# Resigned Marketing in Light of the Circular Economy: An Empirical Investigation of Malaysia and Pakistan

## By

**Muhammad Tahir Jan**

Associate Professor, Department of Business Administration, Kulliyyah of Economics and Management Sciences, International Islamic University Malaysia, Malaysia
Email: tahirjan@iium.edu.my

## Abstract

Due to industrial revolution the production and consumption of products are at all-time high, resulting in the environmental decimation. This damage to the environment can be reduced by following the concept of the "Circular Economy". In this concept the focus is on introducing innovative systems to reduce or even eliminate the harms to the environment at large. As marketing encourages people (consumers) to repeatedly buy and use the products, the impact is devastating. This study, therefore, attempts to introduce and empirically test a redesigned marketing philosophy with the inclusion of circular economy in the established model of the Theory of Planned Behavior. Data were collected and subsequently tested from two countries, namely, Malaysia and Pakistan. The results of this study can be used as a guideline by the marketers and policymakers to device innovative environmentally friendly strategies.

**Keywords**—Circular economy, consumer purchase intention, sustainability, structural equation modelling, TPB, Malaysia, Pakistan

## Introduction

Industrialization, modernization, and social activities have created environmental global issues [1]. To mitigate this impact, the re-examination of the current philosophies is dearly needed [2]. A new and emerging philosophy that can support the aforementioned idea is called "The Circular Economy" [2, 3]. It is a long-term process to do the transition from linear economy to circular economy through more formational and multi-dimensional socio-technical systems, which are established to shift the existing processes of production and consumption to circular economical production and consumption [4].

Consumption in light of circular economy is to emulate the natural procedure of the biosphere in line with the conditions of biomimicry that seek a sustainable solution to material issues, more specifically, marketing issues [3, 5]. The concept of circular economy from a marketing perspective is a clear redesigning of the existing marketing models with the focus on recycling, re-using, and refurbishment within the production system, as well as, in the consumption cycles [3, 6].This study, therefore, attempts to develop and test an extensive model for circular economy, specifically from a consumer perspective. For this purpose, a well-established Theory of Planned Behavior (hereafter, TPB) [7] is adapted with the addition of two more variables related to circular economy, namely, convenience and environmental impact [2, 3].

The main objective of the study is to empirically test the impact of attitude, subjective norms, perceived behavioral control, convenience, and environmental impact on the purchase intention of circular economy products.

# literature review

A brief overview of the extant literature related to the underlying theory (i.e., TPB), the circular economy, and marketing is highlighted in this section. Further, hypotheses are also presented along with the framework of the study.

One of the most widely researched theories that predicts human and social behavior is the TPB, initially established by [7]. The TPB contains three independent variables, namely, attitude, subjective norms, and perceived behavioral control that impacts intention and subsequently behavior[7]. The present study replicated the model of [2], where behavior as an ultimate dependent variable was not examined. Rather, [2] included other independent variables in the original TPB to see their impact on intention. This is mainly because behavior is considered a post-purchase phenomenon and could be used later when circular economy products are widely available and accepted. Moreover, [8] argued that purchase intention is an important enabler of the circular economy models.

Purchase intention, which is a dependent variable in the present study, is a person's perception of his or her conscious plan in performing an action [9]. The first independent variable, attitude, is one of the most important antecedent of purchase intention. According to [9], it is a positive or negative aspect of an individual's intention of interest and is considered a strong predictor of purchase intention towards green products [10]. Many studiessee e.g., [11, 12, 13] examined peoples' attitude towards the purchase intention of green products and found a significant association between the two.

Subjective norm, another independent variable, is a person's perception of the social pressure when making a purchase decision [10]. According to [7], it is a person's belief about what others will think in case of performing certain tasks. It is even a more important variable in collectivist countries like Malaysia and Pakistan, because of the family and peer pressure one faces when taking certain decisions. Similar to attitude, subjective norm is also proved to have a positive impact on intention to purchase products [14].

Further, the last independent variable of TPB adopted in the present study is perceived behavioral control. It is person's ease or difficulty in performing a specific task [7]. In a circular economy environment, it is considered important because consumer's intention to buy a product dependent on how easy or difficult it is for them to purchase a specific product [3]. Many scholars see e.g., [10, 15, 16] found a positive impact of perceived behavior control of purchase intention.

