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A CONSUMER PERSPECTIVE OF THE CIRCULAR ECONOMY: AN EMPIRICAL INVESTIGATION THROUGH STRUCTURAL EQUATION MODELLING

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Presentation Outline

1. Introduction
2. Literature Review
3. Framework
4. Methodology
5. Findings
6. Conclusion and recommendations

Background of the Study

- Today the world is faced by numerous challenges, especially due to the increased consumption with almost no solid method of recycling the waste produced by the products.
- Produce large quantity > Convince people to buy > The linear economic system or The Linear Economy.
- The linear economy sounds good, at least from a “Financial Perspective”.

But what is the result of this system?

Enormous damage to the environment
and the generation to come

How to solve this problem?

To mitigate the impact of the linear economy, a new approach was introduced called “**THE CIRCULAR ECONOMY**”.

What is The Circular Economy?

An economic system where the focus is on re-use, repair, refurbishment, and recycling (EMF 2013).

Problem Statement

- Lack of consensus when it comes to the definition of the circular economy.
- The existing business models should be redesigned from linear (which results in waste) to circular (which reduces/ reuses waste) (Chamberlin and Boks 2018).
- The existing models are mostly from the perspective of the organisations or businesses, completely neglecting the consumer perspective

Research Objective

An attempt to bring-in the consumer perspective by empirically investigating factors related to the purchase of circular products and examine their influence on consumer purchase intention.

LITERATURE REVIEW

The Circular Economy

- Products produced in the linear system lose its value, especially at the end of its life, making it compulsory to dispose it off and eventually harm the environment (Bocken et al. 2016).
- The linear models lead to the increase in production and consumption, which consequently degrade the environment (Ekins et al. 2016).
- Therefore, new systems and models are required where the outputs become the inputs of another process, eliminating the need for new material, thus reducing waste.
- The circular economy evolved to address these issues.
- The emphasis is on slowing or closing the flow loops through extended product life cycles, designs for dis-assembly, and encouraging sufficiency (Chamberlin and Boks 2018)

Definition of The Circular Economy

“a regenerative system in which resource input and waste, emission, and energy leakage are minimised by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling.”

(Geissdoerfer et al. 2017, 579)

Marketing & The Circular Economy

- There are many philosophies of marketing, from production orientation to societal marketing (Armstrong et al. 2018), and quality-of-life marketing (Jan and Zain 2011; Lee and Sirgy 2004; Sirgy 2001).
- The concept of marketing aligned with the philosophy of circular economy is societal marketing where the focus is on bigger social welfare and positive behavioural change for the benefit of the society (Peattie and Peattie 2009).

The present research attempts to use the theory of planned behaviour (TPB) in order to find out those significant factors that have an influence on consumer purchase intention of the circular products.

