



Study of the new
‘visually impaired- friendly’ coins
launched by the Reserve Bank of India

Study conducted
at BarrierBreak by

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Coins and the need for change



- Indian Rupee is the official currency of India and is subdivided into 100 Paise. Though as of 2020, coins of denomination of 1 rupee is the lowest value in use.
- The Reserve Bank of India (RBI) controls the issuance of currency.
- The first rupee coins of the Republic of India were minted in 1950 and since then new coins have been produced annually.

On October 4th, 2016, a PIL was filed by Joaquim Rapose, secretary of the National Association of the Blind (NAB) at the Bombay High Court stating a need for change in notes and coins due to the following reasons:

- **Earlier:**
Due to the unique raised/ embossed tactile marks, the blind or people with poor vision were easily able to identify and differentiate coins.
- **Recently:**
The visually disabled people have started facing difficulties in identifying the denominations of various notes and coins.
- **Plea:**
In this petition, Mr. Rapose, sought from the court directions to the RBI to include special features in coins and currency notes so the blind could identify them easily.

Sample size

The sample size selected was a group of 10 visually impaired users in the age group of 20-40 years of age.



- 4 blind
- 6 low vision

The new 'Visually impaired friendly' coins



This new series of coins with various differentiating features were designed to aid the visually impaired.

After the introduction of the new coins, old coins will continue to be in circulation.

The coins will be issued in denominations of Re. 1, Rs. 2, Rs. 5, Rs. 10 and Rs. 20 and are said to come into circulation in the following months:

- The new series of Rs. 2 and Rs. 5 will be the first to be launched by April 2020.
- The Re. 1 coins is said to come into the market by May 2020.
- Coins of Rs. 10 and Rs. 20 are said to come out by end of May 2020.

This new series was designed by the National Institute of Design and has the following features:

- These coins are characterized by the increasing size and weight from lower to higher denominations.
- The newly included coin of Rs.20, will be a 12-sided coin with no serrations.
- The rest of the denominations would have a round shape.

“ The new series of coins will facilitate the visually impaired and will instill them with confidence.”

- Mr. Narendra Modi

About the new coins

When this experiment was conducted, we were only able to get our hands on coins of Rs. 2, Rs. 5 & Rs. 10.

The obverse side has the Lion Capital of Ashoka Pillar with 'Satyamev Jayate' in Hindi inscribed below. It's left will have the word 'Bharat' in Hindi and on it's right the word 'INDIA' will be printed in English.

The left side of these coins have the year of minting along with a design of 8 grains, depicting the agricultural dominance of the country.



Rs. 2



Rs. 5



Rs. 10

- Weight: 4.07 grams
- Diameter: 23mm.
- The edges are textured.
- The coin is smaller in weight and in size than the previous coins.
- Single metal

- Weight: 6.74 grams
- Diameter: 25mm.
- The edges are smooth.
- The coin is slightly larger size than the previous coins.
- Single metal

