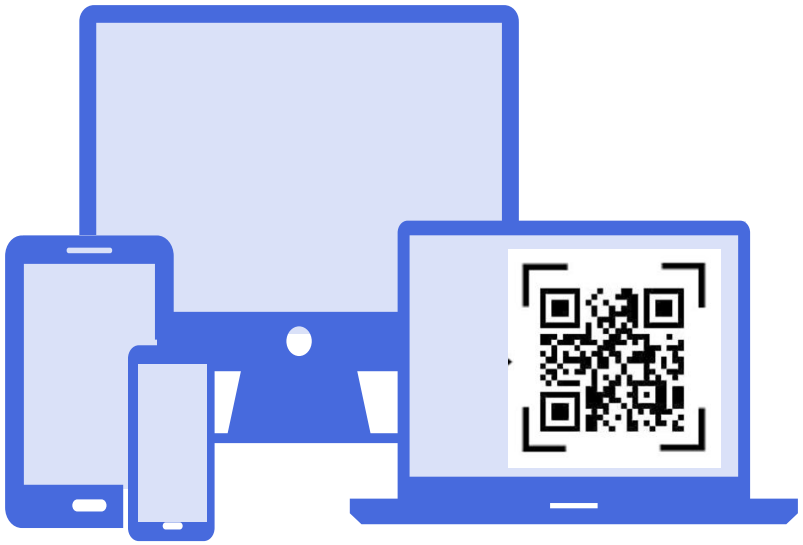
Understanding Consumer Perspectives on the 6 GHz Band: Bridging the digital divide and rural connectivity

- Sampling
- Questionnaire Development
- Choice Experiment Design
- Practical Intervention Design
- Partner Identification
- Pilot Testing
- Administration

PROCESSS

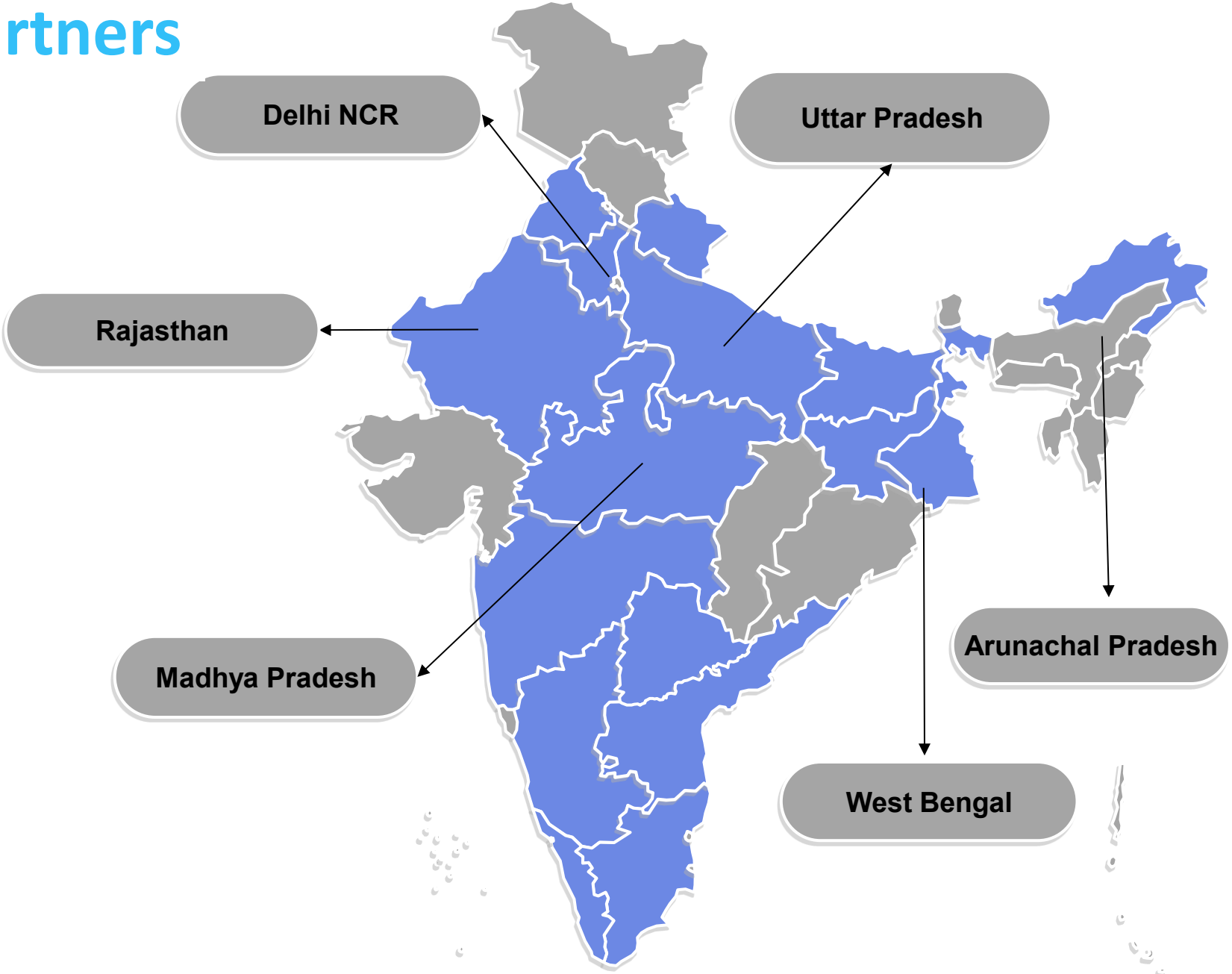


- ~380 Respondents
- 15 In-depth interactions
- 8 Locations
- 3 Languages
- 2 Modes