Researchers [10, 17] suggested to include more exogenous variables in TPB to test its explanatory capacity. That is why, in the present study two more independent variable, namely, convenience, and environmental impact are included in the TPB model [2, 3]. According to [18], convenience is one of the major reasons in determining purchase intention. Similarly, [19] argued that convenience will impact service offerings in the circular economy settings and therefore, significantly influence purchase intention. Past studies [3, 19, 20,21] have incorporated convenience as a leading factor to investigate the TPB framework while considering purchase intention.

The last independent variable of the present study is environmental impact. This factor is carefully selected and added by [2, 3] in the TPB. Confirmed by [22] that a person's environmental impact influences his or her intention to purchase various products. For example, if a person is worried that the purchase and use of a certain product will negatively impact the

environment, he or she will avoid buying it. On contrary, if a person is concerned about the environment, he or she will make sure that buying a certain product will not have any adverse effect on the environment. While environmental impact is considered important leading to purchase intention in the circular economy, it is the production and consumption of sustainable products with the minimum to have a little adverse impact on the environment [23, 24].The current study lay claim on the consumer perspective in a circular economy, it aligned with the scope of the current study that if the consumers are aware of the positive and/or negative impact of a certain product, their purchase intention will influence significantly [1, 2, 3].

Based on the above discussion, the following hypotheses are put forward:

**H1:** Attitude will have a positive impact on the purchase intention of circular products.
**H2:** Subjective norms will have a positive impact on the purchase intention of circular products.
**H3:** Perceived behavioral control will have a positive impact on the purchase intention of circular products.
**H4:** Convenience will have a positive impact on the purchase intention of circular products.
**H5:** Environmental impact will have a positive influence on the purchase intention of circular products.

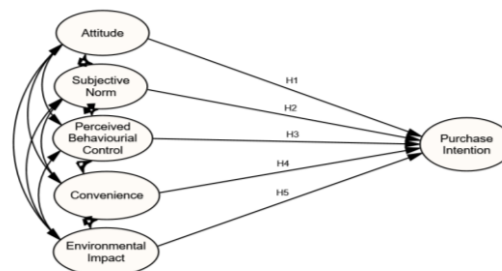Figure 1 presents the model of this research.



**Figure 1** *Redesigned Tpb In Light Of Circular Economy*

# Methodology

A non-probability sampling method using Convenience sampling technique was used to collect data from two different countries, namely, Malaysia and Pakistan. The respondents were approached by the research and the appointed assistants in the shopping malls and universities. First, the motive behind the research was explained to them, and then they were given a self-administered structured questionnaire. The respondents were asked to think of some circular products like reusable straws, edible straws, reusable water bottles, paper bags, reusable cotton bags, rechargeable batteries, etc. before answering the questions about their purchase intention. In both countries, the researcher adopted a green and sustainable method to collect the data in the form of soft copies only. A total of five hundred (500) questionnaires were distributed in Malaysia and Pakistan each respectively. Three hundred and seventy-seven (377) were finally selected for data analyses in Malaysia, and three hundred and eighty (380) were selected for data analyses in Pakistan.

### Development of the Questionnaire
The instrument of the study for the purpose of collecting data was a self-administered questionnaire. The questionnaire was divided into two main sections. Part 1 of the questionnaire was designed to acquire information on the respondent's profile, and part 2 was

designed to collect data on all the variables examines (i.e., attitude, subjective norms, perceived behavioral control, convenience, environmental impact) towards (purchase intention) as presented in Fig 1. All the items included in the questionnaire were adapted from previous studies and adjusted slightly to suit the context of the present research. Throughout the instrument, a five-point Likert scale (with "1" strongly agree and "5" strongly disagree) was used to measure the level of agreement or disagreement with various items in the variables. A total of n = 377 and n = 380 usable responses were gathered from Malaysia and Pakistan, respectively. Statistical software like SPSS and AMOS version 22 were used for analyses.

## Data Analysis and Results

The first section of the questionnaire was designed to collect data on respondents' profiles, such as age, marital status, education, and income etc. In Malaysia, majority (171 or 45.4%) were above the age of 27 years. Similarly, in Pakistan majority (180 or 47.4%) were also above the age of 27 years. In terms of marital status, in Malaysia (251 or 66.6%) and in Pakistan (266 or 70%) represented majority. The highest level of education recorded postgraduate degree. In Malaysia, 168 or 44.6%, and in Pakistan 169 or 44.5% were in this educational class. More detailed results related to the respondents' profile for both countries are provided in Table 1.