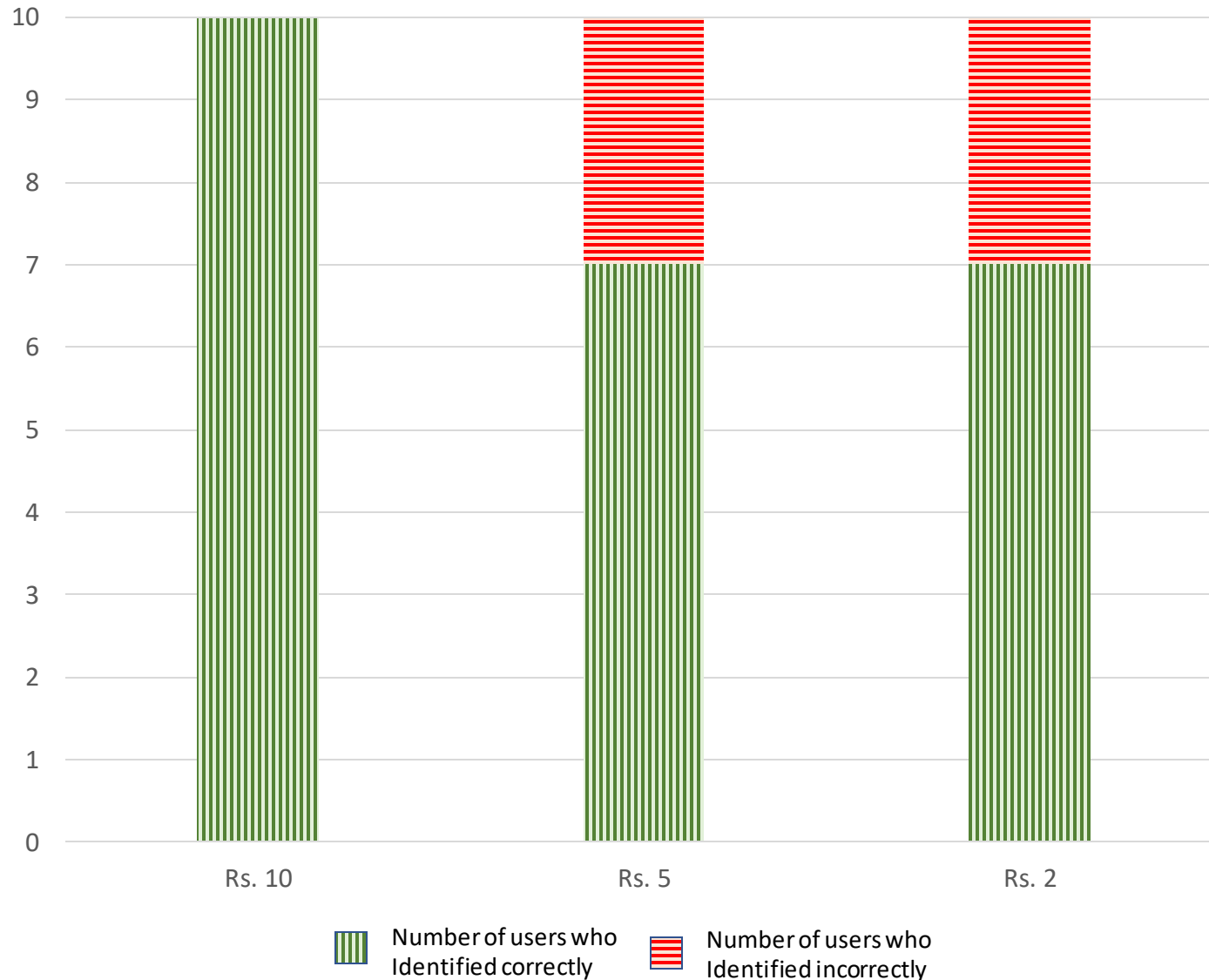
- Weight: 7.74 grams
- Diameter: 27mm.
- The edges are textured.
- This coin is slightly heavier than the previous coins.
- Bimetallic coin

Method

The study was carried out in a group of 3-4 visually impaired users at a time. Four types of activities were carried out with these users in order to observe and understand their interaction with coins.

1. Users identifying old coins
Users were given coins of Rs. 2, Rs. 5 and Rs. 10 from the old series and had to identify their values.
2. Users identifying Rs. 2 from different series
The group was also given two coins of Rs. 2 from different series (they didn't know the values of these coins) and were asked to guess their values.
3. Users Identifying new coins
Users were given coins of Rs. 2, Rs. 5 and Rs. 10 from the new 'visually impaired friendly' series & had to identify their values. They were told about the new features of the coins after the group gave in their guesses.
4. Differentiating new coins in a Real-life scenario
A real-life scenario was created where in users had to identify the new series of coins of Rs. 2, Rs. 5 and Rs. 10 from a bag of coins from previous series.

