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Understanding Consumer Behaviour and Its Influence on Mobile Phone Re-manufacturing: A Comprehensive Review

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Abstract: The spread of e-waste has become a major global problem, the main cause of which is obsolete mobile phones. This review examines the factors influencing consumer behaviour towards recycling and purchasing refurbished mobile phones, especially in developing countries such as India, where mobile phone penetration is expected to increase to 92.6% by 2030. Despite the environmental damage caused by improper disposal of mobile phones. mobile phones containing toxic substances such as lead and cadmium have significant recycling potential due to valuable materials such as gold, silver and copper. This study uses the Extended Theory of Planned Behaviour (ETPB) and examines how attitudes, subjective norms, perceived behavioural control, environmental concerns, and past behaviour shape consumers' intentions to purchase refurbished cell phones. Data collection using standardized questionnaires and rigorous statistical analysis, including structural equation modelling (SEM), provides insight into the factors influencing consumer behaviour in the industry. The results emphasize the importance of promoting sustainable consumption practices and effective e-waste management strategies to reduce environmental impact and reap the economic benefits of mobile phone recycling.

Keywords: Remanufactured mobile phones, Consumer behaviour, Theory of Planned Behaviour (TPB), Environmental sustainability, Structural Equation Modelling (SEM), Circular economy.

Introduction

These days, e-waste ranks among the world's most significant and rapidly expanding waste types [14]. The most common electronic product across all categories is the outdated cell phone [15]. India's rate of mobile phone

penetration reached 76.6% in 2022. The quick advancement of technology is what propels both the simultaneous increase in mobile phone functionality and the decrease in cost [1]. Customers change their phones more frequently as a consequence. According to PDA (People's Daily Online), there will be around 206 million outdated mobile phones in India by 2022, with a recycling rate of only 5%. Used mobile phones are hazardous compared to other municipal garbage because they contain lead, cadmium, and other compounds that, if improperly disposed of, might seriously damage the environment and human health. However, discarded mobile phones may be recycled since they contain a variety of precious elements, including gold, silver, copper, and others [16]. consequence. According to PDA (People's Daily Online), there will

Globally, the number of people using mobile phones has surged dramatically, rising from over 500 million in 2000 to approximately 7.2 billion in 2021. [6]. In developing countries, a mobile phone's useful life is generally around three years, whereas in industrialized nations, it is less than two years. Therefore, it's possible that the majority of cell phones that end up in waste streams still have worth (in terms of functionality and strength). Therefore, if appropriately sorted and separated, they can be recovered, reused, or recycled [17]. Printed circuit boards (PCBs), the display unit, the battery, the front and rear casings, and other components make up a basic mobile phone. About half of the materials in mobile phones are made of plastic; the remaining portion is made of other materials [18]. PCB's contain a wide range of metals, including Ag, Au, Cu, Fe, and Pt. [19]. Roughly 80% of the materials used in mobile phones may be recycled successfully, according to studies and research [6].

Many consumers may purchase a new phone in an attempt to upgrade its features due to the ongoing advancements in technology and its affordable pricing [20]. As a consequence, the time between phone replacements has been cut to 9–18 months [7]. Due to its tiny size, mobile phones are typically kept at home by their owners when recycling is not a top priority. China is predicted to have 937 million mobile phones by 2025, up from the 800 million outdated phones that were produced in 2017 [15].

As the educated public grows increasingly aware of their duty to protect the environment, green consumerism is starting to gain traction. To reduce their carbon footprints, people are embracing eco-friendly habits like using eco-friendly items. According to Kim et al. [21]and Shamdasani et al. [22], "green products" are sustainable or eco-friendly goods that don't hurt the environment or deplete natural resources and may be recycled or preserved. It is crucial to research consumer intentions and behaviours toward green products in emerging economies because social, cultural, and economic aspects of a society influence how consumers think about and utilize green products, which lays the foundation for green consumerism. It aims to investigate the green buying behaviours (PBs) and intentions (PIs) of young, educated customers in India [5].