**Table 1** *Respondent Profile Malaysia And Pakistan*

| Items | | Malaysia (n= 377) Frequency (%) | Pakistan (n=380) Frequency (%) |
|---|---|---|---|
| **Age** | 18 - 21 | 51 (13.5%) | 45 (11.8%) |
| | 22 - 24 | 70 (18.6%) | 67 (17.6%) |
| | 25 - 27 | 85 (22.5%) | 88 (23.2%) |
| | 27 and above | 171 (45.4%) | 180 (47.4%) |
| **Status** | Single | 119 (31.6%) | 114 (30.0%) |
| | Married | 251 (66.6%) | 266 (70.0%) |
| | Divorced | 7 (1.9%) | 0 (0%) |
| **Education** | Undergraduate | 87 (23.1%) | 91 (23.9%) |
| | Postgraduate | 168 (44.6%) | 169 (44.5%) |
| | Doctoral PhD | 34 (9.0%) | 40 (10.5%) |
| | Others | 88 (23.3%) | 80 (21.1%) |
| **Income** | RM1000 or below/ <PKR10000 | 87 (23.1%) | 66 (17.4%) |
| | RM1001-3999/ PKR 10001 - 39999 | 157 (41.6%) | 111 (29.2%) |
| | RM4000-5999/ PKR 40000 - 59999 | 71 (18.8%) | 131 (34.5%) |
| | RM6000-9999/ PKR 60000 - 99999 | 39 (10.3%) | 72 (18.9%) |
| | Above RM10000/ >PKR100000 | 23 (6.1%) | 0 (0%) |

### Reliability Test

Reliability test is used a part of the data analysis in order to establish the consistency and stability of the scale. This study used Cronbach's Alpha as a test of reliability of the questionnaire with the threshold value of 0.7 or above as recommended by [25]. The results of the reliability tests revealed a reasonably high value of 0.959 and 0.954 for Malaysia and

Pakistan, respectively. The aforementioned values attest the stability of the research instrument for data analysis. Table 2 presents the Cronbach's Alpha reliability results.

**Table 2** *Reliability Test – Malaysia And Pakistan*

| Country | Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | No of Items |
|---|---|---|---|
| **Malaysia** | .958 | .959 | 27 |
| **Pakistan** | .954 | .954 | 29 |

### *Exploratory Factor Analysis (EFA)*

Exploratory factor analysis (hereafter, EFA) is a crucial step to explore the underlying factors in the collected data. However, before EFA, the pre-assumptions are to check Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity (hair et al 2013). Once the result of Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity are acceptable, then EFA is performed. In the present research, KMO resulted in the value of 0.943 and 0.929 for Malaysia and Pakistan, respectively, attesting the appropriateness of data for performing EFA.

For both the countries, EFA emerged with clean six factors, as envisaged. However, the structures and loadings are different for both the countries. As for the total extracted variance, Malaysian dataset resulted in a value of 79.56%, whereas, Pakistani database resulted in a value of 78.60%. The EFA of Malaysia emerged with six factors in which the first factor was subjective norm with six items, the second factor was purchase intention with five items, the third factor was perceived behavioral control four items, the fourth factor was environmental impact with four items, the fifth factor was attitude with three items, and the last and sixth factor was convenience with four items. In a similar manner, the EFA of Pakistan also resulted in clean six factors where the first factor was subjective norm with six items, the second factor was purchase intention with five items, the third factor was attitude with five items, the fourth factor was environmental impact with five items, the fifth factor was perceived behavioral control with four items, and the last and sixth factor was convenience with four items.