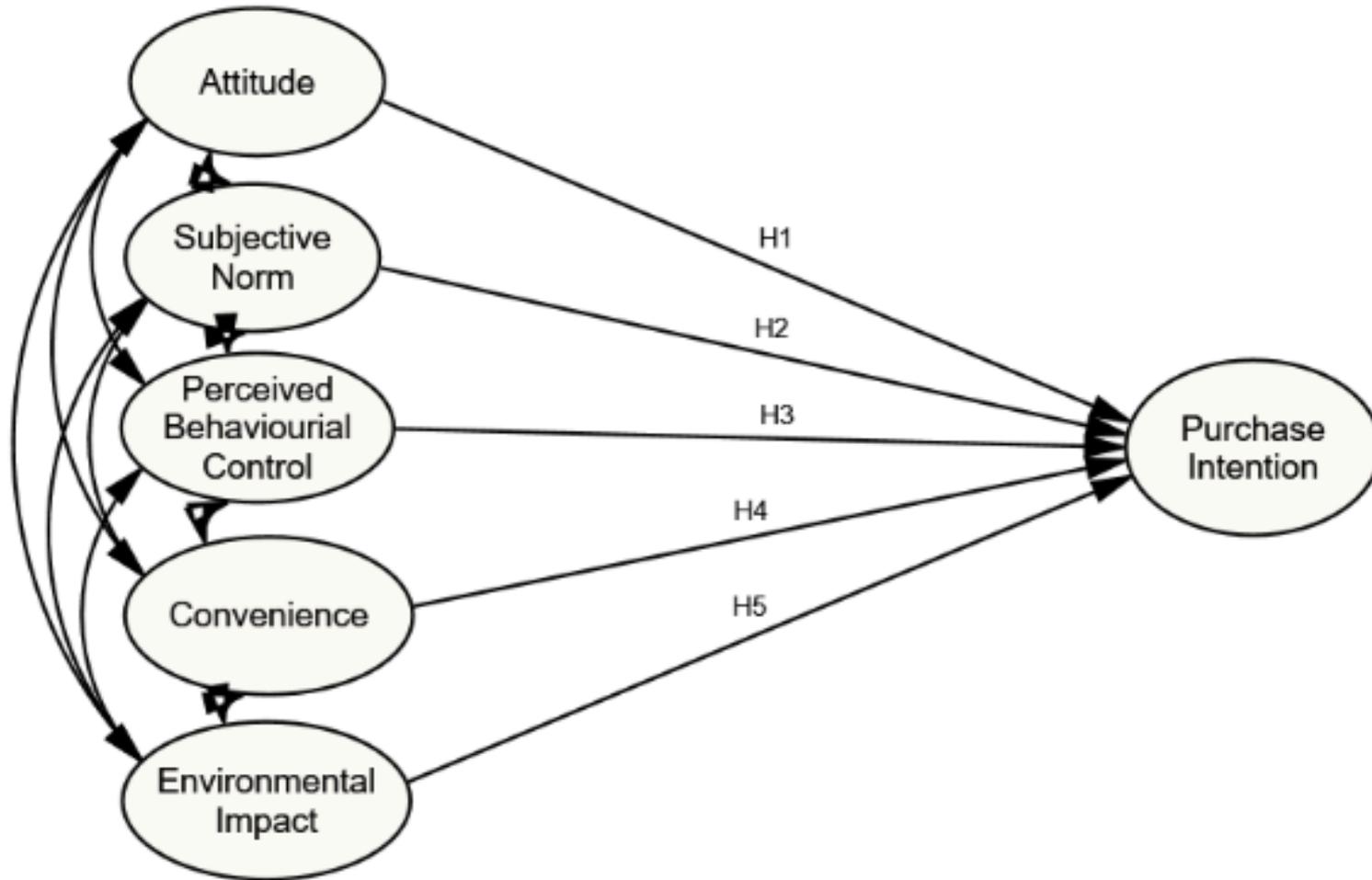
Main Factors

| FACTORS | DEFINITION / SOURCE |
|-------------------------------|--|
| Purchase Intention | Intention is a person's perception of his/her conscious plan or decision in performing a certain behaviour or action (Ajzen 1991). |
| Attitude | The degree of positive or negative feelings an individual has towards the behaviour of interest (Ajzen 1991) |
| Subjective Norm | A person's belief about what others will think of him/her in the event of performing a task or behaving in a certain manner (Ajzen 1991) |
| Perceived Behavioural Control | A person's perception about the ease or difficulty of performing a task. It is an individual's perception of the inhibited obstacles in the performance of a certain behaviour (Ajzen 1991). |

Extension of TPB

| FACTORS | DEFINITION / SOURCE |
|------------------------------|--|
| Convenience/ Availability | The ease of getting access to a product or how much efforts are put by the consumers before gaining initial access to the product (Chamerlin and Boks 2018). |
| Environmental Impact | Environmental impact means the understanding of consumers toward purchasing and consuming products with no adverse effect on the environment (Groening et al. 2018). |

Proposed Model



Research Methodology

| | |
|------------------------------------|---|
| Research Design | Quantitative Research Design |
| Sampling Method | Convenience Sampling |
| Data Collection Method | Self-administered survey method (soft copy) – Respondents were requested to think about any circular product, e.g., reusable straws, edible straws, reusable water bottles, paper bags, reusable cotton bags, and rechargeable batteries, etc. before answering the questions about their purchase intention. |
| Sample size | <ul style="list-style-type: none"> • Total distribution questionnaires = 500 • Selected for final data analysis = 377 |
| Questionnaire Design | Self-administered questionnaire (Soft copy) |
| Questionnaire Items/Sources | Adapted from previous established studies |
| Scale Measurement | Five point Likert scale is employed in this study (ranging from 1=Strongly Disagree to 5= Strongly Agree). |
| Data Analyses | SPSS AMOS |

Major Descriptive Analysis

Gender: **Males = 63%**

Age group: **Thirty (30) years and Above = 45.4%**

Education level: **Postgraduate degree = 44.6%**

Marital status: **Married = 66.6%**

Income level: **RM 1000 to RM 4000 = 41.6%**

Reliability Test

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | No. of Items |
|-------------------------|---|---------------------|
| 0.958 | 0.959 | 27 |