- Different income levels
- Homemakers, Farmers, Anganwadi workers, Students, Professors, Lawyers, Engineers, Entrepreneurs, etc.
- Policy Think Tanks, NGOs, Mining Offices, Court Premises, Educational Institutions, Hotel, Public Places, etc.
- Wi-Fi & Non Wi-Fi users
- Perspective on Public Wi-Fi

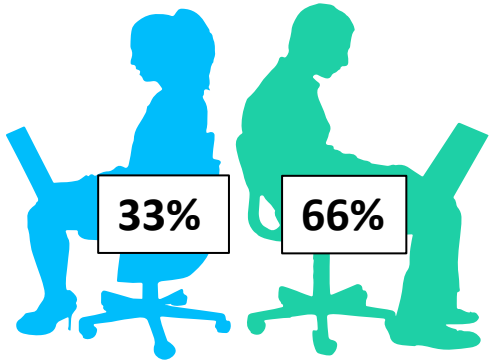
Survey Locations & Partners

- CUTS Chittorgarh Human Development Centre
- CUTS Calcutta Resource Centre
- CUTS Delhi Resource Centre & CUTS Institute for Regulation & Competition
- National Law Institute University, Bhopal
- BBD University, Lucknow
- ITC Fortune, Lucknow
- Ashoka University, Sonepat
- IIIT Bangalore

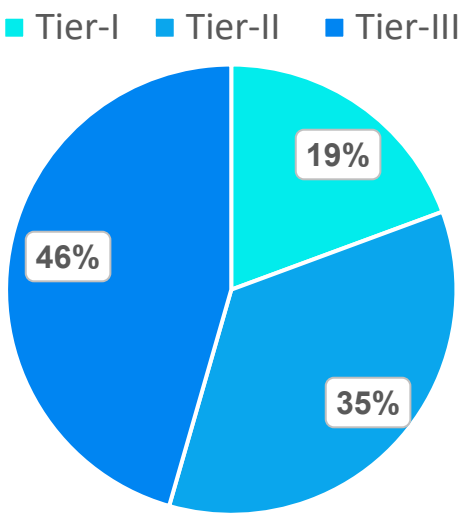


*__Note__: Responses were collected from states highlighted in blue, in the above map. Labelled states include locations where in-person interactions were conducted.

