards

acceptance of gold dinar through attitude. Since gold dinar is not a legal tender, people may fear that the use of gold dinar might not be legal. Lack of support from government and the central bank are seen as disapproval of the use of gold dinar. A deregulated gold industry in Malaysia also leads to some companies taking advantage of making quick profit by using gold as investment vehicle however these companies end up involved in fraud and swindle. People lost their trust and fear any effort to bring in gold dinar as a complement to fiat money to be fraudulent. This leads to the following hypothesis:

H2: Anxiety has a significant relationship towards attitude on gold dinar

Relative advantage

Relative advantage has provided a consistent explanation for the adoption of information systems and mobile adoption research (Mallat, 2007). The conceptualisation of relative advantage depended upon the context of study. Where adoption is studied in the organisational context, the relative advantage factor has consisted of performance measures such as performance increase, effectiveness, and time savings (Davis, 1989). In the context of gold dinar acceptance, gold dinar intrinsic value is one of the key attributes in explaining relative advantage. Relative advantage is the degree to which an innovation is perceived as better than the idea it supersedes. The degree of relative advantage may be measured in economic terms, but social-prestige factors, convenience, and satisfaction are also important components. The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption. The adoption rate of gold dinar and silver dirham depend upon perceived relative advantage against modern money (fiat money). This leads to the following hypothesis:

H3: Relative advantage has significant positive relationship to attitude on gold dinar

Attitude

Attitude is defined as "a disposition to respond favourably and unfavourably to an object, person, institution or event" (Ajzen, 2005, p.3) and attitude toward a behaviour is a personal and predisposed factor referring to a favourable or unfavourable stance that a person takes in light of the evaluation of the target behaviour (Ajzen, 1991; Kwan et al., 2009). According to Rosenberg, "global attitudes are often conceptualised as containing discriminate components of cognition and affect and the same case has been made with respect to attitudes toward a behaviour" (Ajzen, 2002). The more favourable attitude contributes to the greater strength of behavioural intention. This leads to the following hypothesis:

H4: Attitude has significant positive relationship towards gold dinar acceptance

Subjective norm

Subjective norm is a social factor and refers to the pressure one perceives regarding whether or not to perform the behaviour as established by his/her belonging social group (Ajzen, 1991; Choiu, 2000). The subjective norm that is in favour of the behaviour contributes to the strength

of behavioural intention (Ajzen, 1991). "Whether conceptualised as a pressure felt and processed by an individual decision maker or as context which unconsciously structures and determines individuals' actions, society does have an impact on the agency or power of individuals" (Morris, Marzano, Dandy, & O'Brien, 2012, p:20). Taylor & Todd (1995) found subjective norms have a significant effect on behavioural intention.

However, there are also studies that showed a weak relationship of subjective norm towards intention. The meta-analysis study by Armitage & Conner (2001) provides some support for this view: subjective norm was the TPB component most weakly related to intention. Adewale et al., (2012) study also found the relationship between social norms and acceptance of gold dinar insignificant. Mathieson, (1991) suggests that social pressure does not influence individual decisions to use a spreadsheet. It is noted that individual agents do play a strong role in deciding upon or choosing their behaviour. In the context of gold dinar, it is probably an individual decision to use gold dinar even though social pressures might play a role in determining the behaviour. This situation could be different if the use of gold dinar has gained popularity and momentum among society. Another reason for subjective norm poor performance was due to measurement. Armitage & Conner (2001) in their meta-analysis found subjective norm showed a reasonably strong relationship with intention when appropriately measured with multiple-item scales. Therefore, based on the theoretical and empirical support, the following hypothesis is proposed:

H5: Subjective norm has a positive relationship to gold dinar acceptance

Perceived Behavioural Control

Perceived behavioural control in the theory of planned behaviour generally refers to a person's expectations about the degree to which they are able to perform behaviour, the extent to which they have access to the necessary resources and their confidence to overcome any obstacle that they might encounter. This theory is concerned with the extent to which a person believes something is there to help or hinder the performance of behaviour under consideration. When a person believes that they have the resources and opportunities (e.g. skills, teamwork, money, time, etc.) required, and any possible obstacles they will encounter are small and manageable, they will have the confidence and ability to perform the behaviour, and thus demonstrate a high level of perceived behavioural control. The greater perception of control should result in a stronger intention to behavioural achievement (Ajzen, 1991).