Promoting sustainable practices in developing markets requires a grasp of Indian customers' buying intents and behaviour with regard to refurbished and obsolete mobile phones. One way which goes with this remanufacturing which has a

picture of profitability into it.We determine the profitability requirements for remanufacturing by taking into account the following crucial traits of a remanufactured product: (i) Remanufactured products usually offer a low-cost, natural substitute for new products. (ii) Remanufactured goods are often valued less by mainstream consumer sectors. (iii) Remanufacturing is perceived as environmentally friendly as it reuses used materials and produces less waste. As such, it offers a high level of value to a tiny but expanding portion of the green consumer market. (iv) Remanufactured goods often work identically to fresh one's. Manufacturers frequently think that the cheap cost of this substitute cannibalizes sales of new products [10].
Scholars who have written on theory of planned behaviour have both expanded and clarified it in the body of current scholarship. The Theory of Planned action (TPB) is concerned with how an individual's intention to engage in a certain action, like buying refurbished smartphones, is influenced by attitudes, subjective standards, and perceived behavioural control. Because of its focus on sustainability-related aspects, the extended (TPB) has drawn the attention of many academics, which corresponds with the growing interest in environmentally aware decision-making in academic circles [23].

Through the integration of factors such as moral standards, historical conduct, and environmental awareness, the ETPB provides a sophisticated framework for investigating and forecasting people's intentions about sustainable actions in a variety of contexts. This increased emphasis is in accordance with the worldwide need to encourage environmentally conscious behaviour and deal with urgent environmental issues.

To sum up, the TPB identifies three critical elements that together influence people's intentions and ensuing behaviours in a variety of situations: attitude, subjective norms, and perceived behavioural control [8]. However, in order to get further into environmentally aware decision-making within consumer behaviour studies, researchers have increasingly turned to the extended (TPB) in light of the pressing sustainability challenges. The ETPB provides a more thorough framework for interpreting customers' intentions toward environmentally beneficial behaviours, such as remanufacturing cellphones, by including sustainability-related factors like environmental awareness, moral standards, and historical behaviour. This change echoes the concept of our shared duty towards a greener future by highlighting the global obligation to promote sustainable consumption habits and alleviate the environmental implications of consumer decisions.

Literature Review

Through China's Official Channels: Impact of Privacy Concerns The literature review on "Consumers' Behavioural Intentions to Recycle Mobile Phones through Official Channels in China: Implications for Data Protection" classifies the factors influencing e-waste recycling into external variables, internal variables. and demographic characteristics. It emphasizes the short-term effectiveness of

external rewards or punishments, leading to a focus on psychological variables such as attitude and moral standards in long-term commitment. Based on the TPB, a review [30] cites studies that emphasize the importance of attitude, subjective norm, and perceived behavioural control. Therefore, the publication hypothesizes that these elements have a favourable impact on the intention of consumers to officially recycle mobile phones. Methodologically, the study is conducted in Jiangsu Province, China, using a survey focusing on psychological factors that assesses the impact of privacy concerns on recycling intentions. Making use of the TPB framework, researchers analyse the collected data to test hypotheses and analyse the impact of privacy concerns on recycling intentions. The results confirm the positive influence of recycling attitude, subjective norm, perceived behavioural control and moral norm. Surprisingly, privacy concerns were found to positively influence recycling intentions while negatively moderating the relationship between subjective norm and recycling intentions. These insights underpin the paper's discussion and recommendations to promote formal e-waste recycling.

[2] This article examines global patterns of electronic disposal and consumer awareness of its effects. This highlights the increase in e-waste worldwide due to technological advances, higher consumption rates and shorter product lifespans. The article examines the literature from the Scopus database (1994-2014) through bibliometric analysis, which reveals a lack of focus on consumer disposal behaviour and awareness of the effects of e-waste. The analysis identifies different disposal practices in different countries influenced by socio-cultural and economic factors. In many developing countries, e-waste is considered valuable, forcing consumers to store obsolete electronics or sell them to informal collectors. This is contrary to the practices of developed countries. The paper emphasizes how crucial it is to comprehend consumer behaviour in e-disposal for effective collection initiatives and sustainable management. This highlights the lack of research on privacy issues that affect consumers' willingness to hand over electronics that contain personal information. Although the methodology is not uniformly detailed, the research appears to be interdisciplinary, combining environmental science, sociology and public policy. It synthesizes existing research to contribute to a global perspective on e-waste with a focus on India. It addresses issues of waste management practices, awareness effects and socio-cultural differences, and particularly emphasizes the need to investigate gender differences in e-waste garbage disposal.

