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A STUDY OF EDIBLE WATER BALLS IN INDIAN MARKET CONTEXT

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Abstract:
Plastic pollution is exploding in its full acceleration. Each passing day is becoming more and more vulnerable for the environment and the upcoming future of the world. Edible plastic water ball is one such solution which cannot fully reverse the damage but it can give the temporary aid to stop the upcoming disaster. Seaweed packaging material can be made from sodium alginate which is extracted easily from Brown Seaweed which is readily available in the ocean and which can be grown with ease. Sodium alginate when reacted with calcium lactate its forms gel like structure which in turn can be use to make these water balls. These balls can be consumed as it is with its outer packaging material. Environmental and Health benefits are the greater advantage when it comes to these water balls but its acceptance is the major concern which needs the eye on. Marketing strategy involves major role in the selling of the product. Marketing may involve environmental sustainability and corporate social responsibility for the betterment of the society and also, the environment.

Key Words: Environment sustainability, Seaweed packaging, Marketing Strategy.

Introduction:
After World War II the production of plastic has increased in almost every material. Most of them are designed in such a way that it should be thrown away after single use. 9% of the total plastic produced in the world is recycled and rest is just dumped in landfills completely exposed in environment. If this continues then by 2020 the amount of plastic litter in landfills will reach around 1200 crore. (Patel, Prachi, 2019) The most common single-use plastic are plastic bottles, food wrappers, plastic bags, plastic spoons and straws, plastic pouches and films etc.

Seaweed:
Brown seaweed is algae which are grown above or below the sea where it is easily available in abundance. They are the free growing plants inside the ocean. In just 45 days these seaweeds can grow up to 45 meters long inside the ocean. The major advantage is these are so easily available there is the biggest seashore that India has. It can be grown or readily available. Sodium Alginate is extracted from the seaweed.The important ingredient is sodium alginate, a natural gelling powder obtained from algae. Sodium Alginate forms gel structure when reacted with calcium. Calcium lactate is excellent calcium source. After mixing for few minutes jellification starts occurring on the exterior of the liquid. This gel like structure is extracted carefully and pressed in the long sheets, which in turn is used as the packing material. (Patel, Prachi 2019)

Making:
Materials Required:
I. Water (Drinkable)
II. 1 gram of sodium alginate
III. 5grams of calcium lactate

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Procedure:

1. Take 1 gram of sodium alginate and add it to 1 cup of water and mix properly.
2. Make sure that the sodium alginate is completely combined with the water and let the mixture sit for about 15 minutes so that there are no air bubbles. Wait till the mixture becomes a clear solution from the white one.
3. Now add 5 grams of calcium lactate into 4 cups of water in another vessel. Mix properly and make sure that calcium lactate is fully dissolved.
4. Take a rounded spoon and scoop up the sodium alginate solution and carefully drop it into the bowl having the calcium lactate solution. It will straight away form a ball of water in the bowl.
5. More than one scoop can be added to one solution at a time but have to be very cautious that the water balls don't touch each other as there are chances that they can stick together. Let the whole thing settle down for 3 minutes and may stir the solution in between for few times. (The amount of time influences the thickness of the coating i.e. less time for thinner coating while more time for thicker coating).
6. To stop the further reaction, carefully remove each water ball and keep it in the other container having water.
7. The edible water balls are now ready. Inside of every ball there will be water that is drinkable. (Rees, Rhianna, 2019)

Health Benefits, Environmental aspects, Drawbacks and Future prospects:

Health benefits of Calcium Alginate extracted from brown seaweed: -

As only one gram of calcium alginate is used to make a single ball so the amount is very less that is consumed. It is easily digested and swallowed and there are as such side effects if at all the membrane is gulp inside the body.Brown seaweed is loaded with nutrients. It's an excellent source of iodine, an essential mineral for healthy thyroid function. It also provides iron, magnesium vitamin B-2, vitamin B-9, vitamin B-12, fibres. It can detoxify body from radiation. (Peter, Henriette S.2017)

Environmental aspects: -

It is completely biodegradable. It is naturally degraded within 4-6 weeks. Seaweed helps in the production of oxygen on land as well as in the ocean, which in turn increases the level of oxygen. As seaweed is the chlorophyll containing plants it absorbs carbon dioxide and produces food and oxygen for the environment. As it is naturally biodegradable, it takes only 4-6 week to degrade itself completely, if at all anyone don't want to consume it. (Olivia, W.)

Drawbacks: -

The self-life of the product is very less. Transportation of the product is the major concern as the balls as very delicate. Quantity that a single bulb can hold is very less. It is not at all popular among the people and acceptance of the product by the people. Low marketing and promotion as it is still a start-up. It will take long duration for the companies to get a hold on the market. (Mironenko)

Future: -

With more and more companies adapting "Go Green" concept, seaweed packaging could be the new packaging solution in the near future. The large-scale production of the packaging material is not possible due to costs, labor concerns and its durability. But it can be efficiently used when it comes Sachet packing. It's the best alternative for the big events like marathon or other sports events, exhibitions and group meetings. In coming future some products can be packed like Cold Drinks, Juices, Sauces, Jam, Alcohol, Oil, Liquid Cheese, and Syrup. (Rees, Rhianna , 2019)

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Demand analysis:

Bottled water demand has been increasing remarkably in last decade due epic rise of impurity and unavailability of pure drinking of water in last decade. Bottled water is sold in different quantities such as 200-250 ml pouches, 500 ml, 1L, 2L in bottles, 20-50 litres in barrels and so on. Now-a-days people have become more aware regarding the safety and hygiene for own and also spend most of the time outside homes they carry bottled water which is available at affordable price. The market has reached 11,900 crore RS. In 2018 and it is expected to grow annually by 20.75% by 2023. The bottle of 1L captured 42% of market share in 2018 followed by 500 ml bottles and 250 ml bottles. Based on volume, the market is likely to reach 35.53 billion litres by 2023, expanding at a CAGR of 18.25% from 2018 to 2023.Looking up to the rising of the demand of Bottled water the question arises about the fact of plastic pollution that is created by it. It has been estimated the collection of the used bottles is 80.28% as of 2014, out of which only 28.4% are recycled and treated for further process while remaining are disposed in landfills or open dumps. (Cruz-Romero, M. & Kerry, J.P. 2008)

From the above-mentioned facts now, it can be said that using of the edible water balls is more sustainable rather than polluting the environment with the single used plastic water bottles. As per the demand the balls can be made available in different size ranging from 50 millilitres to 300 millilitres for the purpose of single sip. (Elvin, George, 2015)

Cost Effectiveness:

As per the making of the product it can be estimated that the production cost of these balls is very less, it can be said that each ball can be made only of 2-4 RS according to its size. The cost of the balls according to their size can be RS 1 for 50 ml, RS 2 for 100 ml, RS 4 for 200 ml and RS 6 for 300 ml. Now if the price is compared with the plastic water bottle 200 ml of it is available at RS 6/8 in the market. Also, small quantities of it is also not available and the bottles as only single-used where as there is no as such material left in the water balls and if at all anyone does not consume it then the outer material can easily be degraded naturally. (Ahmad, S, 2019)

Marketing Strategies:

Marketing of this product in the country like India is very important as the acceptance of new products in India takes a lot of time and money. Youth can then be major target market as they have started becoming more responsible than others in the matter of environment and its sustainability. The marketing strategies can be segmented in the groups like working people, all health-conscious people, all price conscious people, or people in cities or towns, sports personals, college youth, or organization like hospitals, hotels, offices, events, etc. Promotion should be done about the health and environmental benefits of the product and surety should be provided that it is safe for consumption for people of all ages. Also, it has low price compared to plastic bottles and it is more eco-friendly. Although, consumers confidence and acceptance play a keen role and it should be gained in continuous process. The product has the potential to challenge the sales of plastic water bottle as it is sustainable and non-toxic packaging material.

Some of the ways in which marketing can be done are:

1. **Social Media Marketing**

   Social media have now become the integral part of everyone's life. According to one research an individual spends more than 2 hours daily on their social media handle i.e. what's App, Face book, Instagram, Twitter etc. For this you just need to consider keyword research and competitive research to help brainstorm amazing ideas that will interest your target audience.

2. **Influencer Marketing**
   It involves collaboration with an online influencer. An influencer may be a You Tuber, creating a series of videos, or popular environmentalist, any blogger who writes about nature and its sustainability, any politicians or celebrities or may be a social worker who has a large number of following that may help to aware the people about the product.

3. **Campaign Marketing**
   There are series of events at occurs around the country in a day. Promoting the product in these events can cover the larger target compared to other strategies. Events like exhibition, marathons, submits, fund raisers, social gatherings, sports events, meetings, festivals etc. Just open a stall and you are good to go, beside the coffee machine or vending machines. Make sure that it is eye catching and attractive to one and all. Free sample distribution should be adapted.

4. **Environmental/Green Marketing**
   The plastic threat and pollution are at its peak in the environment under these circumstances there is high demand for the products that are environmentally safe. The edible water balls are completely safe for the environment as well it is completely biodegradable which the major benefit is. These facts can be use as major source for marketing.

5. **Mouth-to-Mouth Marking**
   Everyone is fascinated when the new product is out in the market and that too with all the benefits included, which becomes major reason for mouth-to-mouth marketing for the people. For this drawing attention of the consumers is very important and for that all the cities should be the target and the product should be made available to all the distributors, retailers and wholesalers which are the major sources for people on day-to-day basis. Free sample distribution should be adapted.

6. **Search Engine Marketing/Optimization**
   It ensures that the product is visible on search engine results pages (SERPs). When a consumer types in a definite keyword, like environment, pollution, plastic etc then SEM enables the product to appear as a top result for that search query. This can be in the form of pop-ups or Google ads to attract the target consumer.

7. **Collaboration Marketing**
   It involves the collaboration of the product with the other top brand in our case like hotels, hospitals, event companies, restaurants, etc. which promote the product with their customer on paid as well as sample basis. This is help to generate all the way different segment of customer and the brand valve of the product may also increase.

8. **Traditional Marketing**
   Traditional Marketing involves print, broadcast, TV ads, hoardings, letter, telephone, etc. These make sure that the consumer sees and hears it on the daily basis and the message is conveyed crystal clear.

9. **Guerrilla Marketing**
   Guerrilla marketing is majorly done in high-traffic physical locations to reach all types audiences in a creative and cost-effective way like keeping the edible balls venting machine in parks and

other public places, making the ball size big dustbin all over the cities, making creative structure and 3D sculptures at the eye-catching area of the city, etc.

10. Cause Marketing

Cause Marketing is a type of corporate social responsibility that focuses on the betterment of society and environmental sustainability by promoting the biodegradable and eco-friendly behavior of the product. "It is now or never" should be adapted for the promotion for the pollution that is created by the plastic water bottle waste and one putting one step forward for the betterment and pollution less future with a small acceptance of the product. (Adkins, Sasha, 2018)

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