Previous studies evidence positive relationship on the role of facilitating condition towards behavioural intention (Mahbob, Wan Sulaiman, Wan Mahmud, Mustaffa, & Abdullah, 2012; Kim & Lee, 2012; and Muhayiddin, 2014). Facilitating condition has a significant influence on behavioural control in technological innovation acceptance for Malaysian online government services (Mahbob et al., 2012), on actual knowledge-sharing behaviours among employees in

five-star hotels in Busan, Korea (Kim & Lee, 2012) and towards intention to adopt electronic gold dinar in Malaysia (Muhayiddin, 2014).

In the context of this research, facilitating condition refers to external factors to accomplish the usage of gold dinar in such contexts as infrastructure, government initiatives and the gold dinar system itself. It should be easy to use and it should help them to solve their problems, meet their needs and achieve their goals (J. Rogers, 2011). Alongside the material context of gold dinar coins, market and other real facilities, technology can facilitate alternatives behaviours. The existence of an electronic gold dinar mechanism can act as a diffusion of innovation and an agent of change (Morris, Marzano, Dandy, & O'Brien, 2012). Technology and skills are probably among a key aspect of the gold dinar payment system. The existence of gold dinar online payment and gold dinar *wadiah* or savings account is considered an added advantage to the system. Therefore, interventions which encourage novel gold dinar usage using technologies and training could lead to significant behaviour change within the system. This leads to the following hypothesis:

H6: Perceived behavioural control has significant positive relationship to gold dinar acceptance

From the development of the hypotheses above, Figure 1 shows the conceptual framework of Gold Dinar Acceptance Model.

Figure 1. Conceptual Framework of Gold Dinar Acceptance
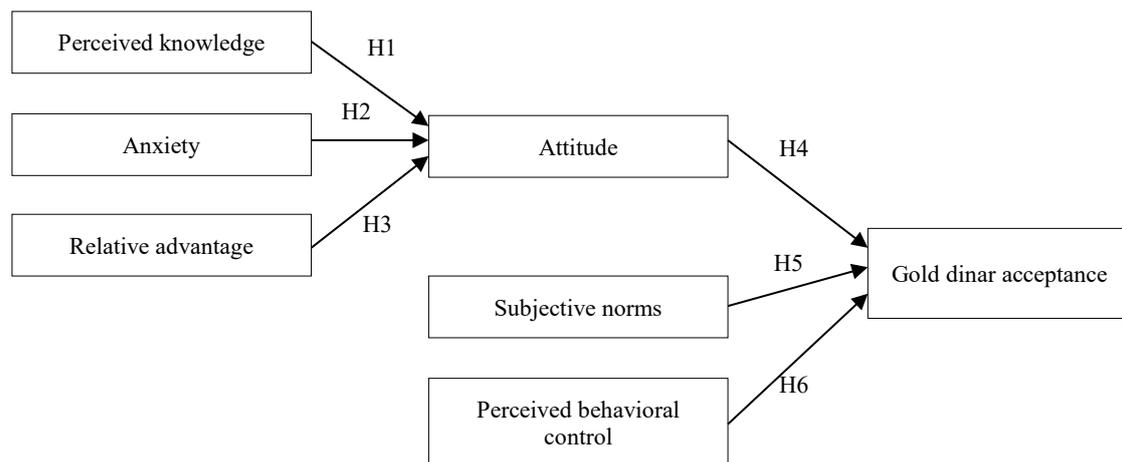
Methodology
Sample and procedures

The population of this study consisted of an online gold dinar community in Facebook with more than twenty thousand members. A probability sampling technique through stratified

random sampling was adopted. This quantitative research used an online questionnaire survey conducted from January to April 2016 from three online gold dinar groups on Facebook - Pasar Muamalat DnD (18,758 members), Dinar dan Dirham (15,786 members) and Dinihari Dinar (4,718 members). 403 data sets were collected of which 397 were deemed valid for further analysis. Demographic profiles of the respondents are shown in Table 1.

The sample comprised more male (68%) than female (32%) respondents. This figure is expected since this bias reflects the fact that more males than females are actively involved in social networks (Socialbakers.com, 2014). The majority of respondents are between the ages of 30 to 39 years (45.7%) and all of them are Muslim. Most of them were government employees (33.5%) or work in the private sector (31.0%), most having a bachelor's degree (48.2%) and earned a monthly income between RM2001 to RM4000 (29.8%). Quite a significant number of respondents owned gold dinar and silver dirham coins (73.7%) as well as gold and silver bars (60.3%) and have experience in transactions using gold dinar and silver dirham coins (43.7%).