[3] It is a study on smartphone recycling attitudes and behaviours in China. This highlights the global growth of electrical and electronic equipment, especially mobile phones, and China has been a major producer and consumer since 2004.Main points of the literature review:1. Disposal methods: Consumers often keep obsolete phones. at home due to its small size, which presents challenges for recycling operations.2. Low recycling rates: Less than 10% of cell phones are recycled worldwide, so improving participation requires understanding consumer behaviour.3. Impact of Smartphones: The widespread adoption of smartphones affects recycling decisions, necessitating updated attitudinal and behavioural research. of 4. Progress in China: Despite advances in legislation

and practice, many people still keep smartphones at home. The article aims to address research questions about the effect of smartphone popularization on recycling attitudes, the evolution of mobile phone recycling in China, and new trends among Chinese consumers. Methodology: The study uses a national survey conducted in China to analyse recycling attitudes and behaviours, focusing on motivations, convenience and information security. The basis of the survey is to inform academic research, management practices and decision-making, particularly in China's evolving e-commerce environment. The authors acknowledge the limitations of the study and recommend further research on other factors.

[4] Explores the roles of consumers in recycling and reuse in the circular economy and the psychological factors influencing their behaviour. It synthesizes perspectives from economics, sociology, psychology and marketing, emphasizing [28] a reasoned action approach to understanding recycling behaviour and the "value-action gap". The research focuses on Swedish consumer behaviour in recycling old mobile phones and aims to understand the obstacles and opportunities for implementing circular economy principles. Methodologically, it analyses the Swedish WEEE system based on extended producer responsibility, detailing the network of government programs and the private and non-profit actors involved. It looks at waste disposal system in Sweden, using surveys, market statistics and environmental research reports to assess current practices and policy effectiveness. The methodology combines quantitative and qualitative research to assess consumer attitudes and the effect on EPR system and inform future policy decisions to improve circular economy practices.

[5] The study examines the green purchasing behaviour of educated millennials in India using the TPB as a theoretical framework. In an attempt to extend the TPB model, the study includes environmental concern (EC) and willingness to pay as additional variables. Data collection included 202 students from various departments of an Indian college using assessment sampling. EK, attitude towards green products, willingness to pay and purchase behaviour were measured in different scales according to Likert scale. The study validates the TPB framework using SEM and bootstrapping procedures, highlighting the indirect effect of EC on green purchase intention through attitude, subjective norm, and perceived behavioural control. Additionally, the study found that willingness to pay a premium moderated the relationship between purchase intention and green purchase behaviour, ultimately showing how purchase intention translates into actual purchase behaviour. This study not only progresses on the existing literature by increasing the understanding of green purchasing behaviour among educated millennials in India, but also provides practical perception for green marketers to adapt effective strategies for this market segment.

[6] A research paper dives into mobile phone waste management and recycling and examines articles published between 1999 and 2015. During this period, the study identified five main research areas: generation and management of cellular

waste, consumer behaviour research, the finances of cell phone recycling, toxicity assessment, and material identification and recovery. A careful methodology was used to conduct this review, which included a comprehensive literature review of articles, books and publications published over a long run. The focus remained firmly on mobile phone recycling, where every key topic was thoroughly discussed. In addition, information on the generation, processing, economic aspects and consumer behaviour of mobile phone waste was accurately tabulated. In particular, [25] used a multifaceted method, which includes data gathering, surveys, visits, interviews, and a review of the literature, to look into the management of trash from mobile phones in Korea. When taken as a whole, the study offers a thorough examination of the developments and patterns in cellular phone recycling studies throughout the previous fifteen years.

[7] The research paper examines the effects of conscientiousness and risk perception on the smartphone recycling intentions of users based on the TPB. Using exploratory factor analysis (EFA) and structural equation modelling (SEM), the research aims to identify the main factors that shape people's behaviour towards smartphone recycling. Initially, EFA was used to validate the scale and ensure reliability of measurements, followed by SEM to determine complex relationships between variables. According to the TPB model, user's intentions are formed by attitudes, subjective norms and perceived behavioural control, and past behaviour also plays an important role in determining intentions. The results describe's that attitude, subjective norm and past behaviour act as mediators in the relationship between conscientiousness and mobile phone reuse intentions, while risk perception becomes a moderator in these relationships, shedding light on the nuanced interaction of individual characteristics and environmental aspects. recycling behaviour.

