

# **LOCAL CURRENCY MODEL: TO BOOST ECONOMIC ACTIVITIES OF INDIGENOUS COMMUNITY IN MALAYSIA**

Jarita Duasa, IIUM, Malaysia

# Study outline

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- Introduction
- Literature review
- Research objectives
- Data and Methodology
- Findings
- Conclusion and recommendation

# Introduction

- The ***Orang Asli*** are the indigenous people of Peninsular Malaysia. They reside mostly in Peninsular Malaysia, with an estimated total population of 178,197 which represents approximately 0.6 per cent of the total population in Malaysia.
- Despite making up of only 0.6 per cent of the total national population, the ***Orang Asli* accounts for about 20 per cent of the nation's hardcore poor** (Nicholas, 2011)

# Introduction

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- On this basis, advocates of monetary reform propose complementary forms of money which can fulfill different societal functions.
- In particular, the **complementary currency enable local communities to use new ways to offer people employment, and to pay for local services like education, child care, health care, waste management, fire and police protection, infrastructure, and administration.**

# Introduction

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- They have **unmet needs** in the community for these services, and at the same time **there are underutilized resources available** that could fill the gaps. The **main barrier to matching** the unmet needs with the underutilized resources is a **lack of money**.

# Conventional money



# Conventional money

**The problem is.....**

**‘LIMITED SUPPLY’**

# How conventional currency system works...

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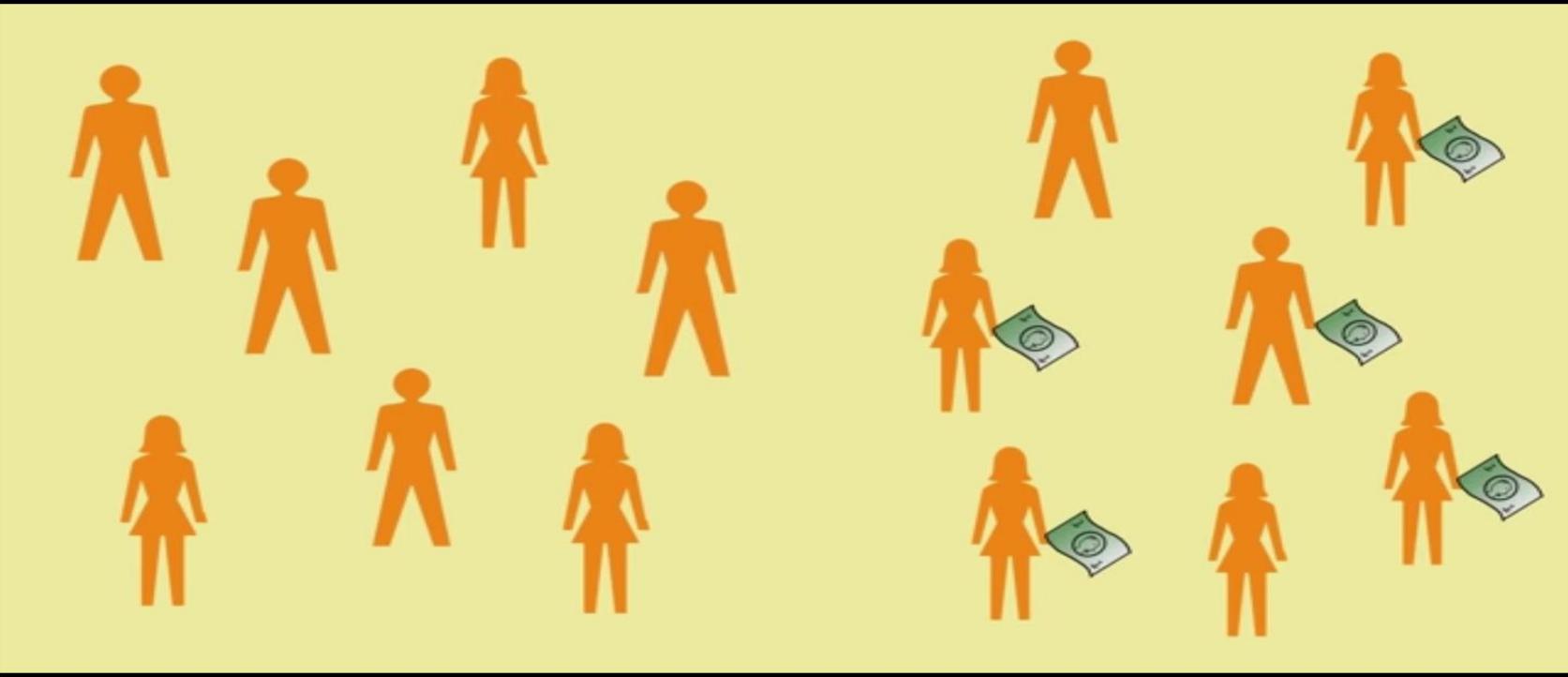


