

Ways to reduce plastic waste after demonetization - An innovative idea

Riddhi Jain*

Tabeen Shah**

Plastic is not all about degrading environment or creating nuisance it has certain advantages if we try to utilize it judiciously we can even help to reduce this plastic waste. Advantages of plastic are : Extreme versatility and ability to be tailored to meet very specific technical needs, Lighter weight than competing materials, reducing fuel consumption during transportation, Extreme durability, Resistance to chemicals, water and impact, Excellent thermal and electrical insulation properties, Relatively inexpensive to produce. Human mind is filled with exceptional ideas on how we can protect our environment.

Recently the news of demonetization in India lead to a huge worry in the minds of environmentalist regarding increased plastic money waste which will cause damage to the environment if not looked at proper time. As demonetization is the act of stripping a currency unit of its status as legal tender. The old currency must be retired & replaced with a new currency unit.

This paper talks about an innovative idea which can be used by the Indian Government to reduce plastic waste. Innovation is all about change of a thing established for something new. One of the suggested ideas is how we can recover the discarded plastic from consumer so that it can be reuse and recycled and the second one talk about a Mobile Application.

Key words: plastic waste, recollection, reuse, recycle, mobile application, demonetization and innovation.

INTRODUCTION

"It is the greatest of all mistakes to do nothing because you can only do little" Do what you can.

Plastic is the most dangerous substance for our planet. As its major worry is of disposal of used plastic which we call as plastic waste. With disadvantage its has certain advantages as it is extreme versatility and ability to be tailored to meet very specific technical needs, Lighter weight than competing materials, reducing fuel consumption during transportation, Extreme durability, Resistance to chemicals, water and impact, Excellent thermal and electrical insulation properties, Relatively inexpensive to produce. For environmentalist and the government the worry is not the recycling of scrap plastics by manufacturers as it has been highly successful and has proven economical, but recovering discarded plastics from consumers is more difficult.

Due to demonetization the use of digital plastic money has increased as mostly the majority of Indian carries two or more credit or debit cards. Further we have our DL, UID card etc in our pockets. Let's try to club all the plastic money into a mobile application so that everyone is free from the

plastic cards and environment is free from the plastic waste. Now when it comes to how can we collect this waste from the customer what we can do is if we cut the card into two so that the security issue does not arise and sell it to the scrap dealer along with other plastic waste and earn certain e-money which can be used as day to day transaction. This will make our environment free from the plastic waste.

PROPOSED IDEAS

Evidence can be drawn as the success of recycling is limited by the development of successful strategies for collection and separation. Recycling of plastics is desirable because it avoids their accumulation in landfills. While plastics constitute only about 8 percent by weight or 20 percent by volume of municipal solid waste, their low density and slowness to decompose makes them a visible pollutant of public concern. Recycling and re-utilization of waste plastics have several advantages. Recycling and re-utilization of waste plastics lead to a reduction of the use of virgin materials and of the use of energy, thus also a reduction of carbon dioxide emissions. Economically, in some cases, plastics recycling may be profitable. However, a number of factors can complicate the practice of plastics recycling, such as the collection of the plastics waste, separation of different types of plastics, cleaning of the waste and possible pollution of the plastics. A further complicating factor is the low-value nature of most of the products that can be manufactured from

recycled plastics. Reusing plastic is preferable to recycling as it uses less energy and fewer resources.

Issues relating to plastics - There are about 50 different groups of plastics, with hundreds of different varieties. All types of plastic are recyclable. So a proposed idea of e-business for recollection of the plastic waste is:

- Why don't we Exchange the used plastic bottle and containers for money by collecting the used plastic and measuring them using a weighing machine. Then as per the weight the customer is given points which can be used in place of money. Here the cost of investment is less as compared to the output in form of protecting the environment. We just need a carriage car and few scrap dealers who have the weighing machine and land where we can collect the waste as we will have dealer ship with companies who are already using the recycling technique as the challenge is of recollecting the used plastic waste which we are solving for them. We need to fix the amount for which it is exchanged and we are ready to use. We need to go for tie-ups with grosser stores so that the customers can use their points. The points are used as legal tender so these will be approved by the government so that the points are authentic and trust worthy. What we are doing is we have combined the idea of batter system and Scrap dealer into and entrepreneurial idea. And the waste collected will be reused, recycled and this way plastic waste can be reduced. We will go for dealership with those companies who are using Chemical or feedstock recycling tool to recycle the plastic waste. Feedstock recycling is describes as a range of plastic recovery techniques to make plastics, which break down polymers into their constituent monomers, which in turn can be used again in refineries, or petrochemical and chemical production. A range of feedstock recycling technologies is currently being explored. These include: (i) Pyrolysis, (ii) Hydrogenation, (iii) Gasification and (iv) Thermal cracking. Feedstock recycling has certain advantage as it has greater flexibility over composition and is more tolerant to impurities than mechanical recycling, although it is capital intensive and requires very large quantities of used plastic for reprocessing to be economically viable. For example a customer gives 3 gm of plastic which is equal to 1 point and it means Rs.2.50/- so if he submits 12gm of used plastic then he will get Rs.10/- which he/ she can use at any grosser store even he/she can use it in the form of e-money.
- Another innovative idea is of introducing a mobile App. As we are technologically driven

people we are highly dependent on it. Now a days we have everything in our mobile which is just a click away so why don't we come up with an app which reduce our plastic waste which we all carry in our pockets (like driving license, debit card, credit card, UID card, PAN card,etc).