[8] The research examines the decision-making mechanism of recyclable mobile phone purchasing behaviour of consumers using an extended TPB. Previous studies have emphasized the significance of encouraging consumers to trade in order to create a comprehensive recycling system for reusable mobile phones. The literature has investigated that various factors influencing consumer behaviour, business patterns, and the multi-party dynamics affecting recycling systems, culminating in the evolution of a decision factor model based on the extended TPB. Methodologically, the study uses survey data collected from 964 residents in Beijing, China, and structural equation modelling to analyse the attributes that influence consumer purchasing behaviour in purchasing reusable cell phones. Using structural equation analysis, the preliminary model confirms the research hypotheses related to the cognitive factors that shape consumers' intentions to engage in mobile purchasing behaviour.

[9] The research examines the assessment of the potential of cell phone/smartphone recovery, reproduction and recycling in Germany to create a closed loop for secondary precious metals and critical metals. By modelling the inventory of valuable and critical metals from 2016 to 2035, taking into account sales data and metal concentrations in equipment, the research aims to understand the landscape. It assumes that everyone over the age of 14 in

Germany has a mobile device and explores different scenarios for collection and recycling rates. The methodology includes extraction of sales data, calculation of waste production, collection amounts and recycling rates, and modelling of various scenarios to predict the secondary supply and monetary value of the metal. The paper addresses five main research questions about reuse, recycling and recycling assumptions, recycling process challenges, metal reserves in equipment, available secondary metal reserves and potential financial value based on different collection and recycling rates.

[10] The study discusses the profitability of reproduction systems and highlights demand drivers such as green segments, OEM competition and product life cycle effects. In contrast to earlier research, that focused mainly on competition with local manufacturers, this paper sheds light on the effect of direct OEM competition on manufacturer profitability. Analysing the joint price of new and refurbished products in a multi-period monopoly environment, the authors investigate the effect of different system parameters in competition with local reproducers. This paper [24], which investigated technology choice, pricing decisions and profitability in competition, builds on the work based on [24] and extends the discussion to include even conditions and strategies that prevent remanufacturers from entering the market. Bringing a new market perspective to the reproduction problem, the study combines demand-side factors such as direct OEM competition, green market segments and the impact of market growth. The method used involves analysing how different levels of market growth affect reproduction revenues, considering among other things, consumer return behaviour and the rate of market growth.
[11] The study dives into why millennials and Gen X'ers in India are leaning towards buying refurbished mobile phones. They're using something called the Theory of Planned Behaviour (TPB) to get to the bottom of what's driving these consumer decisions. A conceptual model of the study with seven dependent variables and one independent variable was developed based on previous research and modified to fit the specific demographic characteristics of the two consumer groups. A pilot study was conducted to ensure model reliability, yielding Cronbach's alpha of 0.899. Data were collected in form of surveys in four major Indian cities, resulting in 260 responses from both millennial and Gen X participants. The literature review highlights the need to educate consumers, especially Generation X, about the quality and performance of refurbished phones to reduce perceived risks. Millennials, alternatively, show a more environmentally conscious attitude, which may impact their positive purchase intentions regarding green products.

[12] The research examines the consumer market for refurbished and refurbished products and addresses management issues such as consumer perceptions, green consumer interest and potential cannibalization of new product sales. The study combines primary research and economic modelling using mixed methods to examine consumer preferences and reactions to embellished products. With the help of research, experiments and economic models, we try to find out the main reactions of consumers to refurbished products and find out the attributes that effect one's decisions in the context of

sustainable consumption. The study emphasizes how crucial it is to comprehend how customers behave while purchasing reconditioned goods in order to create marketing plans that work. By analysing consumers' willingness to purchase refurbished products and the effect on new product sales, the study directs to provide managers with an understanding of the complexity of the user's market for sustainable products.

evo [13] This paper discusses the significance of end-of-life mobile phones and highlights their economic value and the challenges of low collection rates. Mainly, this research has focused on electrical and electronic equipment waste, with little attention paid to mobile phone waste. [2] studied the waste management practices of different countries and shed light on the complexity of electronic waste management. The TPB plays a central role in understanding elimination behaviour in individuals and includes factors such as perceived behavioural control. Structural equation modelling (SEM) is a valuable tool for analysing The intricate connections among theoretical concepts in waste management research, especially in assessing the disposal behaviour of WEEE. Methodologically, the study integrates TPB with other models and uses SEM to investigate the factors affecting mobile phone waste disposal behaviour using research conducted in Jakarta to identify the causal relationships between these factors.