Table 1: Online gold dinar community demographics profile (N=403)

	Frequency	%		Frequency	%
Know Gold dinar			*Gender*		
Yes	391	97.0	Male	274	68.0
No	12	3.0	Female	129	32.0
Age			*Education*		
18-29	162	40.2	Secondary school	34	8.4
30-39	189	45.7	Matrix/ Diploma/	106	26.3
40-49	39	9.7	STPM	194	48.2
50-59	18	4.5	Bachelor degree	63	15.6
			Masters/	6	1.5
			Professional		
			PhD		
Employment			*Income*		
Government sector	135	33.5	RM1000 or less	91	22.6
Private sector	125	31.0	RM1001 —	62	15.4
Business owner	21	5.2	RM2000	120	29.8
Self-employed	40	9.9	RM2001 —	81	20.1
Student	58	14.4	RM4000	20	5.0
Unemployed	24	6.0	RM4001 —	9	2.2
			RM6000	20	5.0
			RM6001 —		
			RM8000		

			RM8001 – RM10000 RM10001 and above		
Ownership Dinar and dirham coins Other gold and silver coins Gold and silver bars Gold and silver jewellery None	297 196 243 231 28	73.7 48.6 60.3 57.3 6.9	*Usage* *Experience* Exchange Wedding gift (*Mahr*) Dowry Gift Investment None	176 73 31 192 217 68	43.7 18.1 7.7 47.6 53.8 16.9

Measurement of constructs

The questionnaire included items measuring the components of the proposed model of the extended TPB. Items for the constructs were adapted from existing studies (Tuu & Olsen, 2012; Muhayiddin, Ahmed, & Ismail, 2011; Ajzen & Fishbein, 1980; Francis et al., 2004; and Armitage & Conner, 2001) as well as newly developed work. All items were anchored on a 10-point Likert scale which ranged from 1=strongly disagree to 10=strongly agree. The survey used a structured questionnaire in both Malay and English, which was reviewed by experts and peers, pilot-tested and refined prior to field work. After the refinement, a 48 item questionnaire remains with seven constructs that would measure gold dinar acceptance through this study. All constructs are one-dimensional constructs except perceived knowledge which was measured through four sub dimensions, namely fiat money foundation, fiat money stability, gold advantage and gold dinar. Table 2 shows the reliability of the gold dinar acceptance measurement. Internal consistency for all constructs is deemed acceptable since Cronbach's alpha for all the constructs is greater than .80, which exceeds the recommended threshold value of .70 (Hair, Black, Babin, & Anderson, 2010; Kline, 2011).

Table 2: Questionnaire items

Constructs	No. of Items	Sources	Cronbach's α
Perceived knowledge		Tuu & Olsen (2012); Muhayiddin, Ahmed, & Ismail (2011); New	.94
Fiat money foundation	5		
Fiat money stability	3		
Gold advantage	4		
Gold dinar	6		

Anxiety	4	Muhayiddin et al. (2011)	.84
Relative advantage	5	Muhayiddin et al. (2011); New	.90
Attitude	4	Ajzen & Fishbein (1980)	.90
Subjective norms	4	Francis et al. (2004)	.87
Perceived behavioural control	9	Muhayiddin et al (2011); New	.92
Acceptance	4	Armitage & Conner (2001)	.96

Analysis and Findings

This research examines the relationship between multiple items with their respective constructs and the multiple relationships among latent constructs. Based on the characteristics of this research, confirmatory factor analysis (CFA) with Structural Equation Modelling (SEM) was the most appropriate technique. This approach was chosen as it can explore and test simultaneous hypothesised causal relationships among multiple variables (Kline, 2011; Hair, Black, Babin, & Anderson, 2010; Byrne, 2001). Therefore, data was analysed using SEM-AMOS version 20 (Arbuckle, 1995). Preliminary data analysis was conducted including graphical examination, missing data evaluation, identification of outliers and assessment of normality (Hair et al., 2010) to clean the data and test the multivariate analysis assumption in order for the data to be in a suitable format for multivariate analysis.

