



# Bharat Herald: Provide Insights to Guide a Legacy Newspaper's Survival in a PostCOVID Digital Era



Presented By: Harshitha Panuganti



# **Bharat Herald Problem Statement:**

Bharat Herald, a 70-year-old legacy newspaper, is struggling to survive due to a sharp decline in print circulation (from 1.2M to 560K between 2019–2024) and failure to adapt digitally. While competitors adopted mobile-first platforms and subscription models, its 2021 epaper pilot failed. This has led to falling advertiser confidence, delayed vendor payments, bureau closures, and layoffs of 60+ employees. An internal audit now highlights severe financial distress, putting the organization at risk of collapse.

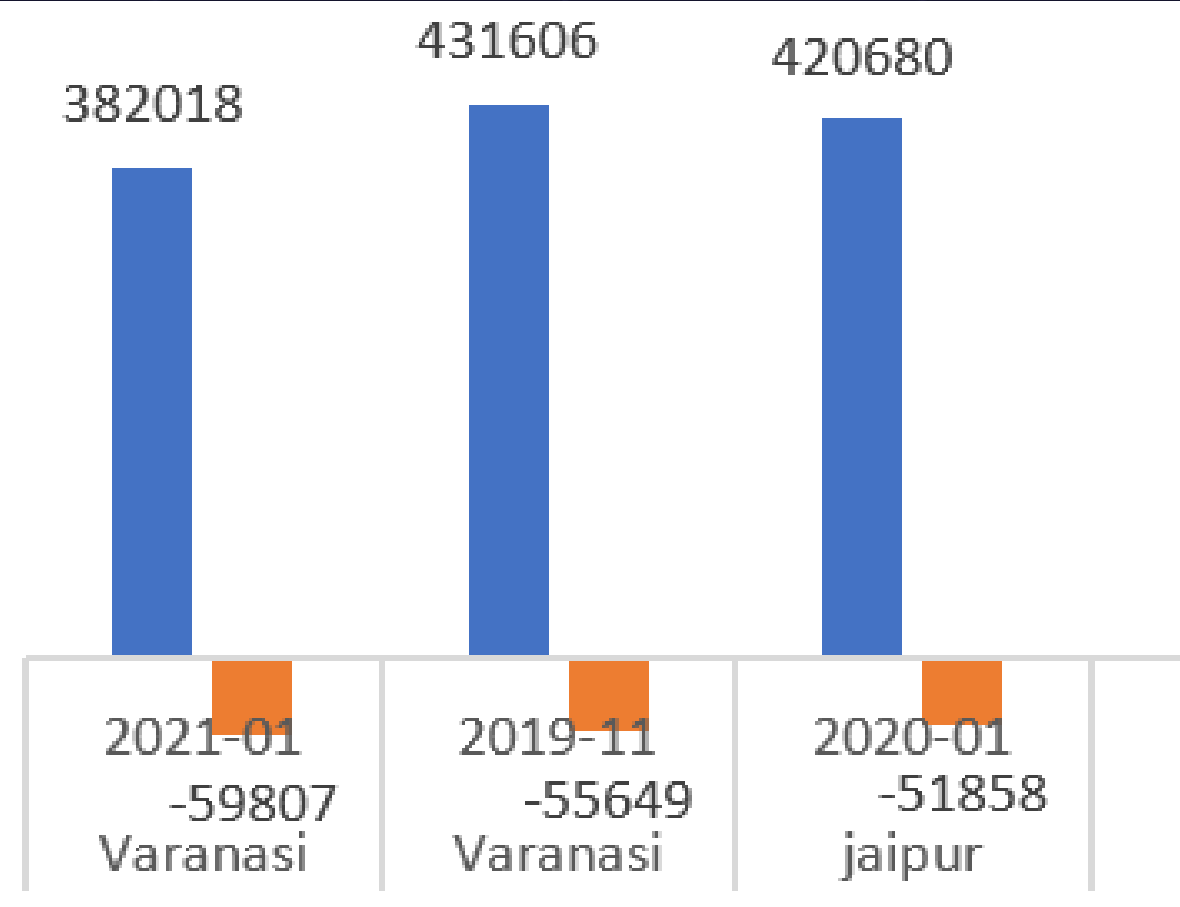
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1. Generate a report showing the top 3 months (2019–2024) where any city recorded the sharpest month-over-month decline in net\_circulation.