Respondent Profile



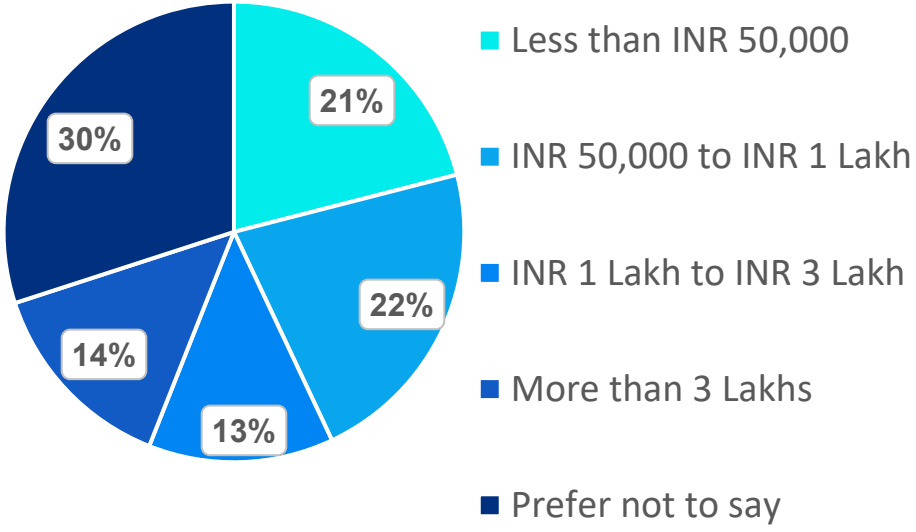
Gender Distribution



Location Classification

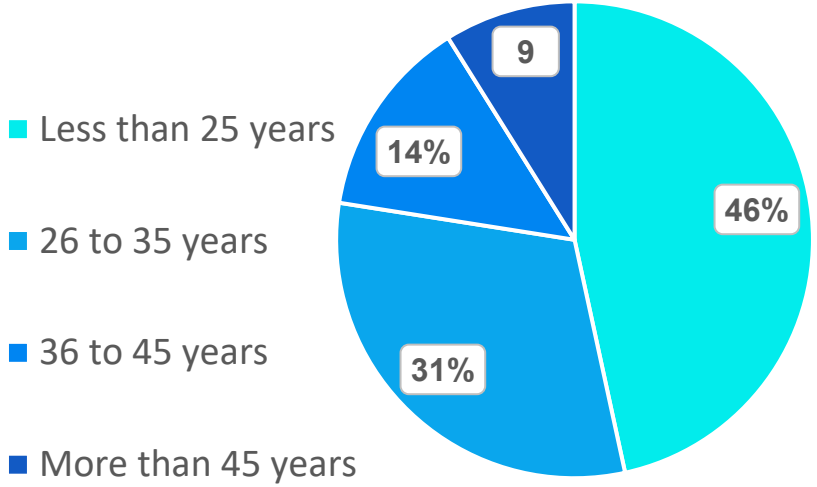
Different backgrounds

Note: Remaining 1% prefer not to disclose.



Income Level Distribution

Average family members in a household



Age Range

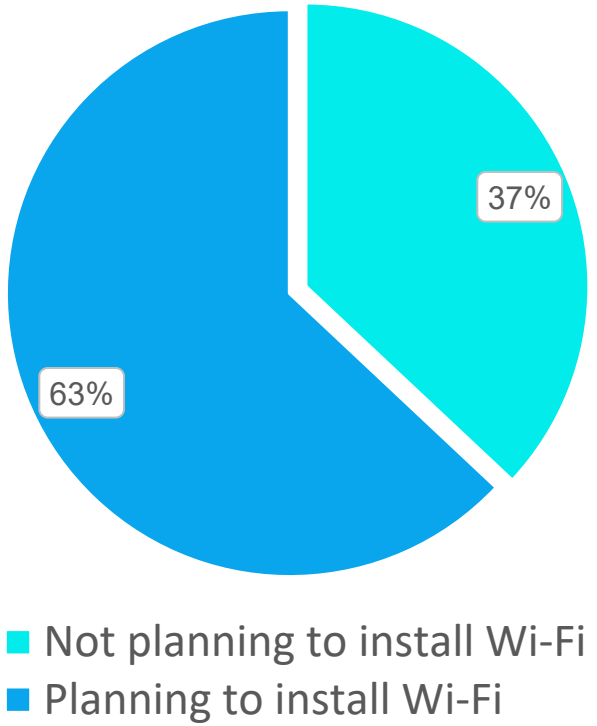
Key Findings

1. 52 % of respondents had home Wi-Fi; 48 % do not

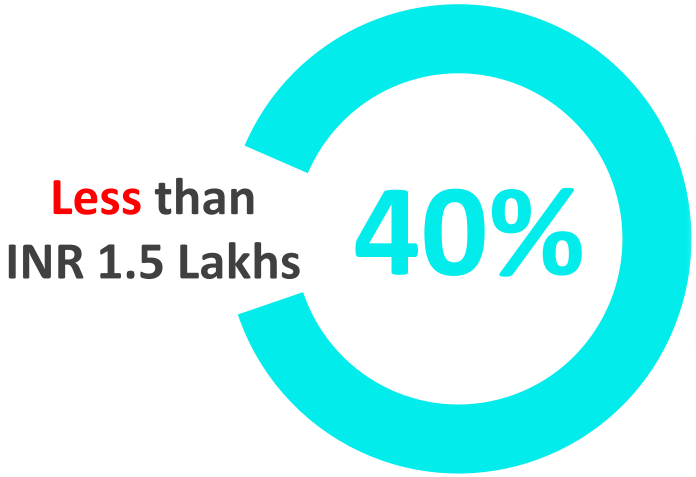
2. Penetration by urban areas: 88 % (Tier I) → 60 % (Tier II) → 32 % (Tier III)

3. Concerns of rural consumer: lack of awareness, availability, and affordability

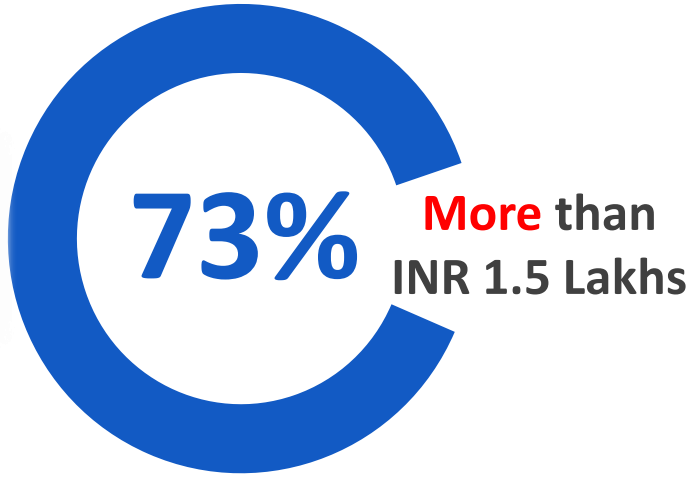
4. 63 % of non-users plan to install Wi-Fi