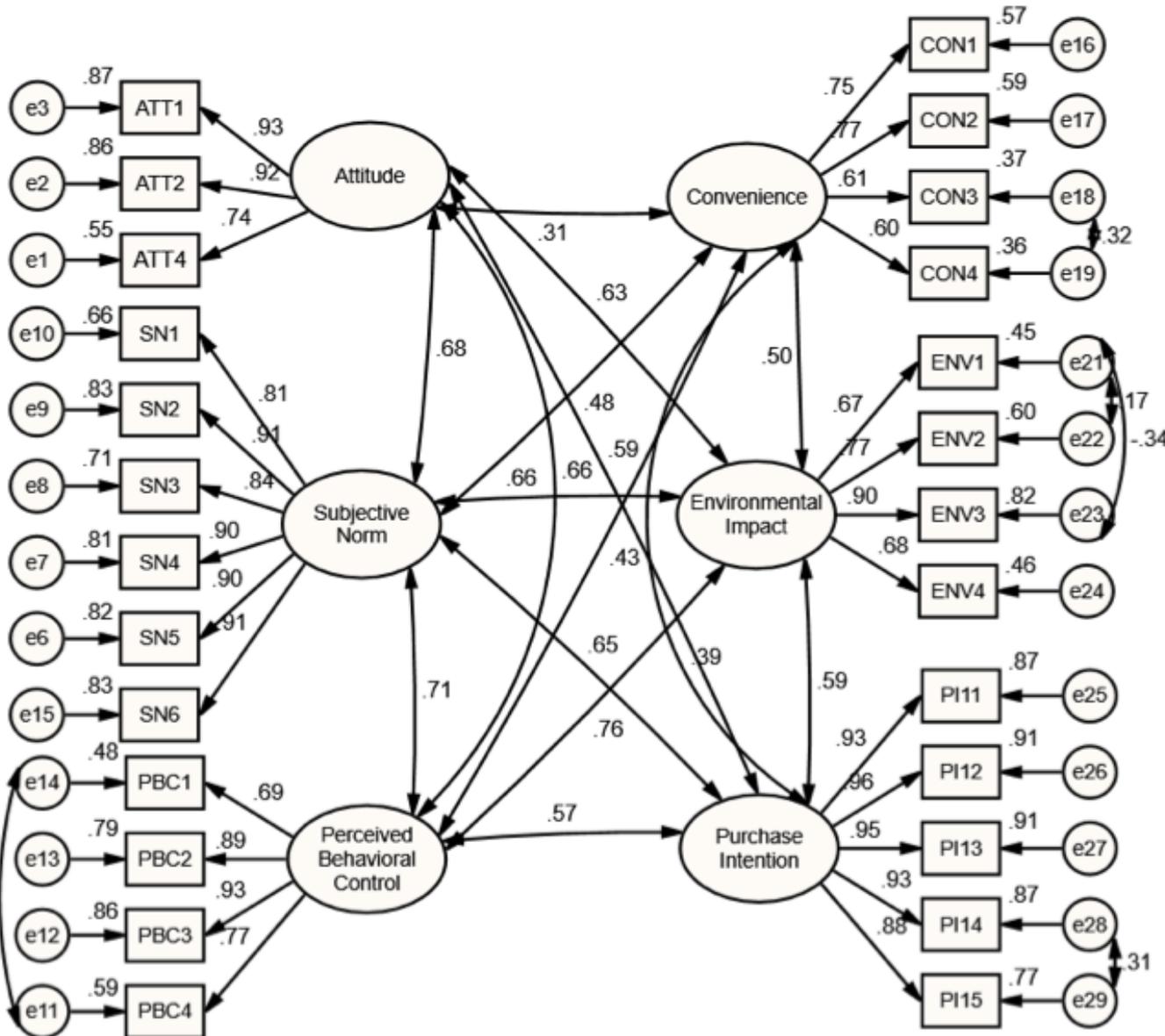
Exploratory Factor Analysis (EFA)

EFA resulted in a clean **six-factor structure**, as originally envisaged, using the criteria of eigenvalue >1 . The total variance of these six extracted factors was **79.56%**, and all the items loaded on their respective factor than on any other factor.

FACTORS:

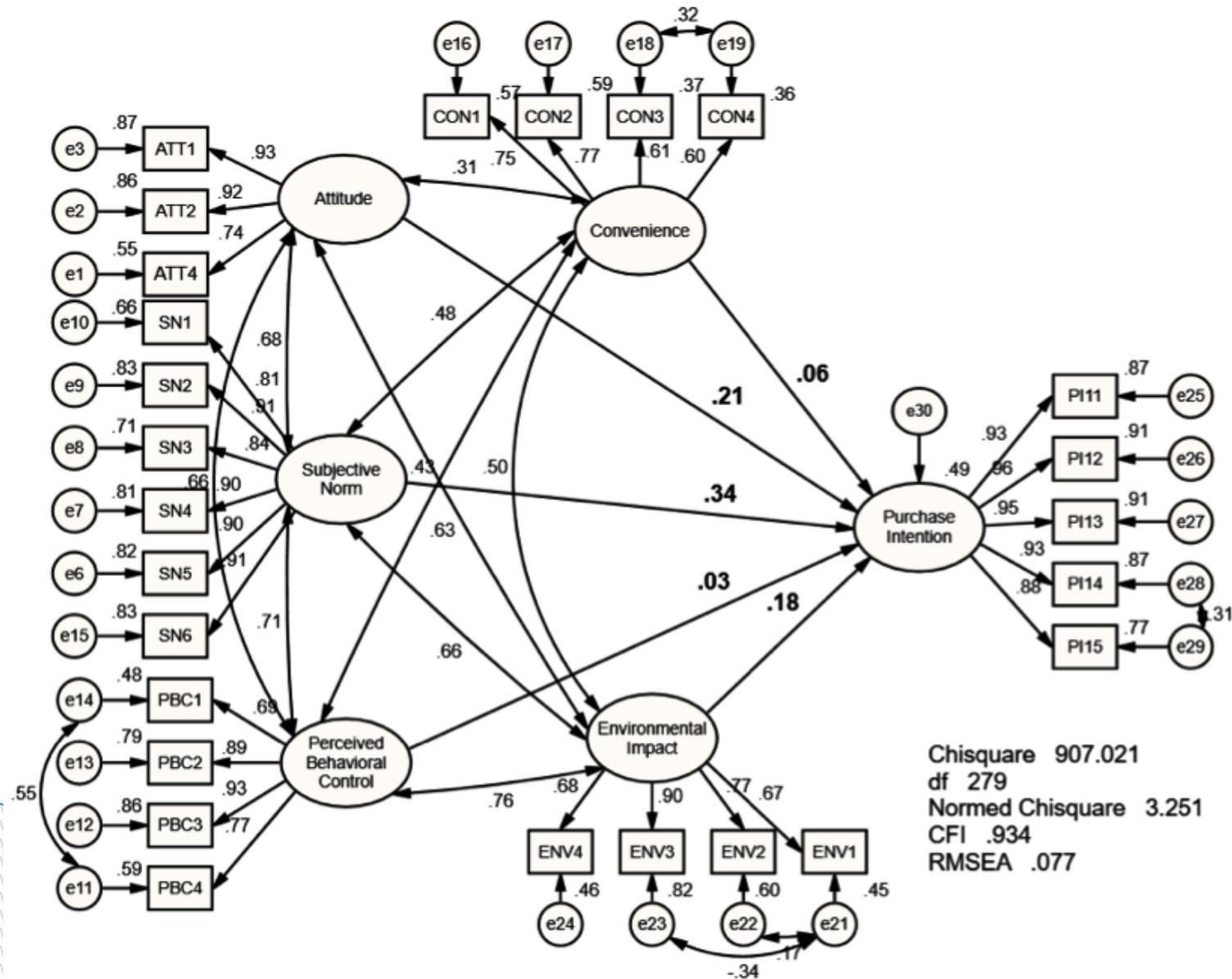
1. Subjective Norm
2. Purchase Intention
3. Perceived Behavioural Control
4. Environmental Impact
5. Attitude
6. Convenience

Confirmatory Factor Analysis (CFA)



Chisquare 907.021
 df 279
 Normed Chisquare 3.251
 CFI .934
 RMSEA .077

Final Structural Model



Hypotheses Testing

| Structural path | Hypothesised Relationship | Std. Reg. Weight | S. E. | C. R. | P |
|---|---------------------------|------------------|-------|-----------------|--------------|
| Attitude → Purchase Intention | H1^s | 0.208 | 0.088 | 3.291 | 0.001 |
| Subjective Norm → Purchase Intention | H2^s | 0.342 | 0.073 | 4.984 | *** |
| Perceived Behavioural Control → Purchase Intention | H3^{ns} | 0.032 | 0.101 | 0.412 | 0.68 |
| Convenience → Purchase Intention | H4^{ns} | 0.064 | 0.071 | 1.157 | 0.247 |
| Environmental Impact → Purchase Intention | H5^s | 0.175 | 0.137 | 2.245 | 0.025 |
| Statistic | | Suggested | | Obtained | |
| Chi-square significance | | ≥ 0.05 | | 0.000 | |
| Normed chi-square (CMIN/df) | | ≤ 5.00 | | 3.251 | |
| Comparative fit index (CFI) | | ≥ 0.90 | | 0.934 | |
| Normed fit index (NFI) | | ≥ 0.90 | | 0.907 | |
| Root mean error square of approximation (RMSEA) | ≤ 0.08 | | 0.077 | | |
| s = Supported at p < 0.05, ns = Not supported | | | | | |

Conclusion & Recommendations

- ❑ The findings of this research attest the importance of subjective norm when it comes to consumers' intention in purchasing circular products or products produced with the philosophy of the circular economy.
- ❑ The present study also established the importance of the attitude of consumers towards their intention to buy circular products.
- ❑ Environmental impact has an inevitable role in the purchase intention of circular products.
- ❑ It is recommended that policy makers, practitioners, and global organisations focus on consumers' attitude, their peers, and the awareness towards environmental impact of products.

Thank you.