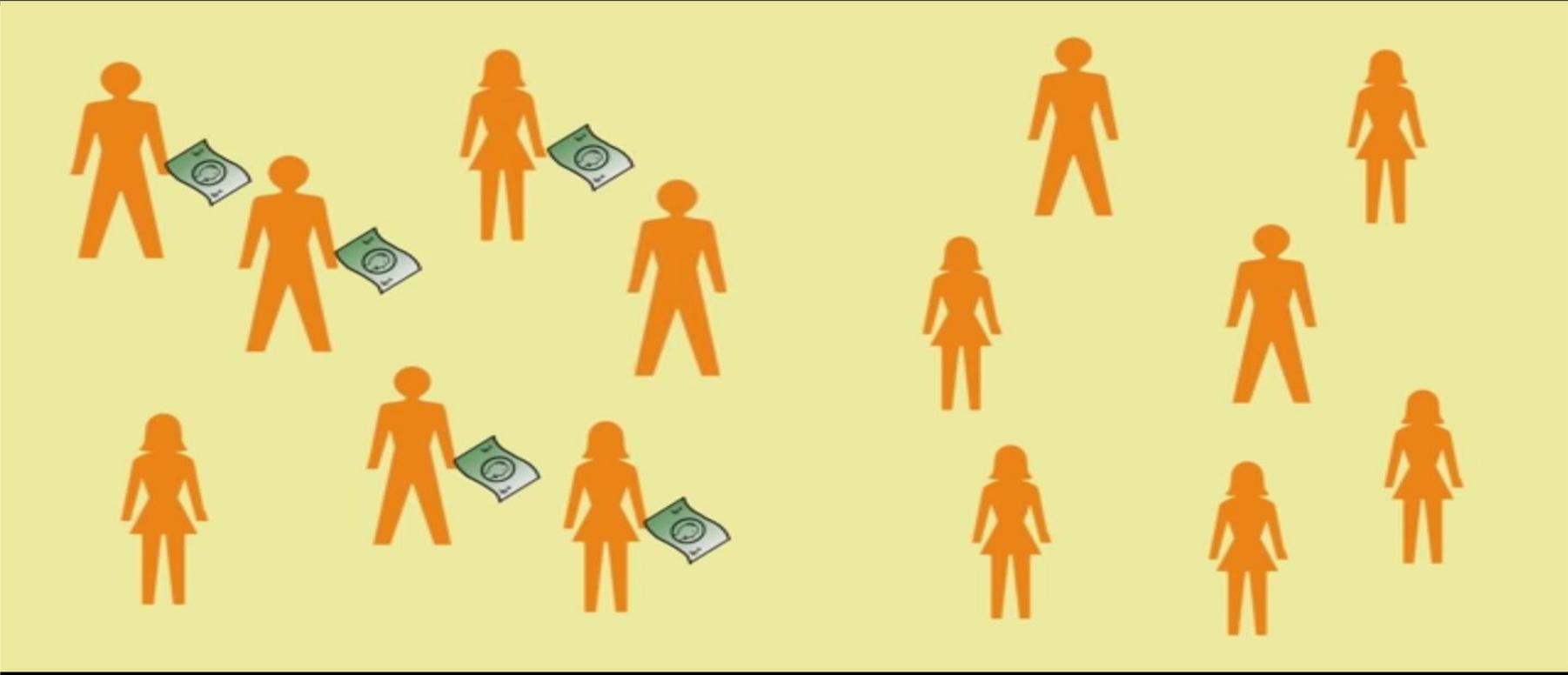
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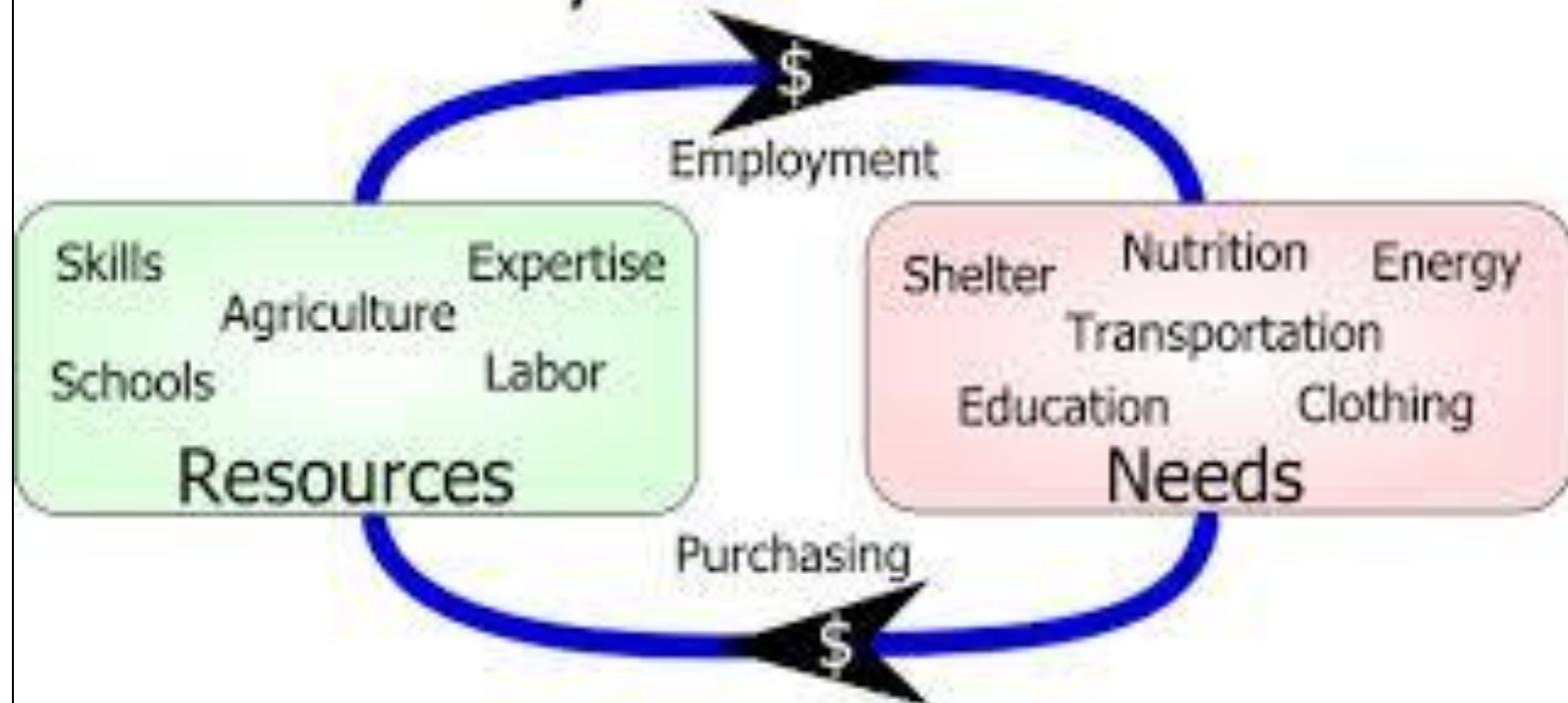