Measurement model

Table 3 summarizes the results of internal reliability and convergent validity for the constructs. Convergent validity provides relevant information pertaining to the logical implication that multiple indicators of the same factor should be highly correlated and support a single factor (Bagozzi & Yi, 2011). Convergent validity was assessed by inspecting the standardised factor loadings and the accompanying tests of significance of each observed indicator. Standardised factor loading should be at least 0.5 or greater than 0.7 (Hair et al., 2010 and Kline, 2011). In this study, items having lower than 0.6 were deleted and the remaining 33 items have factor loadings in the range of 0.73 to 0.95. The composite reliability (CR) which depicts the degree to which the construct indicators indicate the latent construct, exceeds 0.7 for all constructs. Finally, the average variance extracted (AVE), which reflects the overall amount of variance in the indicators accounted for by the latent construct, was in the range between 0.65 and 0.82, exceeding the recommended level of 0.5 as suggested by Hair et al. (2010). Therefore, from the above assessment, it can be assumed that the gold dinar acceptance measurement provides adequate evidence of convergent validity.

Next, discriminant validity was assessed through correlation index and the square root of the average variance extracted. Discriminant validity is the extent to which a measure is not a reflection of some other variable. Two procedures were employed in the current study to present evidence of discriminant validity. Table 4 shows the correlation index among constructs as ranging from ± .106 to .807 and all are lesser than 0.85 (Kline, 2011). Therefore, as no correlation is close to .85 there should be concern about constructs not being conceptually distinct. Secondly, when the square root of the average variance extracted is greater than its correlation with all other constructs then discriminant validity has been established (Fornell & Larcker, 1981). The results show that the correlations for each construct were less than the square root of the AVE which indicates that all the constructs had adequate discriminant validity (see Table 4). In summary, the measurement model demonstrated adequate reliability, convergent validity, and discriminant validity. Finally, the Goodness of Fit Indices suggest that the measurement model represents a satisfactory fit to the data, and the results of all the fit indices are displayed in Table 5.

Table 3: Internal reliability and convergent validity

Constructs	Item Loading	CR	AVE
Perceived Knowledge			
Fiat money foundation			
I have enough knowledge about…			
…foundation of paper money system is based on debt	.80	.94	.79
…foundation of paper money system is based on interest	.80		
…paper money system unable to attain Islamic *shariah*	.86		
…paper money system are not free from *riba* (interest) element	.81		
Fiat money stability			
…value of paper money is not stable (e.g.: Ringgit Malaysia against USD)	.87		
…paper money are not backed by any real (intrinsic) value	.83		
Gold advantage			
…gold has stable value	.86		
…gold is accepted by all	.78		
…gold value will strengthen financial system	.86		
Gold dinar			
…gold dinar able to protect my wealth	.90		
…gold dinar is contains real gold	.85		

…gold dinar was used as money during Islamic Era	.84		
Anxiety			
I am worry about carrying gold dinar coins	.90	.84	.72
I am worry gold dinar coins are susceptible to theft	.80		
Relative advantage			
Gold dinar has real (intrinsic) gold value compared to paper money	.82	.93	.82
Gold dinar can protect against inflation better compared to paper money	.95		
Overall, gold dinar is better compared to paper money	.94		
Attitude			
All things considered, gold dinar as complementary currency is... **Very Bad – Very Good**	.90	.94	.80
Very Foolish –Very Wise	.94		
Strongly Unfavourable – Strongly Favourable	.92		
Strongly Harmful – Strongly Beneficial	.81		
Subjective norms			
People who influence my behaviour would think that I should accept gold dinar	.74	.87	.70
My online friends would suggest me to accept gold dinar	.84		
Most people who are important to me think that I should accept gold dinar	.92		
Perceived behavioural control			
…there are sufficient shops that accept the coins	.83	.92	.65
…the coins are easily available	.84		
…Islamic Religious Department accept the coins as payment of zakat	.86		
…there are institutions that can keep the coins safe	.82		
…resources required to use the coins is available to me	.73		
…the coins has smaller denomination (e.g.: 1 or ½ or ¼ dinar/dirham)	.76		
Acceptance			

I expect to accept gold dinar as a complementary currency (used together with existing paper money)	.73	.90	.73
I will accept gold dinar as a complementary currency	.91		
It is likely that I will accept gold dinar as a complementary currency	.91		

Note: CR=Composite reliability, AVE=Average Variance Extracted, Scale used was a 10 point Likert scale.