Assumption: This app is firstly an authentic government app as it contains all the details of an individual.

To make it more authentic registered member will directly feed information in the device which the Government Officer is carrying where the information is sent to the department and stored with full confidentiality avoiding the chance of getting misused by the officer.

The user data can be made secure by end to end encryption. End-to-end encryption(E2EE) is a system of communication where only the communicating users can read the messages. In principle, it prevents potential eavesdroppers - including telecom providers, Internet providers, and even the provider of the communication service - from being able to access the cryptographic keys needed to decrypt the conversation. The systems are designed to defeat any attempts at surveillance or tampering because no third parties can decipher the data being communicated or stored. The entire process of communication between the user and the Respective government end is coded so as to prevent a third party from accessing the highly confidential information of the user. This feature not only gives privacy to the public but also reduces chances of onlinethefts.

Most end-to-end encryption protocols include some form of endpoint authentication specifically to prevent MITM attacks. For example, one could rely on certification authorities or a web of trust.

When we will open the app on our mobile we will have 5 options to select as per our requirement we can choose any one of it. Firstly one option is of driving license and next is of bank and third is of PAN card. I break the traffic red light and I am caught by the police officer and he ask for the driving license so what I will do is I will open the app and will click on the driving license and will show it to the officer and then if he wants an copy of it I will email it to him in front of him using the same app on his authentic government site with a acknowledgement attached with it which will contain the purpose of sending the driving license so that it is not misused by anyone else.

So we talked about how it will work and how it is secured with reference to an example. Secondly

*BBA.LLb(H),MBA(G),ABS

**MBA(G),ABS

Another example in context with the bank or money transaction so here what we can do is have and log in id and a secured password and we can directly transfer the money in the account of the concerned personaccount.

We are using the m-transfer technique and we are also using emails technique with this we are also utilizing what paytm is using these days. Mobile banks and many more such things so we can say a collective collaboration of the entire existing app with the government in one app will make a drastic change in the society and will reduce the plastic waste in our pocket which we carry every day.

The cards are made of varying types of plastic, mostly polyvinyl chloride known commonly as PVC. While PVC is claimed to be one of the more harmful of all the plastics it can be recycled over and over without the need to add more materials in the process. We can recycle the cards by using the Mechanical recycling process. This refers to processes which involve the melting, shredding or granulation of waste plastics. Plastics must be sorted prior to mechanical recycling. Mostly, sorting is done manually. Recently, technology is being introduced to sort plastics automatically, using various techniques such as X-ray fluorescence, infrared and near infrared spectroscopy, electrostatics and flotation. Following sorting, the plastic is either melted down directly and molded into a new shape, or melted down after being shredded into flakes and then processed into granules calledre-granulate.

Terra Cycle (New Jersey) has created a zero waste solution for plastic cards. They use this box to recycle any wallet-sized flexible plastic card usually meant for the purpose of identification or for facilitating commercial transactions. Terra Cycle Zero Waste Boxes allow you to recycle almost every type of waste.

The collected waste is mechanically and/or manually separated into the various forms of plastic that make it up. The separated plastics then undergo extrusion and pelletization to be melted into new recycled plastic products. Expired, discarded plastic cards such IDs, licenses, credit cards, business cards, gift cards, key cards and so on. Please cut up all cards containing sensitive information before sending. So if in India we use this waste box and can reduce plasticwaste.

OBJECTIVES

To come up with an innovative idea about how can we protect our environment from increased plastic waste caused by Demonetization.

FINDINGS

There are numerous ways to reduce and reuse plastic waste but this paper gave us two ideas which will help us to protect our environment from degradation.

1. An E-Business idea where we are recollecting the used plastic from the customers and then by using chemical or feedstock recycling technique further converting it to be used in various industries like the plastic can be used to make roads. In this we are combining the idea of batter system and scrap dealer into and e-business entrepreneurialidea.
2. An introduction of Mobile Application will reduce the plastic waste in our pockets and will help us to move towards digital India. Making users moree-friendly.

Conclusion

The ideas proposed will help the government to dispose and reduce the plastic waste generated after demonetization. Further it will help the environmentalist to preserve and protect the environment from the plastic waste.

Gaps if any

The challenges we can face during the execution our idea are:

1. Our country doesn't have good internet connectivity everywhere.
2. A large preposition of our population is note-friendly. But these challenges are soon going to disappear as our government is trying to irradiate these two problems.

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