# Healthy Economic Pattern



# Introduction

- **Community Currency** allows localities and regions to create real wealth in their local economy by matching the unmet needs with the underutilized resources.
- A complementary currency - is an agreement to use something else than legal tender (i.e. national money) as a medium of exchange, with the purpose to link unmet needs with otherwise unused resources.

# Examples of CC



# Ithaca hours, NY



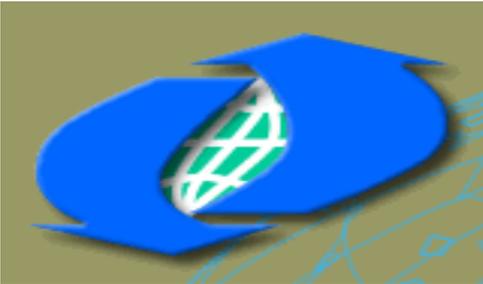
# Credits on mobile phone



Commercial interests are discovering the advantages of direct credit clearing.

**BarterNews**

The Official Journal of the Reciprocal Trade Industry



INTERNATIONAL RECIPROCAL TRADE ASSOCIATION



The Business Exchange

# OTHER LOCAL CURRENCIES



LETS System (Mutual Credit). And there are much more types!!

# Introduction

- Normally, the CCs are issued by a group of local activists or an organization and one of the characteristics is their limited area of circulation.
- By types, the CCs could be fully backed by the national currency, backed by guarantees from members of the exchange system, backed by goods or backed by services.

# Introduction

The **significant of the CC system** are:

- a. The CC system has potential to reduce the currency monopoly and instability caused by the fiat money and frees the society from the system based on debt and interest.
- b. The implementation of the CC system will ease the transaction among business-to-business and individual-to-business.
- c. The provision of a complementary system will strengthen the local economy and reduce the socio-economic problems by enhancing the community's quality of life.

# Introduction

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- Looking at the economic background of the Orang Asli group, which mainly based on agricultural activities, it is proposed that the model of complementary currency (CC) might be suitable in an attempt of improving the economic development of the community.