city_name	month	Net_Circulation	mo_m_change
Varanasi	2021-01	382018	-59807
Varanasi	2019-11	431606	-55649
jaipur	2020-01	420680	-51858

Insights:

Varanasi recorded the highest month-over-month circulation drop in January (59807) declined



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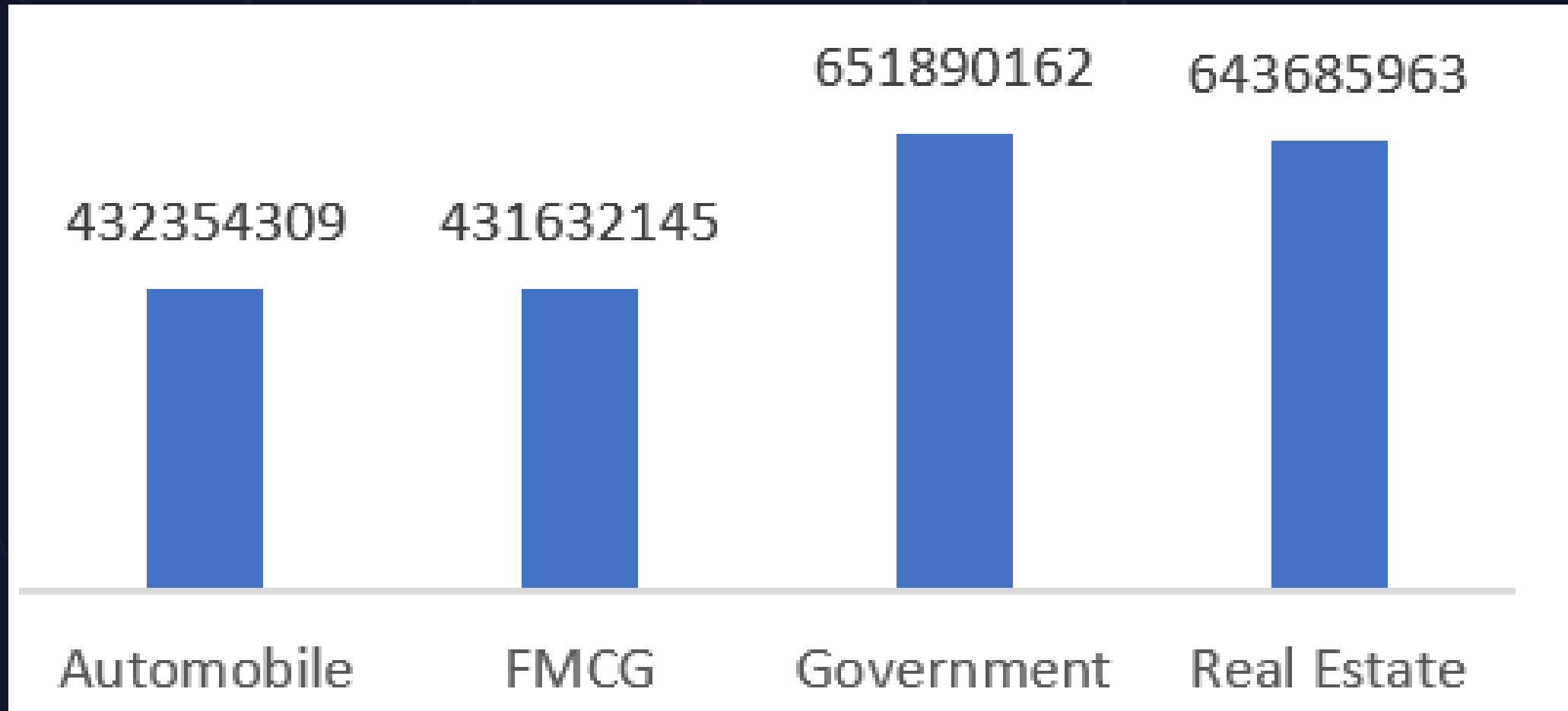
## 2. Identify ad categories that contributed > 50% of total yearly ad revenue