### *Confirmatory Factor Analysis (CFA)*

After the successful EFA, the extracted factors from both the countries were moved to the next step and that was to confirm these factors using a structural equation modelling two-step approach called confirmatory factor analysis (hereafter, CFA). AMOS software was used with Maximum Likelihood Estimation (MLE). The fitness of the measurement model was evaluated based on the goodness-of-fit indices recommended by various scholars [26, 27, 28].The fit indices considered to assess the present measurement model were chi-square ($\chi^2$), normed chi-square ($\chi^2$/df), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). The result of the final measurement model for both Malaysia and Pakistan are presented in figure 2a and figure 2b, respectively.
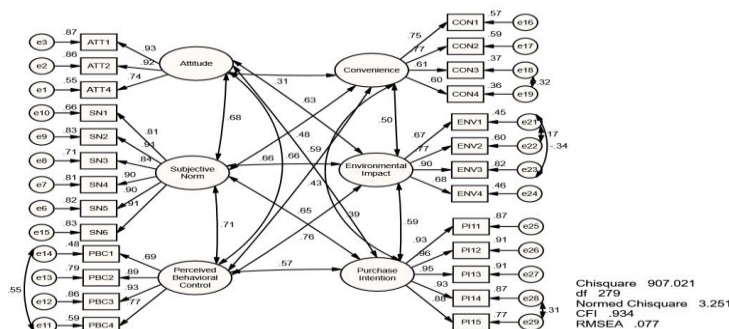


**Figure 2a.** *Measurement Model – Malaysia*

Based on the result of the measurement model of the present research, all the fit indices were above the acceptable threshold for the data collected from both countries. In the case of Malaysia, the normed chi-square ($\chi^2$/df) value is 3.251, which is below 5.0. Similarly, CFI is 0.934, which is above the recommended value of 0.90. Lastly, RMSEA emerged with a value of 0.077, which is also below the acceptable value of < 0.08.
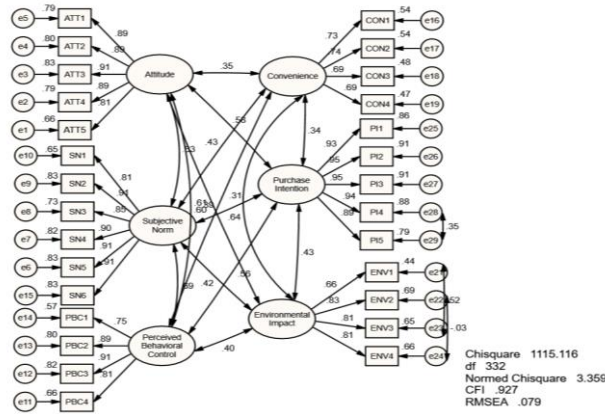


**Figure 2b**. *Measurement Model – Pakistan*

The observation of the similar indices for Pakistan shows that the normed chi-square ($\chi$2/df) value is 3.359, which is below 5.0. Similarly, CFI is 0.27, which is below the recommended value of 0.90. Lastly, RMSEA emerged with a value of 0.079, which is also below the acceptable value of < 0.08. Comparing the results of CFA of the models from both countries show that the Pakistan model resulted in a slightly better fit compared to that of the Malaysian counterpart.

### Hypotheses Testing

As mentioned, that this study adopted a two-stage structural equation modelling (hereafter, SEM) approach, where the measurement model (aka, CFA) is first fit and confirmed, and then full-fledged structural model is tested along with hypotheses. For structural model fitness, the normed chi-square ($\chi^2$/df), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) were considered for both Malaysia and Pakistan. The final structural models are presented in Figure 3a and Figure 3b followed by the result of hypotheses testing, which is presented in Table 4a and Table 4b.
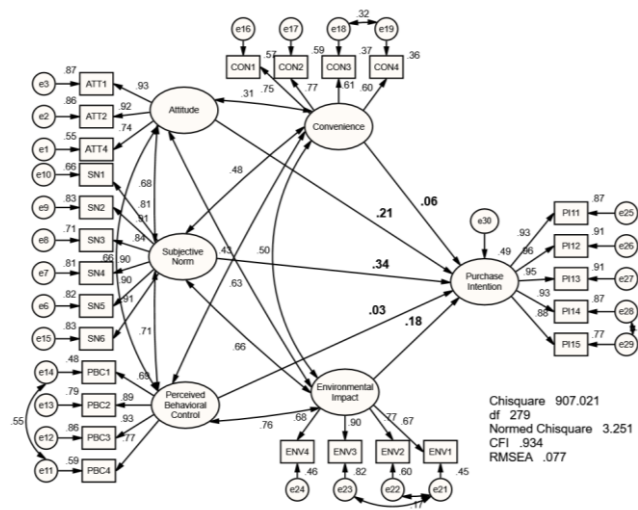