1. Users identifying old coins



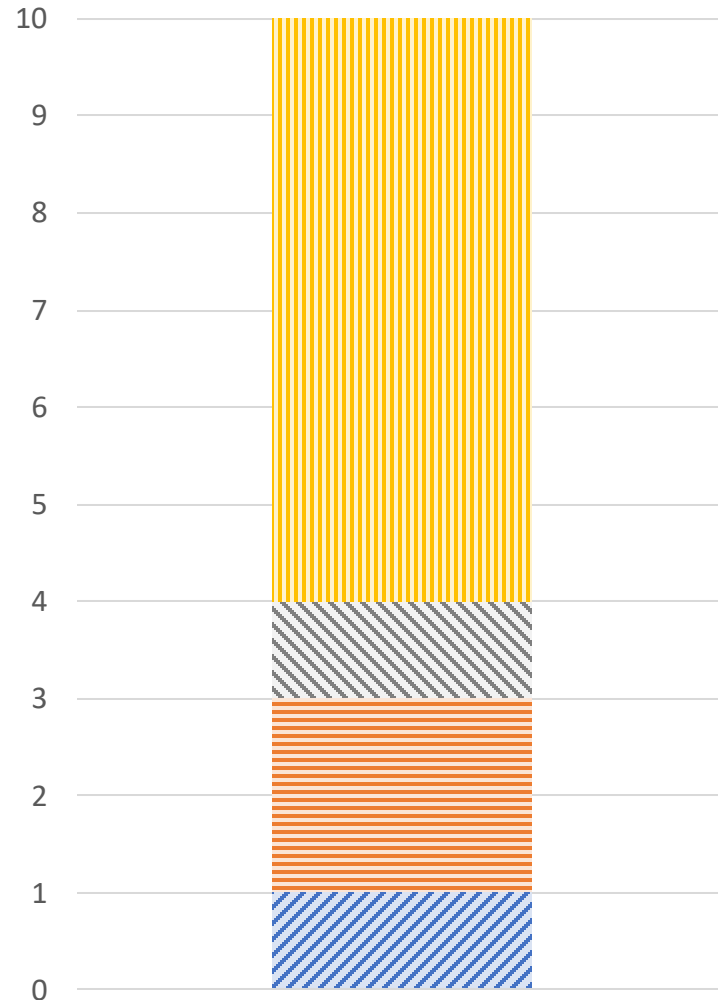
Rs 10:

- The 10-rupee coin was the easiest to identify by users because of the big shape of the coin and the bimetal element which adds a little texture to it.
- It was the first one identified by most users
- Some low vision users could also see the two different metal colors on the coin.





Rs. 2 & Rs. 5:

- Because of similar sizes of the Rs. 2 & Rs. 5 coins, some users found it difficult to identify these coins correctly.
- Some users said that the weight and thickness of Rs. 5 helped them identify the coin.
- Another reason for incorrect identification could be the rub-off of the elements from the faces of the coins.