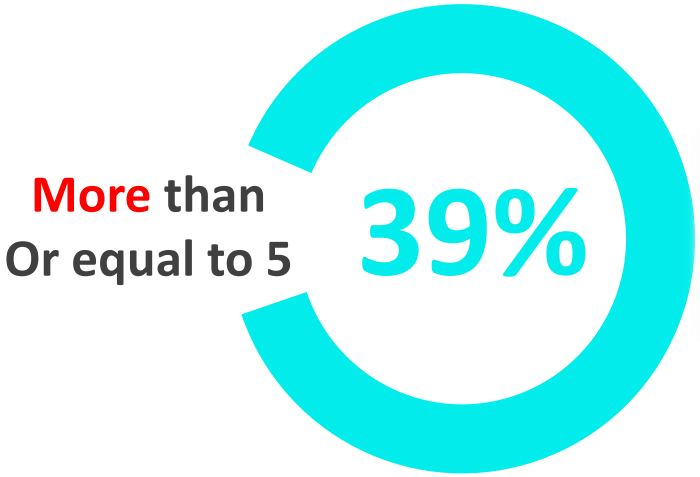
Wi-Fi Exclusion Trap



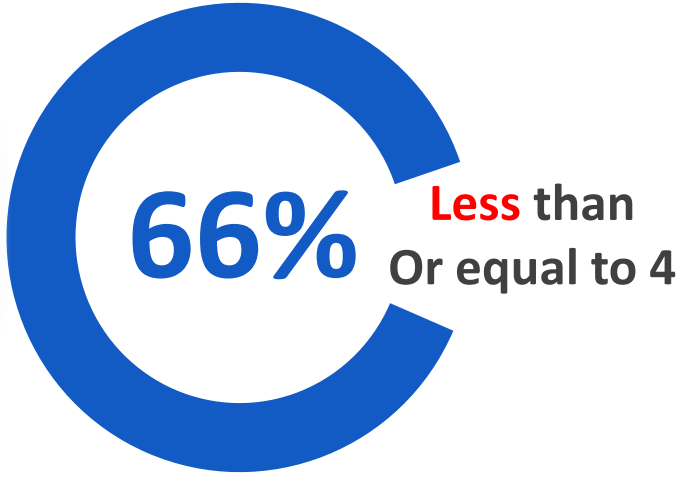
VS



Homes with lesser average monthly family income are less likely to have Wi-Fi connections

