



# **MEDIA SURVIVAL ANALYSIS FOR BHARAT HERALD IN A POST-COVID DIGITAL ERA**

**Domain:** Media & Publishing

**Function:** Strategy & Data Analytics

**CODEBASICS RESUME CHALLENGE #17**

**PRESENTED BY :** RISHITA SINGH



# Analysis Roadmap

## Primary Analysis

Fact-based analysis from available data.  
Covers print circulation, ad revenue, waste, ROI, and digital readiness.  
Directly addresses “what happened” and “where we stand.”

## Strategy & Recommendations

Strategic action plans based on data insights.  
Focus on “what next”.  
Provides implementable recommendations for business growth.

## Ad-hoc Requests

Additional stakeholder-driven deep dives.  
Provide sharper, context-specific insights.



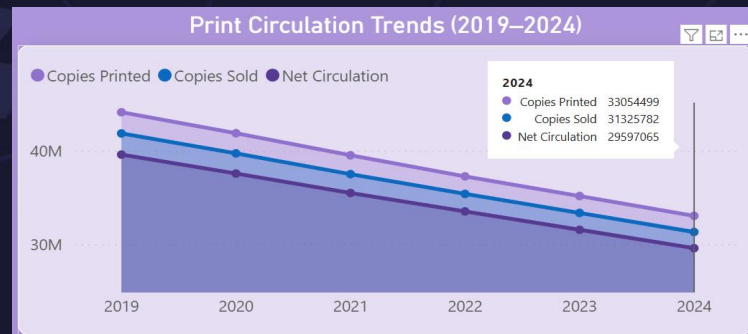
# Primary Analysis



# Print Circulation Trends



What is the trend in copies printed, copies sold, and net circulation across all cities from 2019 to 2024? How has this changed year-over-year?



Year	Copies Printed	Copies Sold	Net Circulation
2019	44.1M	41.8M	39.6M
2020	41.9M	39.7M	37.6M
2021	39.5M	37.5M	35.5M
2022	37.3M	35.4M	33.5M
2023	35.2M	33.4M	31.6M
2024	33.1M	31.3M	29.6M



**25% overall decline** across all metrics (2019-2024)

**Annual decline:** 5-6% each year, accelerating to 6.2% in 2024

**Readership and print distribution reduced consistently year-over-year, reflecting challenges in maintaining circulation.**

# Top Performing Cities



Which cities contributed the highest to net circulation and copies sold in 2024? Are these cities still profitable to operate in?

City Profitability Overview - 2024

City	Net Circulation	Copies Sold	Ad Revenue	Profitability Index	Profitability Flag
Jaipur	4.13M	4.36M	41.15M	9.97	Less Profitable
Varanasi	4.12M	4.36M	32.26M	7.82	Less Profitable
Mumbai	3.57M	3.78M	34.63M	9.70	Less Profitable
Delhi	3.25M	3.48M	26.13M	8.03	Less Profitable
Kanpur	3.25M	3.44M	31.41M	9.66	Less Profitable
Ahmedabad	2.75M	2.90M	35.18M	12.81	Less Profitable
Bhopal	2.42M	2.57M	37.20M	15.38	Profitable
Patna	2.25M	2.38M	47.75M	21.19	Profitable
Ranchi	2.09M	2.20M	39.75M	19.00	Profitable
Lucknow	1.76M	1.87M	40.55M	23.00	Profitable
Total	29.60M	31.33M	366.00M	12.37	Less Profitable

**Top 5 cities by circulation:** Jaipur, Varanasi, Mumbai, Delhi, Kanpur

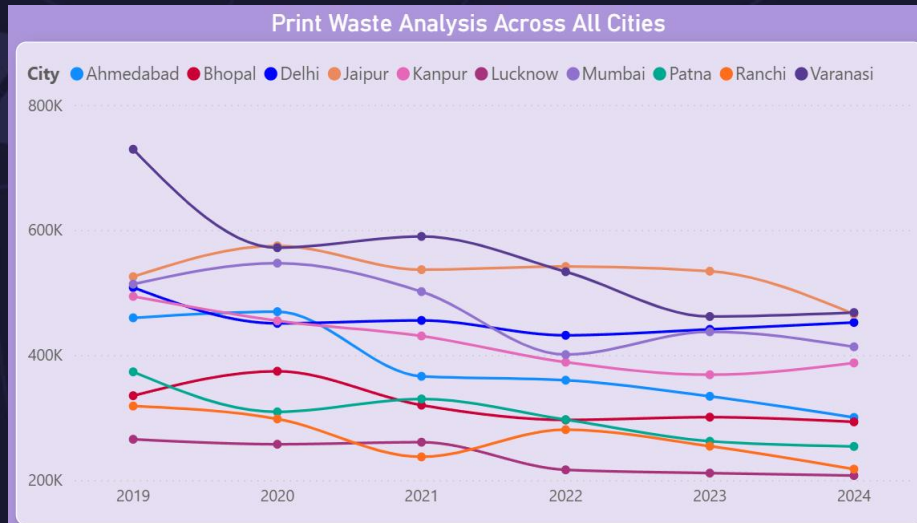
**Profitability insight:** Despite high circulation, most top cities are **less profitable**; smaller cities like Patna, Lucknow, Ranchi, and Bhopal are more profitable.