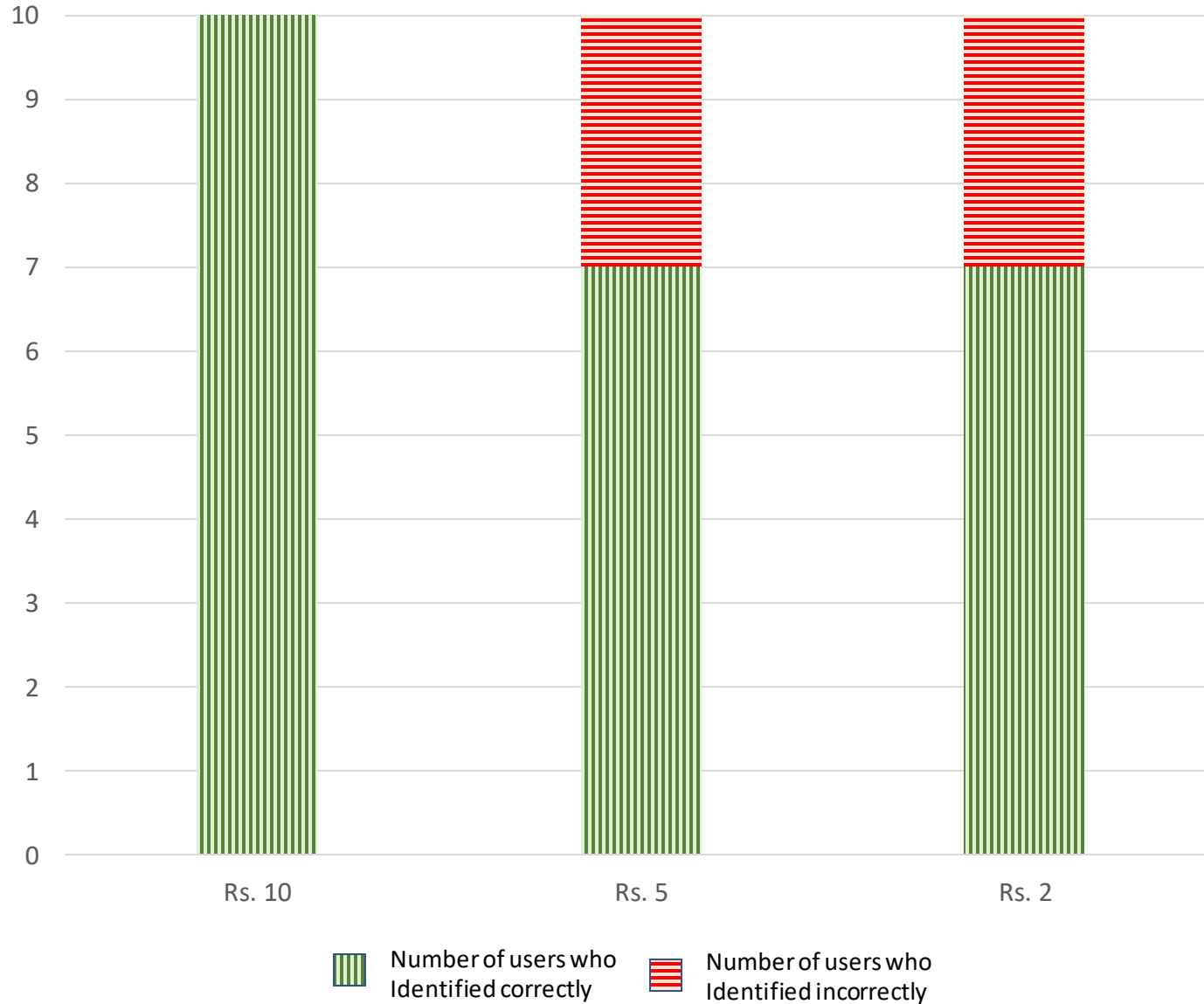
2. Users identifying 2 Rs from different series



Two coins of Rs. 2 from different series were given to the users. (both coins differ in size). Users were asked to identify the values of the coins.

-  A.
6/ 10 people thought that the bigger coin is Rs. 2 & the smaller is Rs. 1
-  B.
1/ 10 people thought that the bigger coin is Rs. 10 & the smaller one they identified as Rs. 2
-  C.
2/ 10 people identified both the coins as Rs. 2
-  D.
1/ 10 people thought that the bigger coin is Rs. 2 & the smaller one they identified as Rs. 5

3. Users identifying new coins



Rs 10:

- The 10-rupee coin was the easiest to identify by users because of the big shape of the coin.
- It was the first coin identified by most users.
- 1 low vision user found it difficult to identify the golden color on the coin because of the less amount of golden metal used in the alloy.