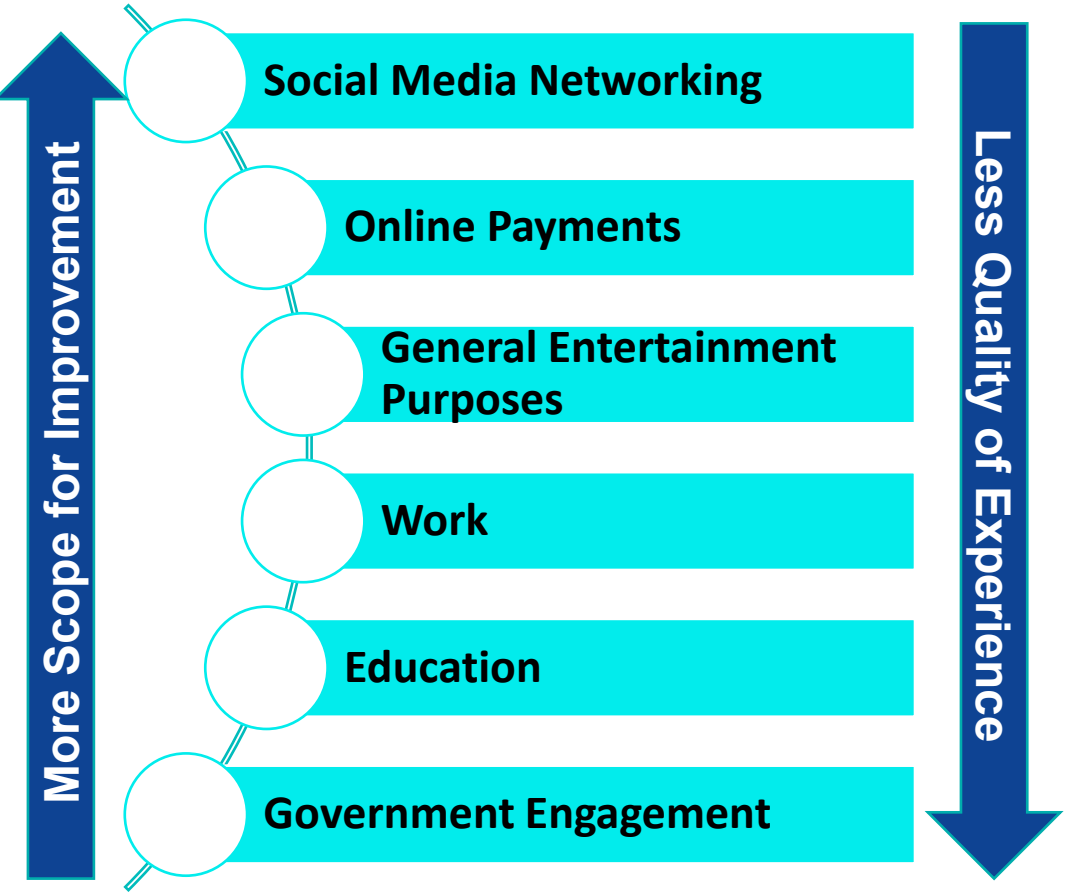


VS



Homes with more family members are less likely to have Wi-Fi connections

Wi-Fi Use Cases & Quality of Experience (QoE)