# Literature review

- Complementary currency systems were borne from the social, economic, and environmental dynamics that existed in the late 1980s and early 1990s. To some degree, they reflect the interests of various social movements, evolving during the same period.
- The CC movement has been growing rapidly since the 1990s, and includes a ***diverse range of systems in developed and developing countries (DeMeulenaere, 2007).***

# Literature review

- Since the early 1980s a range of ***different complementary currencies have emerged***, many of them from civil society (see ***Kent, 2005; North, 2010; Schroeder, Miyazaki & Fare, 2011***). Such currency systems have been researched from a variety of different perspectives, such as ***policy tools (Williams et al., 2001)*** and ***social movements (North, 2006)***.
- Many of these have explicit links to ***sustainability objectives and the green movement (Helleiner, 2000; Longhurst & Seyfang, 2011; North, 2010; Seyfang, 2009)***

# Research Objectives

- ❑ To proposed few CC models to *Orang Asli* community in Malaysia and
- ❑ To assess the probability that the members of community will accept the proposed models of the CC.
- ❖ To achieve the objectives, survey questions are designed and primary data are collected through a survey on a sample of *Orang Asli* population. The analysis of data is conducting using Structural Equation Modeling by **adapting Technology Acceptance Model (TAM) and Logit regression**

# Data and methodology

- The **survey questions** are designed to measure the acceptance level of the community if the complementary currency system were to be introduced for their economics activities.
- **Collection of data:** The scope of this research is focused on the *Orang Asli* with the largest number of hardcore poverty, which is recorded at 7,321 out of their total population of 178,197

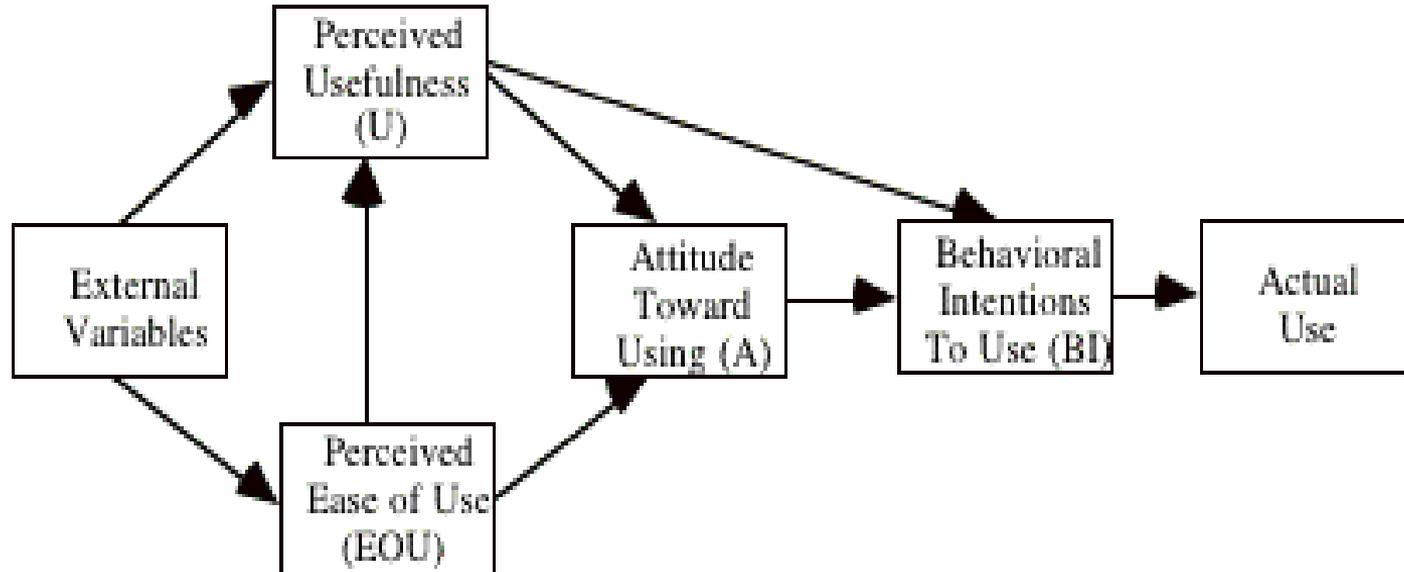
# Data and methodology

- Using formula by Yamane (1967), using the population size of 7,321 (the hardcore poverty number) and 5 per cent level of precision or sampling error, it is suggested that the **minimum sample size is 379**.
- However, the present study able to collect the data from **almost all states of Peninsula Malaysia** more than the suggested size, that is, **1082**.

# Data and methodology

- The quantitative analysis is conducted by using **Technology Acceptance Model (TAM)**. TAM, is a theoretical model explains and predicts user behavior of technology and it is considered an influential extension of theory of reasoned action (TRA).
- TAM provides a basis with which one traces how external variables influence belief, attitude, and intention to use. Two cognitive beliefs are posited by TAM: ‘**perceived usefulness**’ and ‘**perceived ease of use**’.