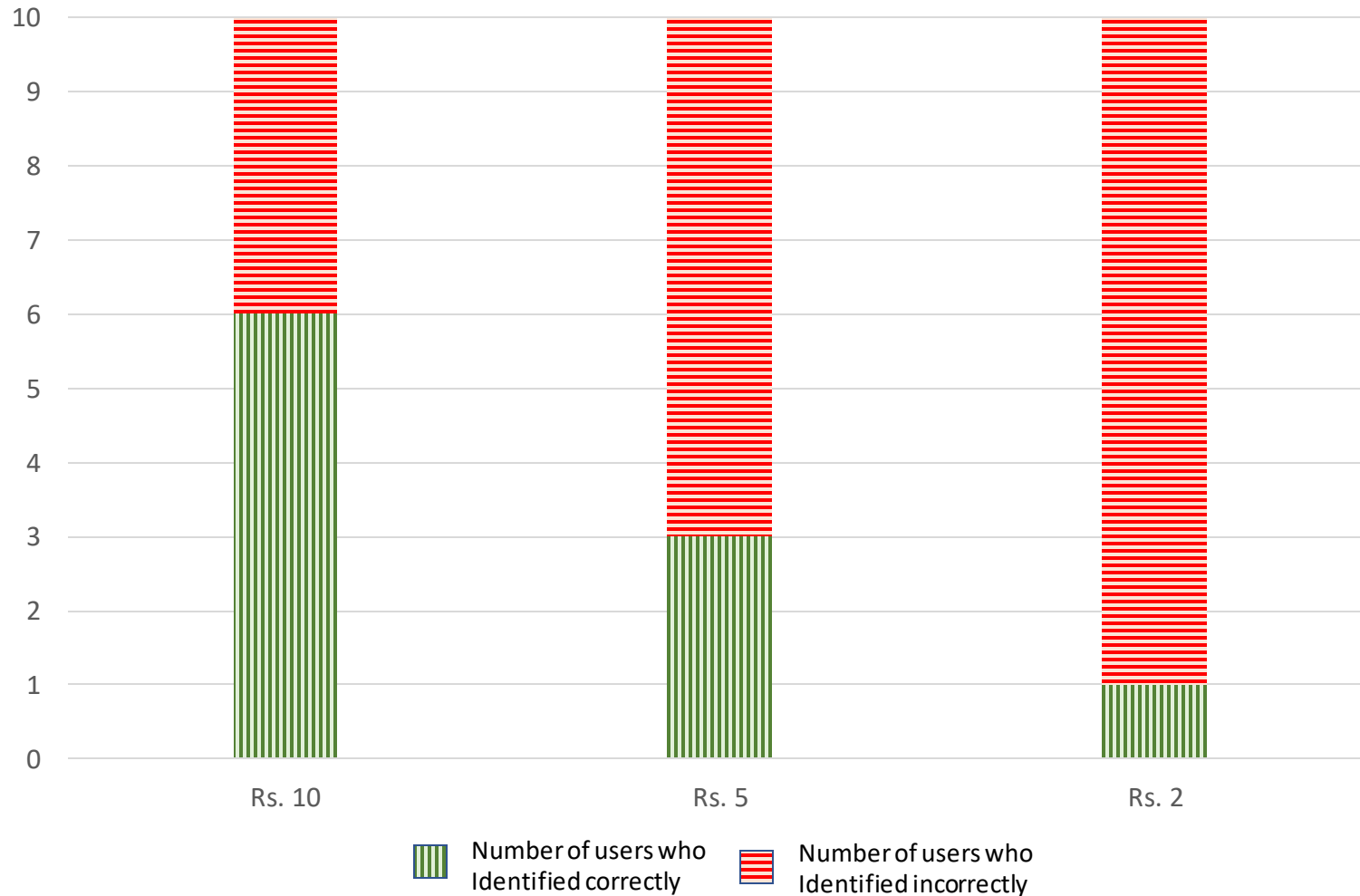
Rs. 2 & Rs. 5:

- Almost all users took a longer time to identify Rs. 2 and Rs. 5
- 2 users went back and forth about Rs. 2 & Rs. 5. Gussed it incorrectly for the first time and then changed their answers.
- Users said that the size of Rs. 2 is very small like some Re. 1 coins.
- Rs. 5 was lighter as compared to the older coin hence many were not able to identify it correctly.

4. Stimulating a real-life scenario

The users were first asked to explore the coins of the new series before asking them to identify.

On an average users took about 2-4 minutes to pick out the new series of coins from a mixed bag of 15 coins.



Rs. 10:

- 6/10 users picked out coins of Rs. 10 from the correct series.
- 4/10 users picked out coins of Rs. 10 from the older series.