Table 4: Discriminant validity of constructs

Constructs	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Acceptance	**0.854**						
2. Perceived knowledge	0.518	**0.889**					
3. Anxiety	-0.148	-0.238	**0.850**				
4. Relative advantage	0.498	0.675	-0.208	**0.905**			
5. Subjective norm	0.183	0.251	-0.139	0.263	**0.837**		
6. Perceived behavioural control	0.496	0.547	-0.106	0.625	0.172	**0.808**	
7. Attitude	0.807	0.544	-0.194	0.514	0.160	0.469	**0.893**

Note: Values in the diagonal (bolded) represent the square root of the AVE ($\sqrt{AVE}$) while the off-diagonal represent the correlations (R)

Table 5: Measurement model Goodness-of-Fit indices

| Fit Index	Initial Model	Fit Criteria	Indicator
Chi Square (χ^2) Degrees of freedom, df p-value	698.55 467 .000		
Absolute fit measures			
CMIN (χ^2)/df	1.496	< 2 to3	Very good
GFI	.904	≥ 0.9	Very good
RMSEA	.035	≤ 0.05	Very good
Incremental fit measures			
TLI	.976	≥ .92 or .95	Very good
CFI	.978	≥ .92 or.95	Very good
Parsimony Fit Measures			
PNFI	.830	≥ 0.5	Very good

Structural model and hypothesis testing

The structural model was estimated using maximum likelihood estimate (MLE) in the AMOS version 20 software. The test of the overall model fit yielded a chi square of 708.919 with 472

degrees of freedom and a p-value of less than 0.001. All the fit indices were above the recommended values. The GFI was 0.902, PNFI was 0.838, CFI was 0.978, the Tucker-Lewis Index (TLI) was 0.975 and the RMSEA which measures the discrepancy per degree of freedom was 0.036. Anderson & Gerbing (1988) identified CFI as one of the most stable and robust fit indices. Hence, based on the various recommended values gathered from the literature, we can conclude that the research model fitted the data quite well. An adequate goodness-of-fit would thereby demonstrate the plausibility of the hypothesised linkages.

The R^2 value for the relationship between the various constructs and gold dinar acceptance was 0.67 which indicates that 67% of the variance in gold dinar acceptance can be explained by the constructs under study (see Figure 2). A closer examination shows that perceived knowledge is positively related to attitude (β=0.36, p<0.001) and relative advantage is equally significant in relation towards attitude on gold dinar (β=0.27, p=0.002). However anxiety is not a significant predictor of attitude towards gold dinar (β=-0.052, p=0.145). Attitude on gold dinar has significant positive influence towards gold dinar acceptance (β=0.74, p<0.001) and perceived behavioural control significantly influenced gold dinar acceptance (β=0.15, p=0.001) whereas subjective norm (β=0.04, p>0.05) was not a significant predictor of gold dinar acceptance. Therefore, only H1, H3, H4 and H6 were supported while H2 and H5 were not. Attitude was the strongest predictor of gold dinar acceptance followed by perceived knowledge of gold and money. This is consistent with prior literature in technology acceptance where atttude plays a significant role in many individual's decision making.

Figure 2. Result of the SEM path analysis
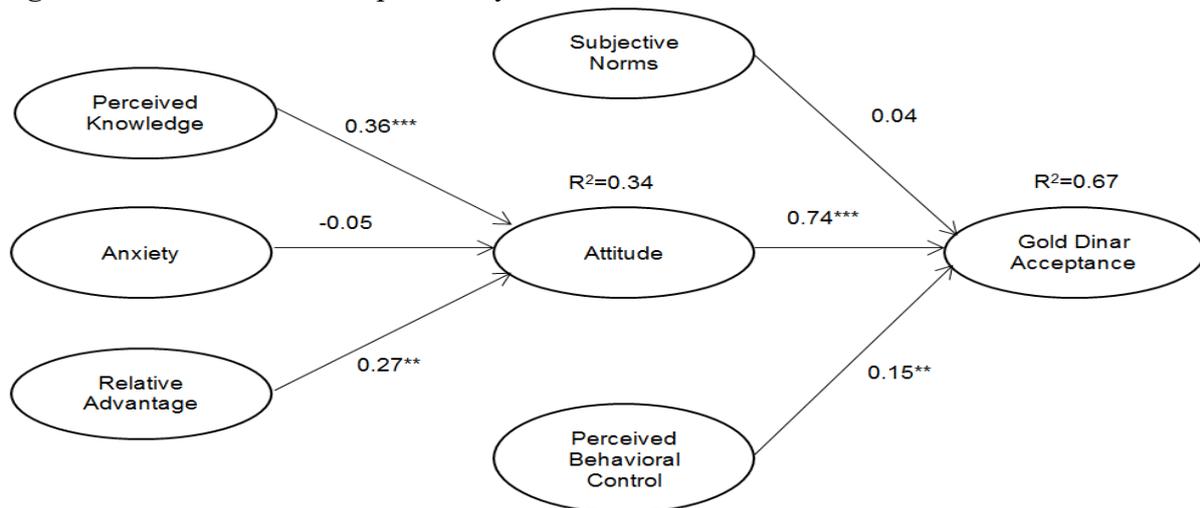
Note: *p<0.05; **p<0.01; ***p<0.001