there is a growing recognition of the need to integrate insights from multiple disciplines to gain a comprehensive understanding of consumer behaviour towards remanufactured phones. For instance, studies like [4] explored the roles of consumers in recycling and reuse within the circular economy framework, synthesizing perspectives from economics, sociology, psychology, and marketing. By adopting a holistic approach, researchers were able to assess consumer attitudes and behaviours within the broader context of sustainable consumption practices. Similarly, [9] examined the assessment of the potential of cell phone/smartphone recovery, reproduction, and recycling in Germany from an economic and environmental perspective. By modelling the inventory of valuable and critical metals and exploring different scenarios for collection and recycling rates, researchers gained insights into the economic and environmental implications of smartphone recycling initiatives. These interdisciplinary studies underscore the importance of considering various factors, including economic incentives, environmental impacts, and consumer preferences, in shaping consumer behaviour towards remanufactured phones. The literature on consumer behaviour towards remanufactured phones provides valuable insights into the complexities of decision-making processes and the factors influencing adoption. From early research laying the foundation for understanding consumer behaviour to later studies unravelling the psychology behind remanufactured phone adoption, scholars have made significant strides in elucidating the intricacies of consumer behaviour in the context of mobile phone waste management. Moving forward, it is imperative to continue advancing interdisciplinary research efforts to develop effective strategies for promoting sustainable consumption practices. By integrating insights from economics, psychology, sociology, and environmental science, policymakers, industry

stakeholders, and researchers can work collaboratively to foster a more sustainable mobile phone ecosystem, where remanufactured phones play a central role in reducing e-waste and mitigating environmental impacts.

Methodology

To analyse consumer purchasing intentions regarding mobile phones, we utilize the TPB as our theoretical framework, extending it to encompass additional variables. With reference to TPB, attitudes, perceived behavioural control, and subjective norms collectively influence behavioural intentions [8]. Our model expands to include factors such as the reliability of refurbished items, historical behaviour, and environmental concerns, providing an extensive understanding of consumer decision-making in mobile phone purchases.

Author name	Factors under TPB	Sample size	Tools	Analysis	Result
Ling Zang, Wenchun Ran [1]	AT, SN, PBC, MN, PC, RI	596	SPSS 25	Descriptive Statistics, Reliability and Validity Test, Hierarchical Regression, Moderation Analysis	Cronbach's alpha =0.7, Privacy concern has the highest mean= 4.62
Yue Zhang, Imran Rasheed [7]	AT, SN, PBC,PB,PI	802	SPSS 25	Statistical Analysis, exploratory factor analysis and SEM	AT, SN, PB show a significant relationship , where PBC did not.
Qingbin Yuan [8]	AT, SN, PBC, RFS	964	SPSS 25	Model result Analysis	The Resulting hypothesis, were confirmed indicating influence on factors
NicoletaGurita, Magnus Fröhling [9]	AT, SN, PBC	-	SPSS 22, Excel	Descriptive Statistics, Forecasting	Forecasted previous and critical metals from sales data
AtalayAtasu, Luk Van Wassenhove [10]	Remanufacturing cost savings, green segment size, market growth rate	-	MATLAB	Static Monopoly	The profitability of remanufacturing is influenced by factors like direct competition between original equipment manufacturers,.
Richa Chaudhary, SamratBisai [5]	AT, SN, PBC, EC ,WTP	202	SPSS 24	CFA, Reliability and Validity Test.	Each factors is inter linked and overall, willingness is

					important factor
P Sarath, SateeshBonda [6]	AT, SN, PBC, WTP	-	MATLAB	Qualitative analysis	WTP acts important in recycling program
Hosur Srinivasan Srivatsa [11]	AT, SN, PBC, PR, PB, PK	355	SPSS 22	Maximum Likelihood Estimation (MLE), Moderation analysis	Cronbach's alpha was 0.899, which tells data was reliable and the data was fit in the model
JamesD. Abbey Margaret G. Meloy [12]	Environmental concern,green consumption	-	MATLAB	Strategies for selling remanufactured smartphones and environmental concerns.	Green consumers are intrested in buying remanufactured smartphones
Anwesha Borthakur, MadhavGovind [2]	Socio-cultural, WTP	-	HIGHCHARTS	Growth rate of e-waste recycling using histogram and bar graphs were used to explain.	Understood different countries disposal methods and recycling methods
Hua Bai, Jing Wang [3]	AT, SN, PBC	821	SPSS 22	Descriptive Analysis, Correlation Analysis.	Identified critical factors influencing smartphone owners' recycling behaviour.
Gustav Thungren, NastaranZargariZenouz [4]	DV, WTP, EC	127		Descriptive statistics , regression	demographic variables were not statistically significant in the regression models