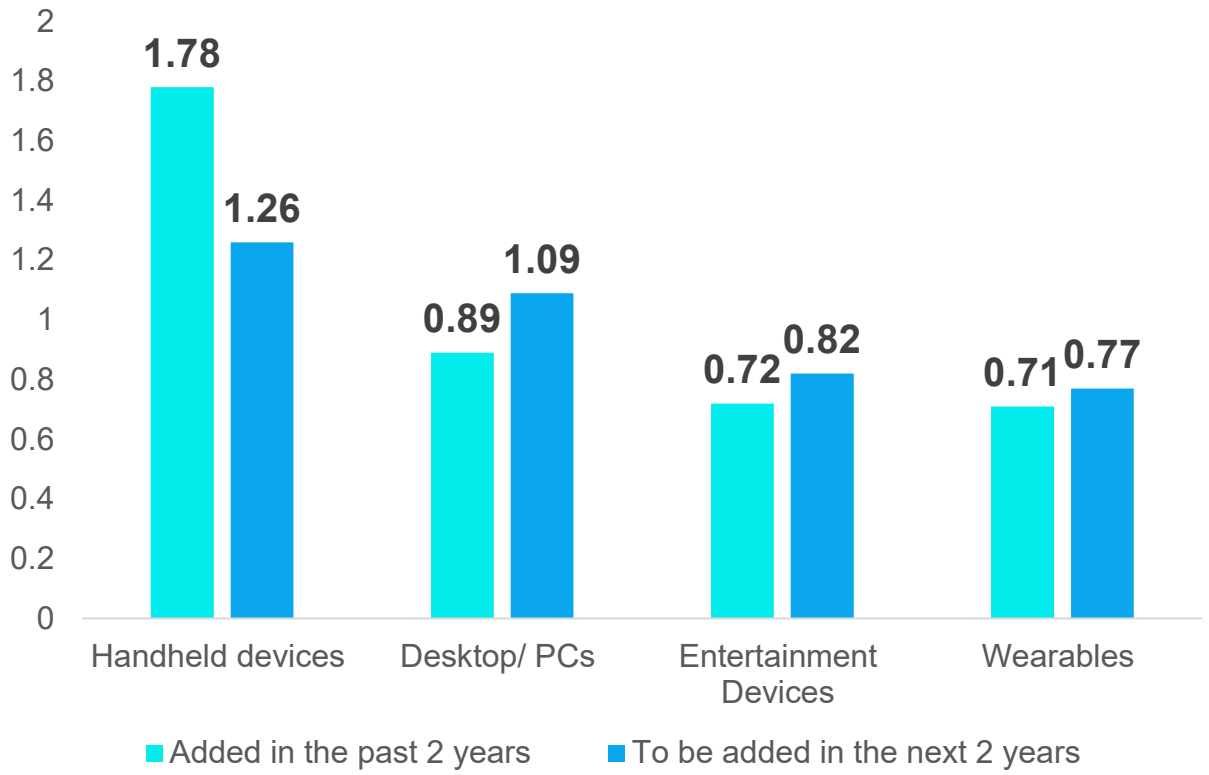


Mobile data: often exhausted by mid-day, slow, intermittent

Wi-Fi 6E on 6 GHz can deliver higher throughput and lower latency

Future Demand & Trends in Wi-Fi Connected Devices

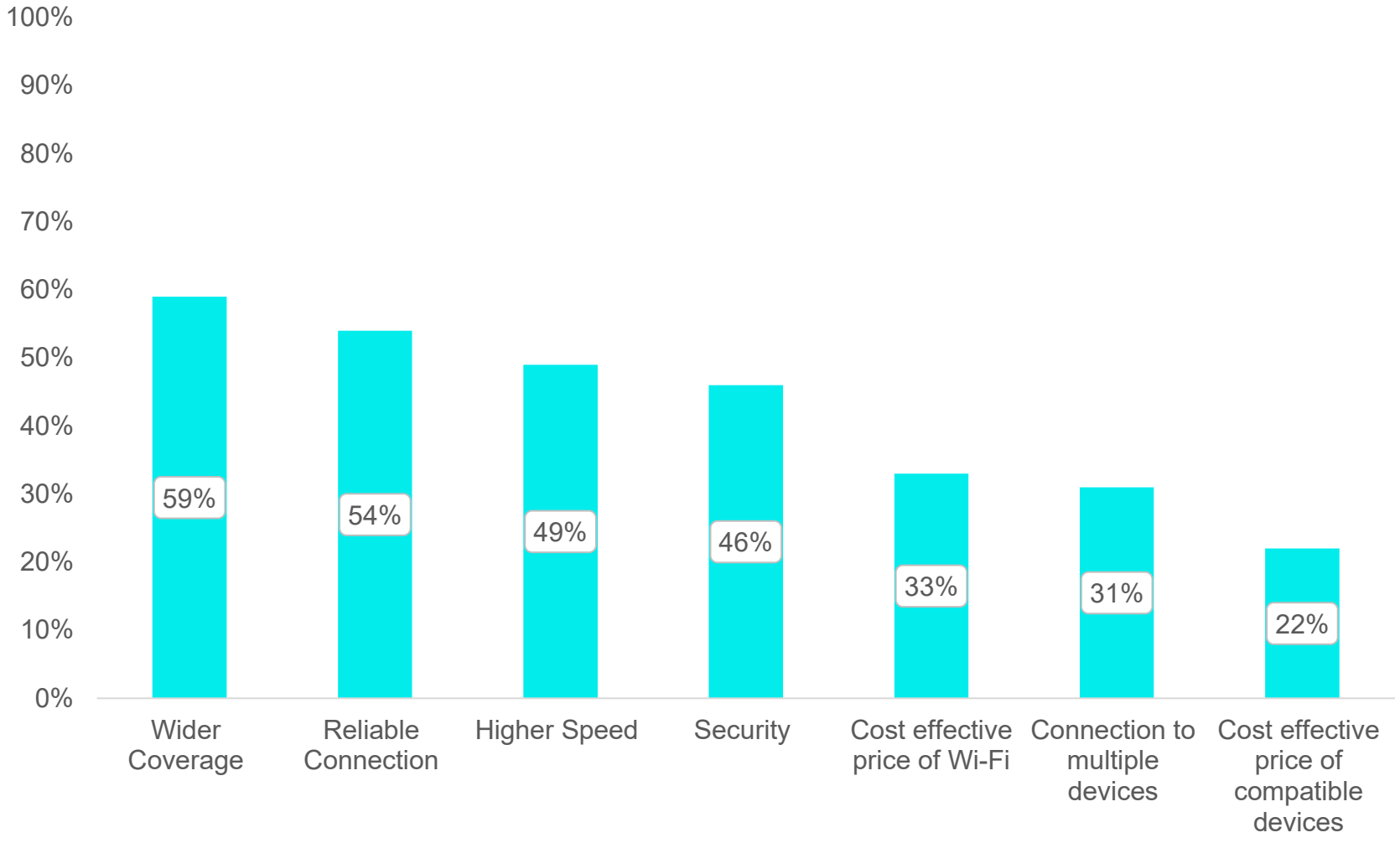
- There is an **increase in demand and adoption of Wi-Fi connected devices**
- Over **44 % respondents** Want to upgrade to latest Wi-Fi that supports high-end devices
- **Younger respondents are more likely to add Wi-Fi connected devices**



Note: Based on Wi-Fi respondents in in-person interactions

Age Range	Desktop/ PCs	Handheld Devices	Entertainment Devices	Wearables
Less than or equal to 35 years	**1.17**	**1.35**	**1.08**	**0.94**
More than 35 years	**0.51**	**0.91**	**0.64**	**0.39**

Future of Wi-Fi: Expectations of Respondents



Consumers expect reliable, secure Wi-Fi that supports multiple devices, with high bandwidth and low latency.