Rs. 5:

- 3/10 were able to identify the correct coin
- 4/10 users picked out an old Rs. 5 coin.
- 3/10 picked out old Re. 1 or Rs. 2 coin.

Rs. 2:

- 1/10 user was able to identify the correct coin.
- 3/10 users picked out a new Rs. 10 coin
- 3/10 users picked out a new Rs. 5
- 3/10 users picked out an old Re 1.

Findings

No. of users	Statement	Reasons
10/10	Users mentioned that they preferred the older coins from late 90's to early 2000's	They were easy to differentiate because of different shapes also because of prominent size differences.
10/10	Users said that identifying coins has become tougher as times have passed.	With the introduction of new coins and not demonetizing the older coins, differentiating Re. 1 and Re. 2 from each other and from the same value coins from different series has become tougher. There is not much difference in size and shape
10/10	People said that if they could decide how they would want the coins to be designed, they would make noticeable changes to the shapes, sizes, tactile elements and thickness of coins	They would want the shapes or the sizes of the coins to be noticeably different.
4/10	Users said in many cases they might have given away more money just because they could not identify the coins.	Happens mostly when they are on a busy road and are supposed to pay the auto rickshaw.

Users Speak

- The alloy of the metal used in the coins in the recent 20 odd years has made the tactile elements on the coins rub away faster making it difficult for low vision users to identify currency.
- Users mentioned that even though there are apps to identify currency denomination, they cannot use them on busy streets as the process can turn out to be time consuming.
- Many users said that they get confused between a Rs. 2 and Rs. 10 coin from an older series because of the similarity in size.
- Users said they could identify the value of an older coin even by the sound it made when it fell on the floor.
- Many users, unless told are unaware about the fact that Rs. 2 coins even from the older series have textured edges.
- Although the sizes of these new coins differ from each other, the values of these might be difficult to distinguish for the users when the coins are given to them along with coins from the previous series.
- A Rs. 10 coin is the easiest and the fastest to distinguish for these users.
- Even after getting familiar with the new coins, users mentioned that identifying the new Rs. 2 from Rs. 5 from each other and from other coins from the older series is difficult.
- Users say that although it might get easier for them to identify and differentiate the coins as they get familiar with them but still, identifying these coins won't be quick especially when mixed with other coins from older series.

Our Takeaways

The new series of coins designed by the RBI especially for the visually impaired users is a good first step towards inclusion and accessibility in our country. This practice should be continued on all fronts to promote and encourage inclusion.

We Believe

- The method visually impaired users currently use of keeping coins in different compartments using to keep them separately is a temporary method but, not the ideal solution for making this experience smooth for the users.
- These designs are effective but only in isolation and only for a limited period (till the texture does not wear off).
- Identifying the new coins in a usual and practical scenario, from a pouch of coins is not quick enough.
- We do have a rough understanding of the features of the new Re. 1 and Rs. 20 coins but are still yet to understand how effectively would a user be able to distinguish a Re. 1 coin from a Rs. 2 coin.
- While this new series is designed for the visually impaired, the other user groups in our country need to be considered in order to make the coins inclusive and accessible for all.

Way Forward

At BarrierBreak, we think the direction that the Government has taken is interesting but in order to make them more efficient and inclusive, we would want to look at this with different lenses.

Our Outlook

- To include diverse user groups – their needs and their perspectives
- Suggest design changes so that coins can be easily identified individually (in isolation) without having to compare them. We would do so by considering using different shapes, textures, weights, thicknesses and edges.

About BarrierBreak

BarrierBreak is a social enterprise which operates in the digital accessibility space. Our team of 220+ motivated and technocentric individuals aim to help our clients achieve compliance to Americans with Disabilities Act (ADA) and Section 508 laws through our services.

We understand Inclusion! Inclusion is in our DNA. 65% of the team at BarrierBreak comprises of people with disabilities and we want to make our learning available to customers worldwide.

Inclusive Design

Our Inclusive Design approach can assist customers to look at their products or solutions from a different lens. A lens where we include people of diverse needs and abilities. A lens where we bring the diverse groups, together with accessibility and design experts.

It's time to Design & Build for All.



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Thank you

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