# Technology Acceptance Model (TAM), (Davis, 1989).



# Data and methodology

- The present study uses TAM as a tool to investigate attitude of indigenous people (Orang Asli) of Malaysia towards the proposed CC model. It attempts to answer the following **research questions**:
  1. What are the main constructs that are affecting *Orang Asli* intention to use CC model proposed?
  2. What is the degree of strength of the relationship among these constructs?, and
  3. What is the order of importance of these constructs?

# Hypotheses in TAM

- **Hypothesis 1:** *There is a positive and significant relationship between PU and behavioral intention (BI) to use proposed CC.*
- **Hypothesis 2:** *There is a positive and significant relationship between PU and attitude towards using (ATT) the proposed CC.*
- **Hypothesis 3:** *There is a positive and significant relationship between PEOU and attitude towards using (ATT) the proposed CC.*

# Hypotheses

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- **Hypothesis 4:** *There is a positive and significant relationship between attitude toward (ATT) proposed CC and intentions (BI) to use the proposed CC.*
- **Hypothesis 5:** *There is a positive and significant relationship between PEOU and PU of the proposed CC model.*

# Findings

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## **Descriptive analysis**

**Table 1. Distribution of Respondents by demographic variables**

		<b>Frequency</b>	<b>Percent</b>
State	Pahang	73	6.7
	Perak	135	12.5
	Selangor	261	24.1
	Kelantan	332	30.7
	Johor	107	9.9
	Melaka	83	7.7
	Terengganu	50	4.6
	Kedah	41	3.8
Gender	Male	495	45.8
	Female	586	54.2
Marital Status	Single	138	12.9
	Married	919	86.0
	Divorced	12	1.1

		<u>Frequency</u>	<u>Percent</u>
Educational Level	No education	391	36.9
	Primary education	366	34.5
	Secondary education	291	27.4
	Diploma/pre-university	12	1.1
	First Degree	1	0.1
	Postgraduate education (Master/PhD)	0	0
Occupation	Public sector	46	4.3
	Private sector	146	13.6
	Self-employed	460	42.9
	Housewife/homemaker	384	35.8
	Retired	14	1.3
	Student	22	2.1
Monthly income	≤ RM500	575	55.5
	RM501 –RM1,000	355	34.3
	RM1,001 – RM1,500	87	8.4
	RM1,501 – RM2,000	11	1.1
	> RM2000	8	0.8

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**Table 2. Types of Complementary Currency Suitable for Orang Asli Community**