**Figure 3a.** *Structural Model – Malaysia*

The result of the structural model (Malaysia) revealed that the model fits the data very well, where all the goodness-of-fit indices were acceptable. In this case, the normed chi-square ($\chi^2$/df) = 3.251, the comparative fit index (CFI) = 0.934, and the root mean square error of approximation (RMSEA) = 0.077. All the aforementioned indices are acceptable, attesting the appropriateness of the Malaysian structural Model (see Figure 3A).
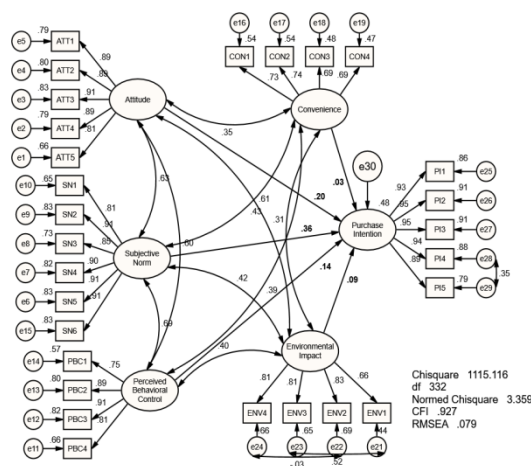


**Figure 3b.** *Structural Model – Pakistan*

Similarly, the final structural model of Pakistan also emerged with a good fit, as presented in Figure 3B. In this case, the normed chi-square ($\chi^2$/df) = 3.359, the comparative fit index (CFI) = 0.927, and the root mean square error of approximation (RMSEA) = 0.079, establishing the fitness of the proposed model.

Further, three out of the total five structural paths were statistically significant in the Malaysian structural model, and a similar number of supports was there in the Pakistani structural model too. However, the supported three hypotheses were different in both the countries. In case of Malaysia, attitude, subjective norm, and environmental impact were supported with the P-value of 0.001, 0.0001, and 0.025, respectively. In Malaysian context, the present research didn't find enough evidence to support the impact of perceived behavioral control and convenience on purchase intention of circular economy products. Therefore, it is clear that in Malaysia only three (3) out of the total five (5) hypotheses are supported. The supported hypothesis is H1 (attitude has a positive impact on consumer purchase intention), H2 (subjective norm has a positive impact on consumer purchase intention), and H5 (environmental impact has a positive effect on consumer purchase intention). There was not enough evidence to support H3 (perceived behavioral control has a positive impact on consumer purchase intention) and H4 (convenience has a positive impact on consumer purchase intention).

In case of Pakistan, attitude, subjective norm, and perceived behavioral control were supported with the P-value of 0.002, 0.0001, and 0.029, respectively. The current research didn't find enough evidence to support the impact of convenience and environmental impact on purchase intention of circular economy products, in a Pakistani context. Therefore, the supported ones are H1 (attitude has a positive impact on consumer purchase intention), H2 (Subjective norm has a positive impact on consumer purchase intention), and H3 (Perceived behavioral control has a positive impact on consumer purchase intention). There was not enough evidence to support H4 (convenience has a positive impact on consumer purchase intention), and H5 (environmental impact has a positive effect on consumer purchase intention).

# Discussion

Theory of Planned Behavior (TPB) with the addition of two independent variables (convenience and environmental impact) was investigated in the context of circular economy using a sample data from Malaysia and Pakistan. The extended TPB (with the addition of two variables related to circular economy) has enhanced durability and predictiveness of purchase intention of circular products for the Malaysian sample, whereas, this addition (two new variables of circular economy) was less important in the Pakistani context because both the variables did not predict purchase intention. However, it is of high import to note that in both the countries this extended TPB with the addition of two new variables related to circular economy fitted well during structural equation modelling.

Further, in both the countries subjective norm impacted purchase intention significantly. It means that family, friends, and peers in both nations play an important role in devising the purchase intention. This is due to the fact that both the countries belong to a collectivist environment. Previous studies also attest this strong influence of subjective norm on purchase intention [3, 10]The findings of this research will help policymakers in designing strategies for consumers when marketing products aligned with the philosophy of the circular economy.

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