Table 1. Overview of methodology

Data collection involves administering a standardized questionnaire to a sample of metropolitan consumers. This can be accomplished through online forms, interviews, and engagement with various stakeholders [3]. The questionnaire comprises items measuring attitudes toward refurbished products, subjective norms, perceived behavioural control, environmental concerns, past purchasing behaviour related to refurbished items, and belief in the quality of refurbished products, rated on a Likert scale to gauge agreement or disagreement.

Following data collection, a series of analyses were conducted to ensure the validity and robustness of the study's findings. Descriptive statistics, including mean and standard deviation, provide insights into the central tendency and dispersion of responses across variables, aiding in identifying outliers and understanding data distribution.

The reliability of measurement scales is assessed using Cronbach's alpha, measuring internal consistency reliability [1]. A high Cronbach's alpha value signifies greater consistency among items within each construct, enhancing

measurement confidence. Confirmatory factor analysis (CFA) evaluates the reliability and validity of the measurement model by examining the connections between observed variables and underlying components.

Structural equation modelling (SEM) is employed to analyse the intricate interrelationships between variables and consumer purchase intentions within the extended TPB model [11]. SEM allows for simultaneous examination of multiple variables and their direct and indirect impacts, facilitating a comprehensive understanding of factors influencing consumer behaviour. Additionally, moderation analysis investigates potential moderating effects of demographic variables, while mediation analysis tests the significance of indirect effects.

In conclusion, this methodology combines systematic data collection and analysis approaches to provide comprehensive insights into consumer behaviour regarding refurbished mobile phones. Through the integration of theoretical frameworks and quantitative analyses, this study advances understanding of variables influencing consumer decisions, contributing to research in consumer behaviour and sustainable consumption.

Conclusion

In conclusion, the review document provides a comprehensive analysis of consumer behaviour in the reproduction of obsolete telephones in the context of the growing electronic waste crisis. Synthesizing knowledge from the existing literature and using an extended Theory of Planned Behaviour (TPB) framework, the study sheds light on the multifaceted factors that influence consumers' intentions and actions in purchasing refurbished mobile phones. The introduction sets the scene by highlighting the urgency of responding to electronic waste challenges, especially in countries like India where mobile phone penetration is exploding but recycling rates remain terribly low. It highlights the environmental and health risks associated with improper disposal of electronic equipment, while recognizing the potential economic and environmental benefits of recycling. Using the TPB as a theoretical basis, the methodology explains the approach to the study of consumer purchase intentions. Using data collected through standardized questionnaires administered to consumers in the capital, the study examines attitudes, subjective norms, perceived behavioural control, environmental concerns, past purchasing behaviour and trust in refurbished products. Accurate statistical analysis, including descriptive statistics, reliability estimates, confirmatory factor analysis (CFA), structural equation modelling (SEM), moderation and mediation analysis, ensures the validity and reliability of the results. Overall, this review helps to understand consumer behaviour towards refurbished mobile phones and provides valuable information for decision makers, companies and researchers involved in promoting sustainable consumption practices. By combining theoretical frameworks with empirical evidence, the study contributes to the growing literature on sustainable consumption and circular economy initiatives and ultimately works towards a more environmentally friendly and economically viable approach to e-waste management.

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Abbreviations:

1. AT- Attitude.
2. SN- Subjective Norms.
3. PBD- Perceived Behavioural Control.
4. MN- Moral Norm.
5. PC- Privacy Concern.
6. RI- Recycling Intention.
7. PB- Past Behaviour.
8. EC- Environmental Concern.
9. WTP- Willingness to Pay.
10. PI- Purchase Intention
11. RFS- Recycling Facilities and Services.
12. PR- Perceived Risk.
13. PK- Product Knowledge.
14. TPB- Theory Of Planned Behaviour.