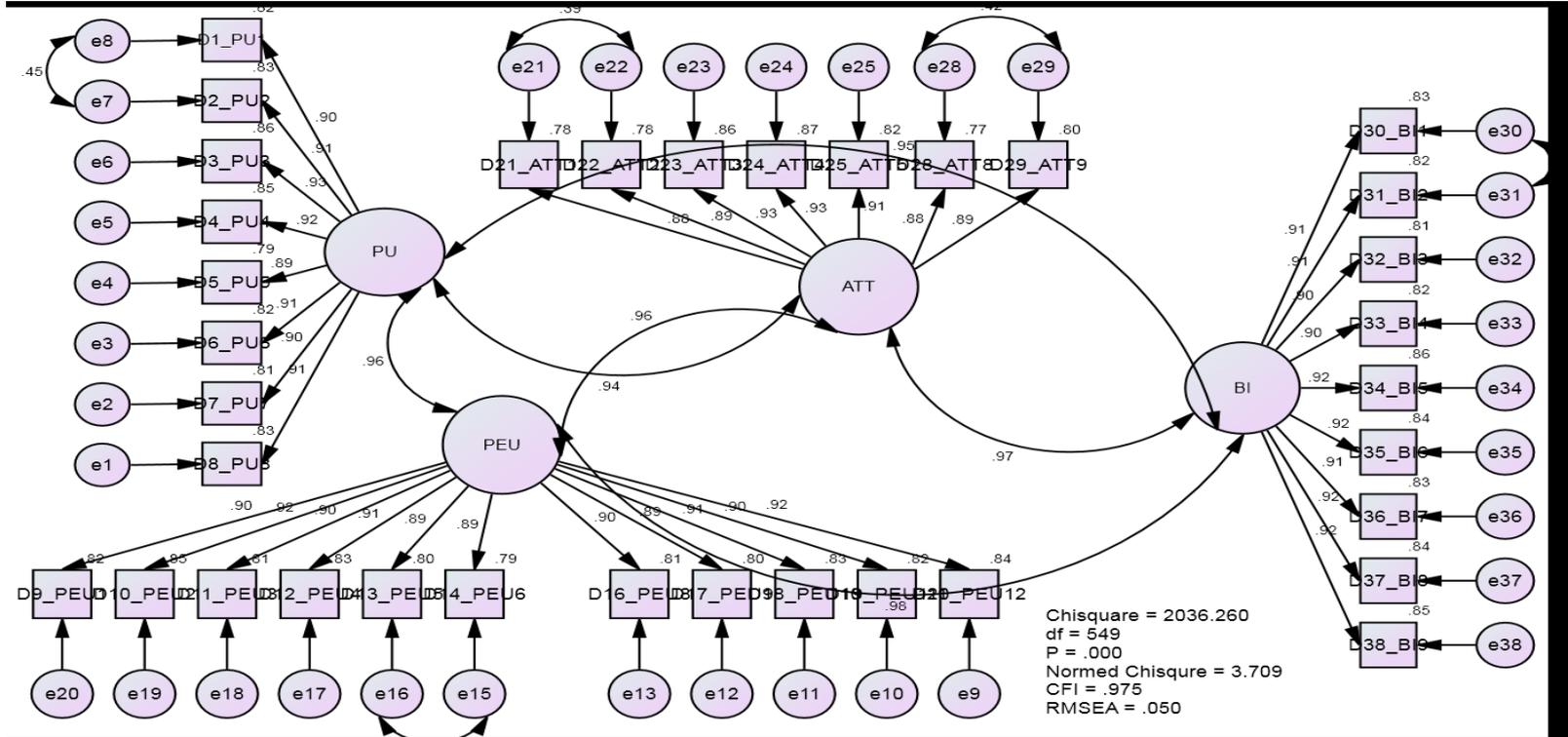
<b>Type of Complementary Currency</b>	<b>Strongly Disagree (SDA)</b>	<b>Disagree (DA)</b>	<b>Agree (A)</b>	<b>Strongly Agree (SA)</b>
Bartering	53 (4.9)	493 (45.7)	479 (44.4)	54 (5.0)
Agricultural product	64 (5.9)	451 (41.8)	501 (46.4)	64 (5.9)
Time/hour	130 (12.3)	539 (51.2)	351 (33.3)	33 (3.1)
Unused tools	68 (6.4)	554 (52.0)	425 (39.9)	19 (1.8)
Unused space of land	206 (19.3)	487 (45.6)	327 (30.6)	47 (4.4)

# Findings

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**TAM**

# Findings



**Table 4: Fit indices for Final Measurement Model**

<b>Model</b>	<b><math>\chi^2</math></b>	<b>Df</b>	<b>Normed <math>\chi^2</math></b>	<b>RMSEA</b>	<b>CFI</b>	<b>Comment</b>
Final MM3	2036.260	549	3.709	0.050	0.975	The required level is achieved

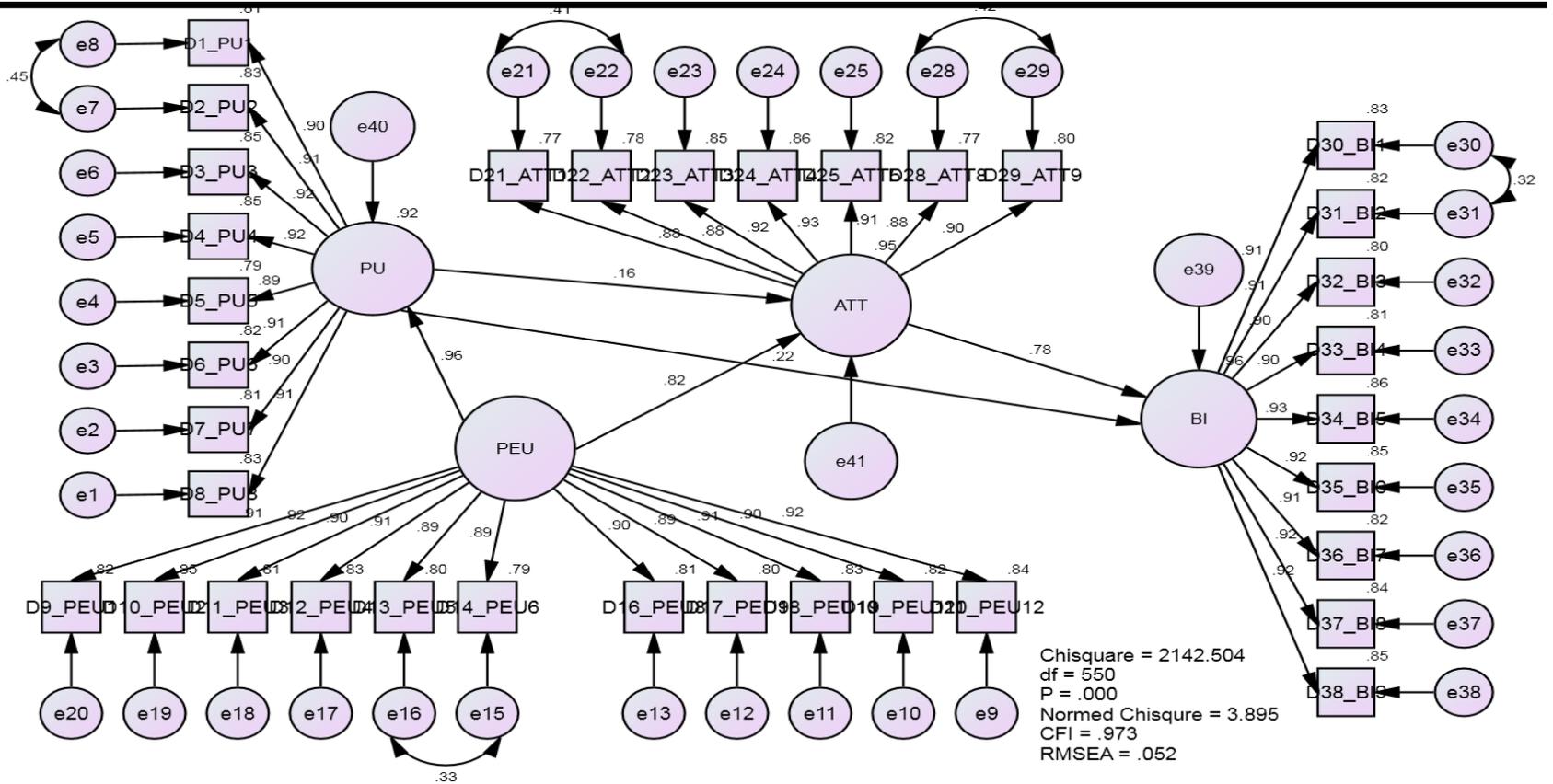
**Table 5: The CFA Results for the Measurement Model**