Table 6: Summary of structural model

Hypothesis	Description	Standardised Coefficient	C.R.	*p*-value (1-tail)	Results

			(Z-value)		
H1	Perceived knowledge →Attitude	.355***	5.358	.000	Yes
H2	Anxiety →Attitude	-.052	-1.112	.145	No
H3	Relative advantage→ Attitude	.268**	4.323	.002	Yes
H4	Attitude → Acceptance	.738***	12.157	.000	Yes
H5	Subjective norm → Acceptance	.040	.677	.116	No
H6	Perceived behavioural control →Acceptance	.155**	2.391	.001	Yes

Structural Equations R^2

Attitude = .36PK - .052Anxiety + .268RA   .345

Acceptance = .738Attitude + .040SN + .155PBC   .666

Notes: *p<.05, **p<.01, ***p<.001

Discussions and conclusion

The purpose of this study was to uncover the factors that could lead to gold dinar acceptance among the online gold dinar community in Malaysia. The results revealed that perceived knowledge, relative advantage, attitude and perceived behavioural control are vital determinants of gold dinar acceptance in Malaysia. The results generated from the structural model further indicate that theory of planned behaviour is able to moderately explained gold dinar acceptance since attitude and perceived behavioural control were found to be significantly related while subjective norm was not. The gold dinar acceptance model in this study is relatively good model with a variance (R^2) of 0.67.

This study faces some limitations with respect to the sampling procedure and sample characteristics and therefore its generalisation to the entire population in Malaysia and abroad remains speculative. Nevertheless, this study provided important and fundamental insights with relation to gold dinar and its factors of acceptance which could be beneficial for policy makers or Islamic financial institutions whose aim might be to establish complementary alternatives for the Islamic financial industries. Furthermore, communication strategists in the gold dinar market may consider increasing public awareness and knowledge of using gold as well as gold dinar to target segments particularly to Muslim participants.

Future research on gold dinar as well as gold as a mechanism for complementary money or products in Islamic financial institutions is recommended to determine whether a degree of stability able to be achieved. Additionally, the investigation of Muslim acceptance of gold dinar and its association with Islamic values could add a significant contribution to understanding the phenomenon in Muslim countries. Assessment of differences and similarities between

Muslim and non-Muslim' perceptions of gold dinar acceptance is another area for future research. Future studies should also consider examining the barriers to gold dinar acceptance as it is equally important to develop insights on what hinders the acceptance of gold dinar in addition to knowing the motivational drivers.

REFERENCES

Adewale, A. A., Yusuf, M. B. O., Ghani, G. M., Meera, A. K. M., & Manap, T. A. A. (2012). The role of institutional trust in the adoption of gold dinar in Kelantan: An empirical analysis. *Journal of Applied Sciences*, *12*(20), 2148–2155.

Ahmad, S. (2011). Monetary union as a strategy to uplift economic power of Islamic nations. *International Journal of West Asian Studies*, *3*(2), 1–18. https://doi.org/10.5895/ijwas.2011.07

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, *50*, 179–211.

Ajzen, I. (2002). Perceived behavioral control, self efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, *32*(4), 665–683. https://doi.org/10.1111/j.1559-1816.2002.tb00236.x

Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, *84*(5), 888–918. https://doi.org/10.1037/0033-2909.84.5.888

Akour, I. a, & Dwairi, D. M. a. (2004). Testing Technology Acceptance Model in developing countries: The case of Jordan. *International Journal of Business and Social Science*, *2*(14), 278–285.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411–423. https://doi.org/10.1037/0033-2909.103.3.411

Arbuckle, J. L. (1995). *IBM SPSS Amos 19 user's guide*. Chicago: Amos Development Corporation.

Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *The British Journal of Social Psychology*, *40*, 471–499.