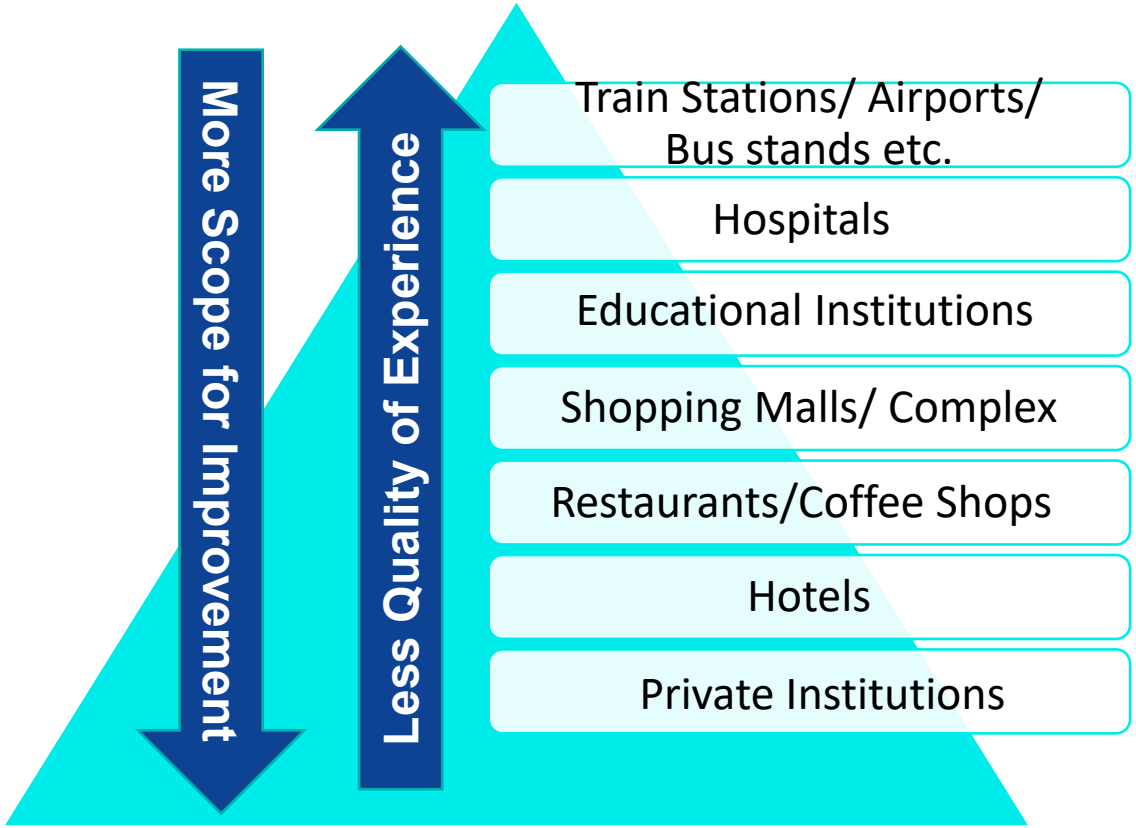
Wi-Fi 6E is poised to meet these demands with less congestion, faster speeds, and greater efficiency and performance

Note: This was a Multiple Choice Question (MCQ).

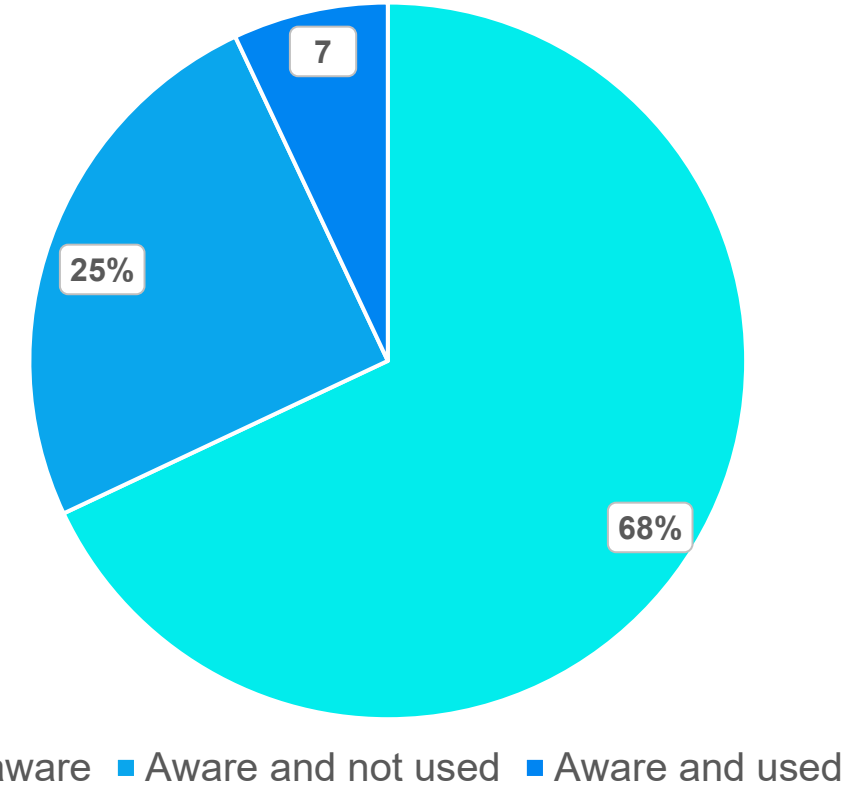
Perceptions on Public Wi-Fi & PM-WANI Scheme