<b>Construct</b>	<b>Items</b>	<b>Factor Loading</b>	<b>Cronbach Alpha (Above 0.7)</b>	<b>CR (Above 0.6)</b>	<b>AVE (Above 0.5)</b>
Perceived Usefulness (PU)			0.974	0.974	0.825
	PU1	0.903			
	PU2	0.911			
	PU3	0.925			
	PU4	0.923			
	PU5	0.888			
	PU6	0.908			
	PU7	0.900			
	PU8	0.910			
Perceived Ease Of Use (PEU)			0.980	0.980	0.819
	PEU1	0.904			
	PEU2	0.924			
	PEU3	0.902			
	PEU4	0.912			
	PEU5	0.894			
	PEU6	0.889			
	PEU8	0.902			
	PEU9	0.894			
	PEU10	0.913			
	PEU11	0.904			
	PEU12	0.917			

**Table 5: The CFA Results for the Measurement Model**

<b>Construct</b>	<b>Items</b>	<b>Factor Loading</b>	<b>Cronbach Alpha (Above 0.7)</b>	<b>CR (Above 0.6)</b>	<b>AVE (Above 0.5)</b>
Attitude (ATT)	ATT1	0.882	0.969	0.968	0.812
	ATT2	0.885			
	ATT3	0.928			
	ATT4	0.934			
	ATT5	0.907			
	ATT8	0.876			
	ATT9	0.894			
Behavioural Intention (BI)	BI1	0.909	0.978	0.978	0.831
	BI2	0.907			
	BI3	0.898			
	BI4	0.903			
	BI5	0.925			
	BI6	0.919			
	BI7	0.908			
	BI8	0.917			
	BI9	0.920			

# Figure 3: Structural Model



**Table 6: Results of Hypothesis Testing**

<b>Hypothesized Path</b>		<b>Standardized Coefficient</b>	<b>t- value</b>	<b>p-value</b>	<b>Decision</b>
H1	Perceived usefulness (PU) → Behaviour Intention (BI)	0.22	45.71*	0.000	PU and BI are significant and positively related
H2	Perceived usefulness (PU) → Attitude toward behaviour (ATT)	0.16	4.10*	0.000	PU and ATT are significant and positively related
H3	Perceived Ease of Use (PEOU) → Attitude toward behaviour (ATT)	0.82	20.0*	0.000	PEOU and ATT are significant and positively related
H4	Attitude toward behaviour (ATT) → Behaviour Intention (BI)	0.78	6.88*	0.000	ATT and BI are significant and positively related
H5	Perceived Ease of Use (PEOU) → Perceived usefulness (PU)	0.96	20.0*	0.000	PEOU and PU are significant and positively related