Bagozzi, R. P., & Yi, Y. (2011). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, *40*(1), 8–34.

https://doi.org/10.1007/s11747-011-0278-x

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Reviews Psychology*, *52*, 1–26.

Brugnoni, A. G. (2009, November). The case for the gold dinar and Islamic complementary currencies. *Business Islamica*, 52–54. Retrieved from http://www.assaif.org/index.php/NewsCom/Articles-and-Interviews/Business-Islamica-Alberto-Brugnoni,-%22Back-to-Basics.-The-Case-for-the-Gold-Dinar-and-Islamic-Complementary-Currencies%22,-November-2009

Byrne, B. M. (2001). *Structural Equation Modeling with AMOS: Basic concepts, aplications, and programming* (2nd ed.). New York: Routledge Taylor & Francis Group.

Celik, H. (2016). Customer online shopping anxiety within the Unified Theory of Acceptance and Use Technology (UTAUT) framework. *Asia Pacific Journal of Marketing and Logistics*, *28*(2), 278–307. https://doi.org/10.1108/17465681011017255

Conner, M., & Armitage, C. J. (1998). Extending the Theory of Planned Behavior: A review and avenues for further research. *Journal of Applied Social Psychology*, *28*(15), 1429–1464. https://doi.org/10.1111/j.1559-1816.1998.tb01685.x

Donald, I. J., Cooper, S. R., & Conchie, S. M. (2014). An extended Theory of Planned Behavior model of the psychological factors affecting commuters' transport mode use. *Journal of Environmental Psychology*. https://doi.org/10.1016/j.jenvp.2014.03.003

El-Diwany, T. (2007). Transition issues in monetary reform. In *International Conference on Gold Dinar Economy* (pp. 1–38). Kuala Lumpur.

Flynn, L. R., & Goldsmith, R. E. (1999). A short, reliable measure of subjective knowledge. *Journal of Business Research*, *46*(1), 57–66. https://doi.org/10.1016/S0148-2963(98)00057-5

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.2307/3151312

Francis, A. J. J., Eccles, M. P., Johnston, M., Walker, A., Grimshaw, J., Foy, R., … Bonetti, D. (2004). *Constructing questionnaires based on the theory of planned behaviour*. Newcastle, UK.

Glanz, K., Rimer, B. K., & Viswanath, K. (2008). *Health behaviour and health education: Theory, research and practice*. (K. Glanz, B. K. Rimer, & K. Viswanath, Eds.) (4th ed).

San Francisco, CA: Jossey-Bass.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). New Jersey: Pearson Prentice Hall.

Ismail, Z. (2013). *Dinar emas dan dirham perak: Menepati keperluan zaman*. UTMDdRG.

Kim, T., & Lee, G. (2012). A modified and extended Triandis model for the enablers–process–outcomes relationship in hotel employees' knowledge sharing. *The Service Industries Journal*, *32*(13), 2059–2090. https://doi.org/10.1080/02642069.2011.574276

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. (D. A. Kenny & T. D. Little, Eds.) (3rd ed). New York: The Guilford Press.

Kosnin, R., & Ahmad, I. (2014). Gold dinar as an alternative medium of exchange: An exploratory study. In *5th International Conference on Business and Economic Research* (pp. 559–568). Kuching, Sarawak: Conference Master Resources.

Kosnin, R., & Ya, M. S. (2015). Gold dinar and its role as complementary currency: Is it possible? In *Academic Symposium of Social Sciences*. Kelantan: UiTM Kelantan.

Lietaer, B., & Hallsmith, G. (2006). Community currency guide. Global Community Initiatives. Retrieved from http://www.complementarycurrency.org/ccLibrary/Community_Currency_Guide.pdf

Mahamad Hakimi, S., & Sanusi, Z. A. (2012). Evaluating the potential of gold dinar and silver dirham as a community currency: A case study on the response of the community in Universiti Sains Malaysia. In *UMT 11th International Annual Symposium on Sustainability Science and Management* (pp. 333–341). Terengganu.