61%
used Public Wi-Fi

Places where respondents have used public Wi-Fi

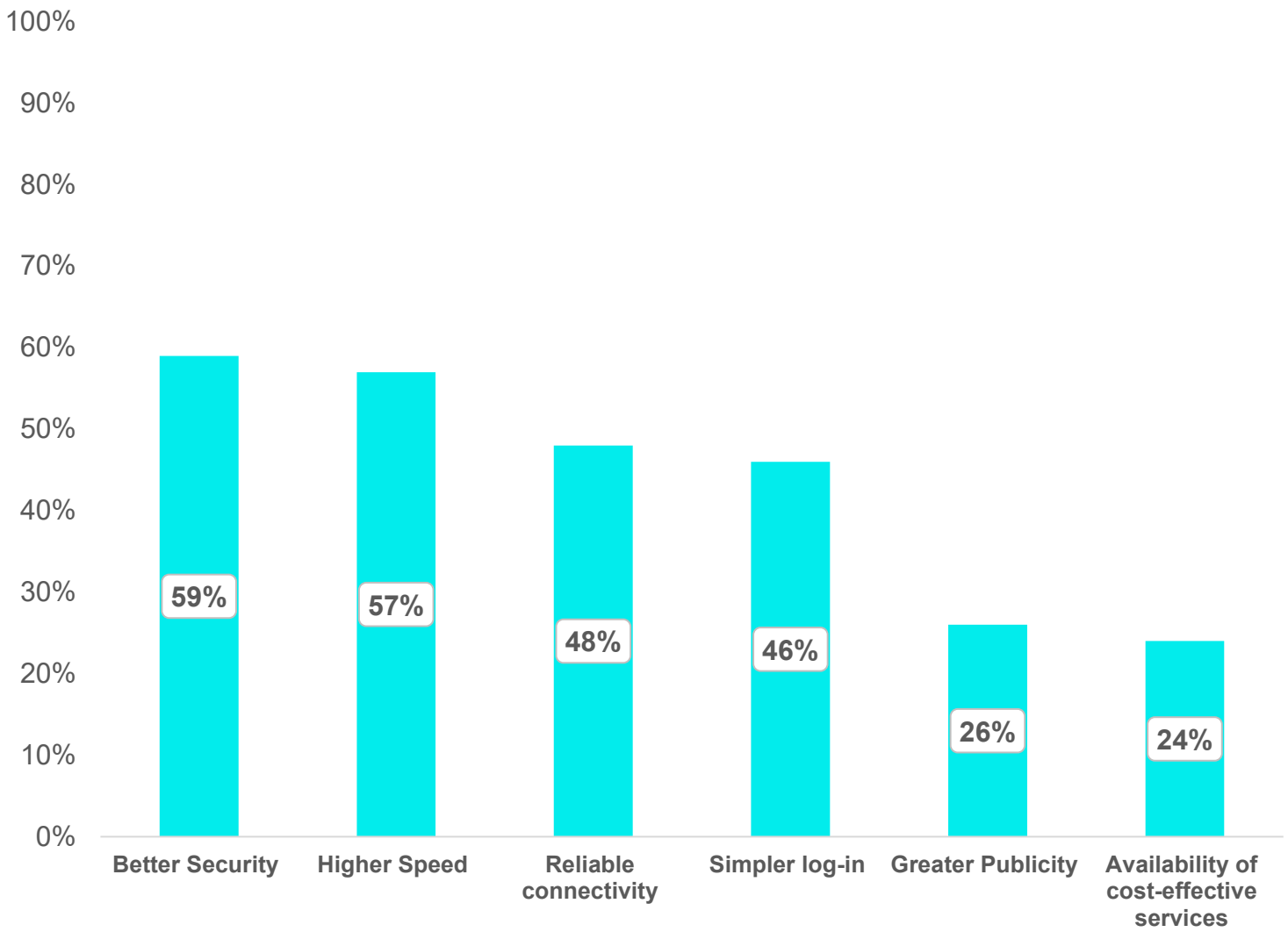


Perspectives on the PM-WAANI Scheme



- Need for improved Quality of Experience (QoE) in public areas
- 6 GHz band offers additional bandwidth to support public Wi-Fi expansion and PM-WANI

Perceptions on Improvement of Public Wi-Fi



Note: This was a Multiple Choice Question (MCQ).

Consumers want strong data protection in Wi-Fi technologies

Wi-Fi 6E, with 6 GHz band and WPA3 security, can meet public Wi-Fi security and performance expectations

Unlocking Inclusive Growth through 6 GHz Wi-Fi

1. Wi-Fi projected to add ₹300 lakh crores (US$ 4.9 T) globally by 2025

2. Applications Enabled: AR/VR, robotic surgeries, immersive learning, Industry 5.0

3. Key Advantages: mature device ecosystem, affordability, coexistence studies confirm safe sharing

4. CUTS welcomes the step to delicense the Lower 6 GHz band (5925–6425 MHz) for indoor use

Recommendations for the Way Forward

1. Need to make **secure Wi-Fi easily accessible at affordable costs**, while taking last mile-connectivity into account, with a view to extract consumers from the Wi-Fi exclusion trap

2. Leverage 6 GHz for Public Good: Upgrade PM-WANI hotspots with LPI 6 GHz APs

3. Due cognizance must be placed on future trends of devices and an ecosystem supporting such devices must be made available

4. Increase awareness on Wi-Fi to rural consumers, benefits of public Wi-Fi and about PM-WANI

5. Continuous Research & Monitoring, dialogue on spectrum policy to fulfill latent consumer demand