Year	category_name	category_revenue	total_revenue_year	pct_of_year_total
2019	Government	127431230.00	358568490.00	35.538881
2019	Real Estate	84572905.00	358568490.00	23.586262
2019	FMCG	83791288.00	358568490.00	23.368280
2019	Automobile	62773067.00	358568490.00	17.506576
2020	Government	106000917.00	348775526.00	30.392304
2020	Real Estate	97915144.00	348775526.00	28.073972
2020	Automobile	91398561.00	348775526.00	26.205555
2020	FMCG	53460904.00	348775526.00	15.328170
2021	Real Estate	125182014.00	361503813.00	34.628131

### Insights:

- 1. The highest contributing category is the Government sector in 2019( 35.54%)
- 2. The top category contributed is between 30% to 35%



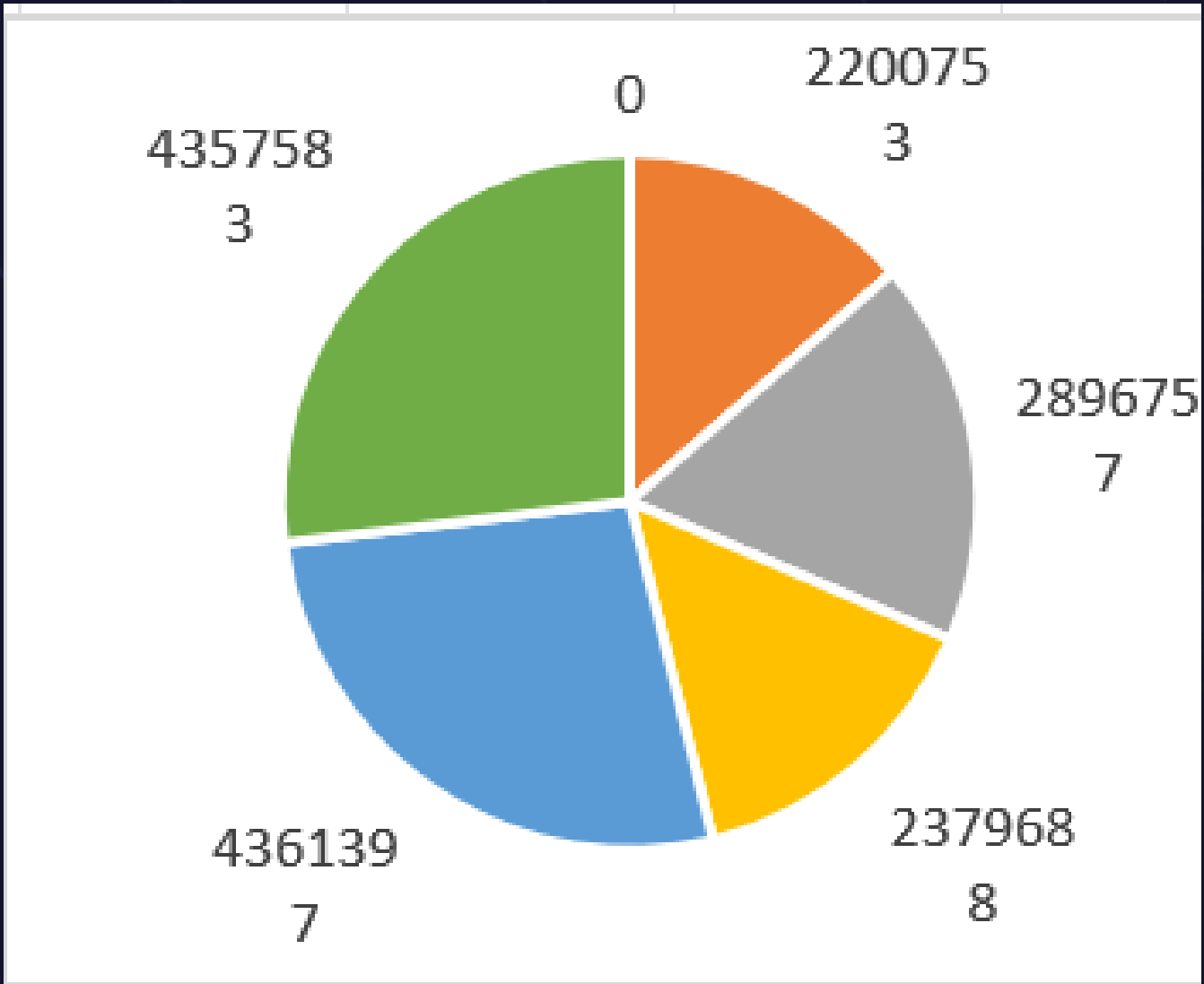


3. For 2024, rank cities by print efficiency = net\_circulation / copies\_printed. Return top 5.

city_name	copies_printed_2024	net_circulation_2024	efficiency_ratio	efficiency_rank_2024
ranchi	2200753	2092062	0.9506	1
Ahmedabad	2896757	2746691	0.9482	2
Patna	2379688	2252819	0.9467	3
jaipur	4361397	4128641	0.9466	4
Varanasi	4357583	4123611	0.9463	5

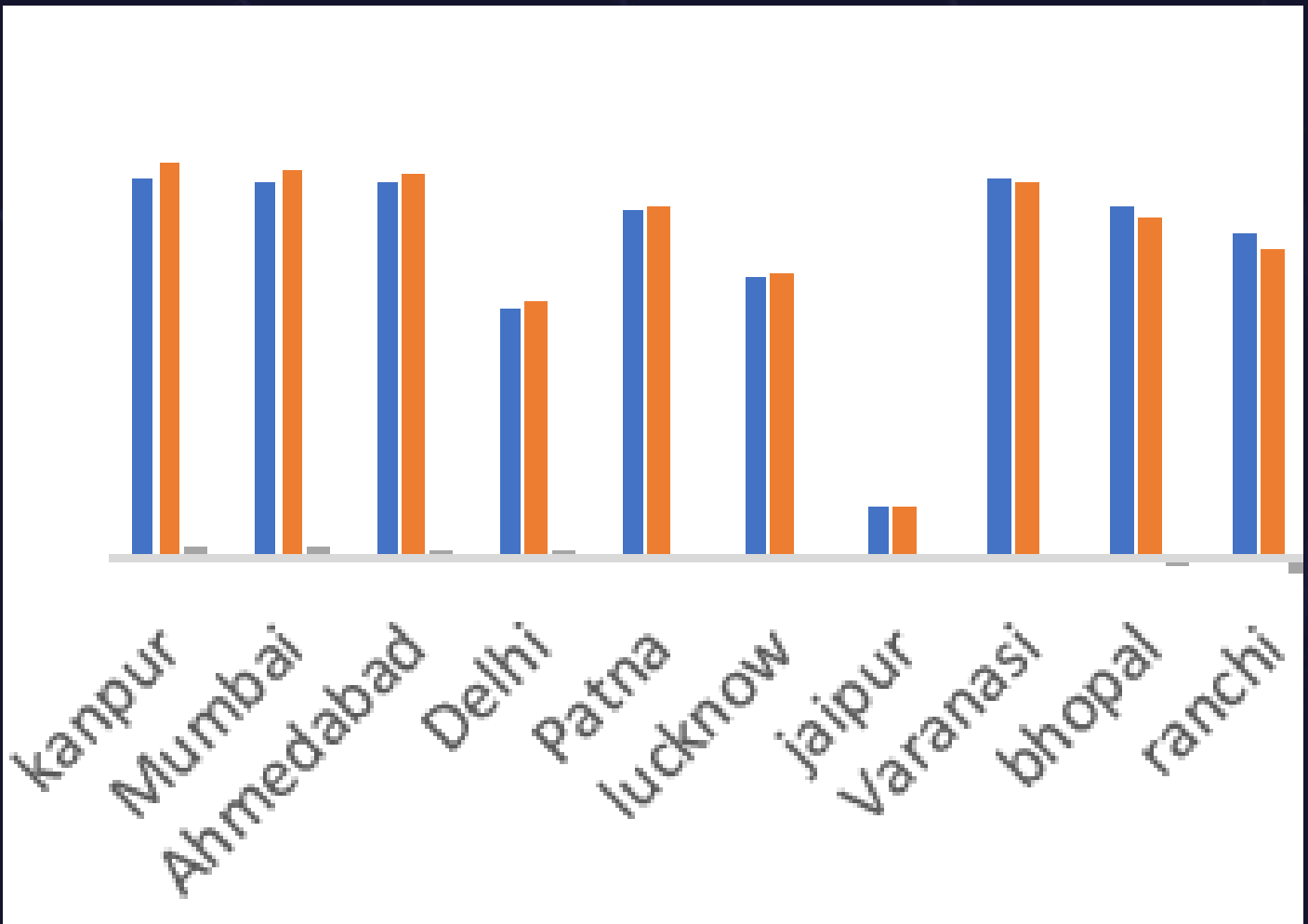
Insights:

- 1. Ranchi has the highest Efficiency around 95%.
- 2. Second, the Efficiency of Ahmedabad is 94%.



4. For each city, compute the change in internet penetration from Q1-2021 to Q4-2021 and identify the city with the highest improvement.

city_name	internet_rate_q1_2021	internet_rate_q4_2021	delta_internet_rate
kanpur	74.27	76.77	2.5
Mumbai	73.31	75.74	2.4299999999999926
Ahmedabad	73.03	74.8	1.7699999999999996
Delhi	48.68	50.41	1.7299999999999969
Patna	67.73	68.56	0.8299999999999983
lucknow	55	55.71	0.7100000000000009
jaipur	10	10	0
Varanasi	73.51	73.45	-0.060000000000002274
bhopal	68.21	66.48	-1.7299999999999898
ranchi	63.49	60.36	-3.1300000000000026

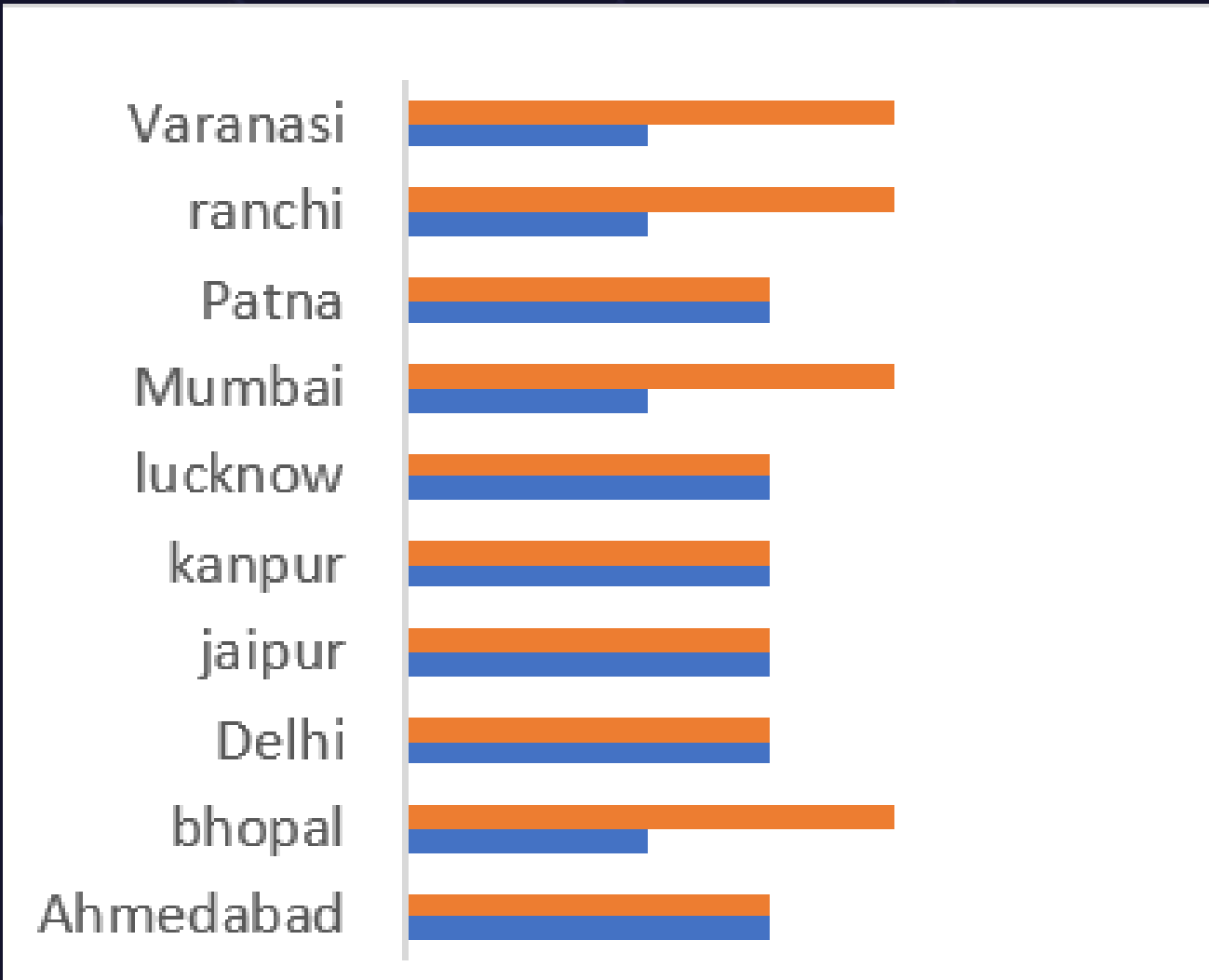


Insights:

- 1. Kanpur has increased internet readiness growth in 2021 (+2.5).
- 2. Second growth is Mumbai and Ahmedabad.
- 3. The Least Growth decline is in Ranchi and Bhopal

5. Find cities where both net\_circulation and ad\_revenue decreased every year from 2019 through 2024 (strictly decreasing sequences).

city_name	Year	yearly_ne	yearly_ad_re	is_dec	is_declinin	is_declining_both
lucknow	2019	2336155	37332719.00	Yes	Yes	Yes
Patna	2019	3020231	40350836.00	Yes	Yes	Yes