Notes: \*p-value < 0.01

# Findings

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**Logit regression**

<i>Independent variables</i>	<b><i>Binary logistic</i></b>	
	<i>Dependent variable: CC CAN BE AN ALTERNATIVE CURRENCY TO RM (Agree=1, Disagree = 0)</i>	
	<i>B</i>	<i>Exp(B)</i>
<i>Constant</i>	9.11 (40194)	9023.9
<i>Dummy_Gender</i>	0.21 (0.32)	1.23
<i>Age</i>	0.01 (0.01)	1.01
<i>Family size</i>	<b>-0.13**</b> (0.05)	0.88
<i>Dummy_agr.product suitable</i>	<b>2.65***</b> (0.29)	14.19
<i>Dummy_unused.tools suitable</i>	<b>1.07***</b> (0.27)	2.94
<i>Dummy_CC shld backed by RM</i>	<b>1.74***</b> (0.49)	5.69
<i>Dummy_CC shld have stable value</i>	-1.18 (0.73)	0.31

<i>Dummy_CC shld be acceptable by community</i>	-1.09 (0.69)	0.34
<i>Dummy_ CC shld be convenience</i>	0.66 (0.75)	1.94
<i>Dummy_CC shld be able to defer transaction</i>	<b>1.33**</b> (0.64)	3.79
<i>Dummy_CC shld be durable</i>	0.68 (0.68)	1.97
<i>Dummy_will use CC if benefit me and family</i>	<b>1.42***</b> (0.49)	4.13
<i>Dummy_heard about CC in Malaysia</i>	-0.39 (0.29)	0.68
<i>Dummy_heard about CC in other countries</i>	0.59 (0.37)	1.80
<i>Dummy_prefer to use RM</i>	<b>-2.63**</b> (1.18)	0.72
<i>Dummy_ever use RM in daily activities</i>	2.06 (3.63)	7.88

<i>Education_none</i>		
<i>Education_primary</i>	-14.86 (40194)	0.00
<i>Education_secondary</i>	-14.16 (40194)	0.00
<i>Education_diploma/pre-U</i>	-14.81 (40194)	0.00
<i>Education_degree</i>	-15.30 (40194)	0.00
<i>Marital_status_single</i>		
<i>Marital_status_married</i>	-0.61 (1.18)	0.54
<i>Marital_status_divorce</i>	-0.77 (1.13)	0.46
<i>Income_&lt;RM500</i>		
<i>Income_up to RM1000</i>	1.83 (1.45)	6.26
<i>Income_up to RM1500</i>	1.31 (1.45)	3.72
<i>Income_up to RM2000</i>	0.94 (1.48)	2.56
<i>Income_&gt;RM2000</i>	<b>5.86***</b> (2.18)	349.02

<i>Job status_public sector</i>		
<i>Job status_private sector</i>	0.26 (1.00)	1.29
<i>Job status_self-employed</i>	0.66 (0.89)	1.94
<i>Job status_home maker</i>	0.85 (0.85)	2.33
<i>Job status_retired</i>	0.36 (0.86)	1.43
<i>Job status_student</i>	-1.78 (1.29)	0.17
<i>% correct classification (Block 1)</i>	88.7	
<i>Omnibus Chi-square stat.</i>	653.59(sig = 0.00)	
<i>Hosmer &amp; Lemeshow Test stat.</i>	2.32 (sig.= 0.97)	
<i>Cox &amp;Snell R-square</i>	0.539	
<i>Negelkerke R-square</i>	0.719	

Note: Standard errors are in parentheses;  
\*\*\*statistically significant at the 1% level; \*\*5% level; \*10% level.

# Conclusion

- From the list of the mechanisms proposed, only '**agricultural products**' is chosen as **suitable complementary currency** among the respondents.
- The **TAM model** is applied using the data collected and it is found that **perceived usefulness** and **perceived ease of use** have **positive effect on attitude to use** the proposed CC. Similar results are found between **perceived usefulness and behavioral intention to use** the proposed CC.

# Conclusion and recommendation

- Thus, through positive attitude toward using CC, the respondent's perceptions on the usefulness and ease of use positively affect the behavioral intention of using the new system.
- Results from logistic regression implies that the **probability to opt for CC as an alternative currency is high using agricultural products as compared to unused tools provided that CC should be backed by national currency and it benefits the respondents and their family members.** The probability of using CC is also **high among higher income respondents but low for those with big family size and those who prefer to use RM.**

# Conclusion and recommendation

- The results are useful to the policy makers to probably introduce the CC model to the community which is at the disadvantages, such as the poor and those whose are badly affected from economic recession. The use of CC might be able to boost their economic activities using the unused resources which match to the unmet wants without using the formal form of money.



Thank You!

The text "Thank You!" is written in a black, elegant cursive script. It is positioned above a series of horizontal brushstrokes in various colors: blue, purple, pink, red, orange, and yellow. The brushstrokes are layered and have a textured, painterly appearance. The entire graphic is set against a light beige, textured background.