Mahbob, M. H., Wan Sulaiman, W. I., Wan Mahmud, W. A., Mustaffa, N., & Abdullah, M. Y. (2012). The elements of behavioral control in facilitating the acceptance of technological innovation on Malaysia on-line government services. *Asian Social Science*, *8*(5), 125–131. https://doi.org/10.5539/ass.v8n5p125

Majelan, S. (2016, March 10). Is it time for Malaysia to turn to Community Currencies like in the UK to boost local economy? *Malaysian Digest*. Retrieved from http://malaysiandigest.com/features/599411-is-it-time-for-malaysia-to-turn-to-community-currencies-like-in-the-uk-to-boost-local-economy.html

Mallat, N. (2007). Exploring consumer adoption of mobile payments – A qualitative study, *16*, 413–432. https://doi.org/10.1016/j.jsis.2007.08.001

Mathieson, K. (1991). Predicting user intentions: Comparing the technology acceptance model with the theory of planned behaviour. *Journal of Information Systems Research*, *2*(3), 173–191. Retrieved from http://dx.doi.org/10.1287/isre.2.3.173

Meera, A. K. M. (2009). Integrating al-Rahn with the gold dinar: The initial building-blocks towards a gold-based economy. In *Real money: Money and Payment systems from an Islamic perspective* (pp. 221–235). Kuala Lumpur: IIUM Press.

Mohd Dali, N. R. S., Alrazi, B., & Abdul Hamid, H. (2003). Gold dinar: Using bilateral payment arrangement or electronic payment system. In *Student Conference on Research and Development* (pp. 1–13). Universiti Tenaga Nasional.

Morris, J., Marzano, M., Dandy, N., & O'Brien, L. (2012). Theories and models of behaviour and behaviour change. *Forest Research*.

Muhayiddin, M. N. (2014). *Consumer acceptance of intention to use electronic dinar payment system in Malaysia*. Multimedia University.

Muhayiddin, M. N., Ahmed, E. M., & Ismail, H. (2011). Technology acceptance of a gold dinar based electronic payment system. *IBusiness*, *3*(Sept), 295–301. https://doi.org/10.4236/ib.2011.33039

Nik Mahani, M. (2010). The real implementation of the gold dinar economy. In *Seminar Penjanaan Ekonomi Melalui Transaksi Wang Dinar 2009* (pp. 247–272). Jabatan Kemajuan Islam Malaysia. Retrieved from http://www.islam.gov.my/muamalat/sites/default/files/kertas_persidangan/2010/04/14_Nik_Mahani.pdf

Ramayah, T., & Rahbar, E. (2013). Greening the environment through recycling: An empirical study. *Management of Environmental Quality: An International Journal*, *24*, 782–801. https://doi.org/10.1108/MEQ-07-2012-0054

Rogers, E. M. (1983). *Diffusion of innovations* (3rd ed). New York: The Free Press.

Rogers, J. (2011). On the money: Getting the message out. *International Journal of Community Currency Research*, *15*, 11–16.

Saadé, R. G., & Kira, D. (2006). The emotional state of technology acceptance model. *Issues in Informing Science and Information Technology*, *3*(January 2006), 529–540.

Sanchez, W. C. (2010). *The influence of consumer knowledge on willingness to pay for non-genetically modified foods in Taiwan: A structural equation model*. Maharishi University of Management.

Socialbakers.com. (2014). Facebook Statistics by Countries. Retrieved from http://www.socialbakers.com/facebook-overview-statistics/

Taylor, S., & Todd, P. (1995). Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International Journal of Research in Marketing*, *12*(2), 137–155. https://doi.org/10.1016/0167-8116(94)00019-K

Tuu, H. H., & Olsen, S. O. (2012). Certainty, risk and knowledge in the satisfaction-purchase intention relationship in a new product experiment. *Asia Pacific Journal of Marketing and Logistics*, *24*(1), 78–101. https://doi.org/10.1108/13555851211192713

Udoh, G., Akpan, U., & Peters, A. (2017). A Look at Semantic Issues in News Writing and Reporting. International Journal of Emerging Trends in Social Sciences, 1(2), 37-45.

Ugbor, I. K., David-Wayas, O. M., Arua, M., & Nwanosike, D. U. (2017). The socioeconomic factors that determine women utilization of healthcare Services in Nigeria. Int. j. Asian. soc sci, 7(5), 359-66.

Vadillo, U. I. (2008). White paper on the gold dinar: The road map of implementation. *Policy*, (November).

Yaacob, S. E. (2012a). Study of implementation gold dinar as currency. *World Applied Sciences Journal*, *20*(7), 1014–1023. https://doi.org/10.5829/idosi.wasj.2012.20.07.796

Yaacob, S. E. (2012b). The reality of gold dinar application in Malaysia. *Advances in Natural and Applied Sciences*, *6*(3), 341–347.