ranchi	2019	2775795	38652488.00	Yes	Yes	Yes
bhopal	2019	3268206	38410416.00	Yes	Yes	Yes
Varanasi	2019	5531144	25659053.00	Yes	Yes	Yes
Ahmedabad	2019	3624541	37238301.00	Yes	Yes	Yes
Delhi	2019	4354258	33413146.00	Yes	Yes	Yes
kanpur	2019	4245778	34221886.00	Yes	Yes	Yes



Insights:

- 1. Ahmedabad, Bhopal, Delhi, Kanpur, and Mumbai show a consistent multi-year decline in both circulation and revenue(2019-2024).
- 2.Other cities (Jaipur, Lucknow, Patna, Ranchi, Varanasi) faced circulation decline but sustained/increased revenues, indicating mixed resilience.

6. In 2021, identify the city with the highest digital readiness score but among the bottom 3 in digital pilot engagement.

city_name	readine:	engagen	readi	enga	is_outlier
kanpur	75.7...	75.78	1	40	No
Varanasi	74.4...	74.44	5	36	No
lucknow	73.5...	73.59	9	32	No
bhopal	73.4...	73.48	10	31	No
Ahmedabad	73.43	73.43	11	30	No

Insights:

Kanpur has the highest readiness score (75.23, Rank #1).  
2.Engagement ranking is based on platform metrics, where the bottom 3 are:  
PDF WhatsApp Push (Rank 3)  
Mobile App Beta (Rank 4)  
E-paper Mobile Web (Rank 2) → depending on cut-off definition.