**Strategic action needed:** Optimize costs in major markets or reallocate to profitable smaller cities

# Print Waste Analysis



Which cities have the largest gap between copies printed and net circulation, and how has that gap changed over time?



**City Wise Print Waste 2019-2024**

City	Waste
Varanasi	3.4M
Jaipur	3.2M
Mumbai	2.8M
Delhi	2.7M
Kanpur	2.5M
Ahmedabad	2.3M
Bhopal	1.9M
Patna	1.8M
Ranchi	1.6M
Lucknow	1.4M
<b>Total</b>	<b>23.7M</b>

**City Wise Print Waste for 2019**

City	Waste
Varanasi	729.2K
Jaipur	525.4K
Mumbai	513.5K
Delhi	508.1K
Kanpur	493.8K
Ahmedabad	459.5K
Patna	373.1K
Bhopal	334.9K
Ranchi	318.4K
Lucknow	265.2K
<b>Total</b>	<b>4521.0K</b>

**City Wise Print Waste for 2024**

City	Waste
Varanasi	467.9K
Jaipur	465.5K
Delhi	452.1K
Mumbai	413.1K
Kanpur	387.3K
Ahmedabad	300.1K
Bhopal	293.0K
Patna	253.7K
Ranchi	217.4K
Lucknow	207.1K
<b>Total</b>	<b>3457.4K</b>

**Highest waste in 2024:** Varanasi (468K), Jaipur (466K), Delhi (452K)

**2019 vs 2024:** Total waste reduced from 4.5M to 3.5M copies (22% improvement)

**Positive trend:** Most cities reducing waste, but Delhi remains flat

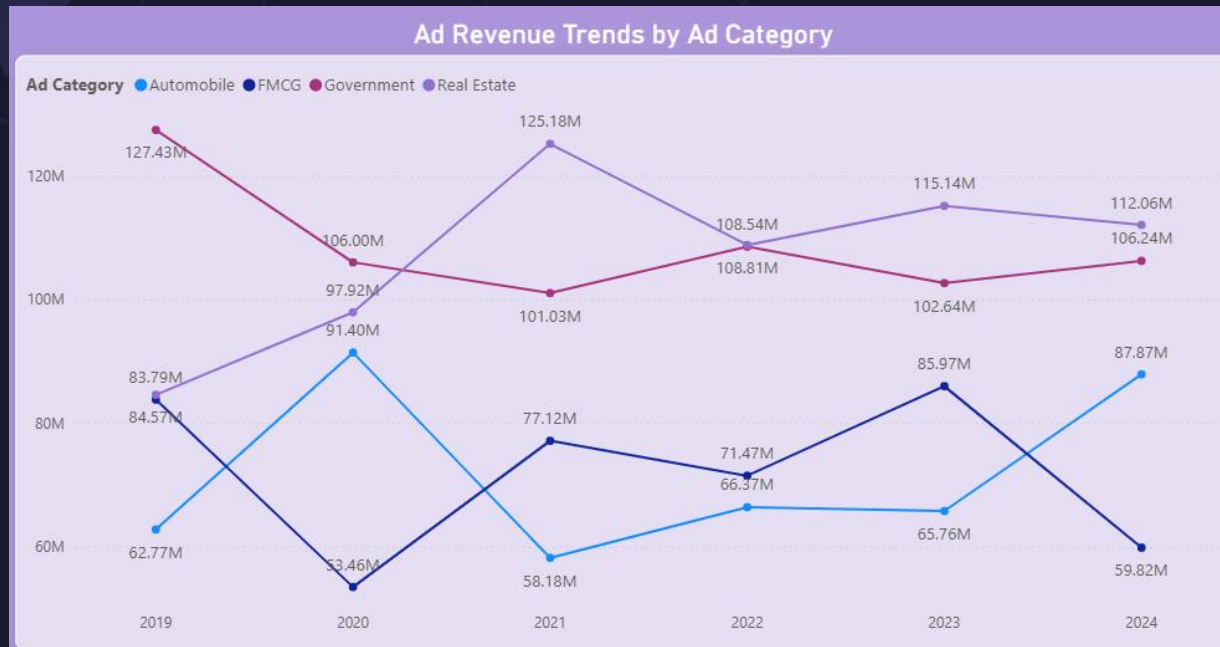
**Total impact:** 23.7 million copies wasted across 6 years



# Ad Revenue Trends by Category



How has ad revenue evolved across different ad categories between 2019 and 2024?  
Which categories have remained strong, and which have declined?



**Strong performer:** Real Estate (33% growth to 112M)

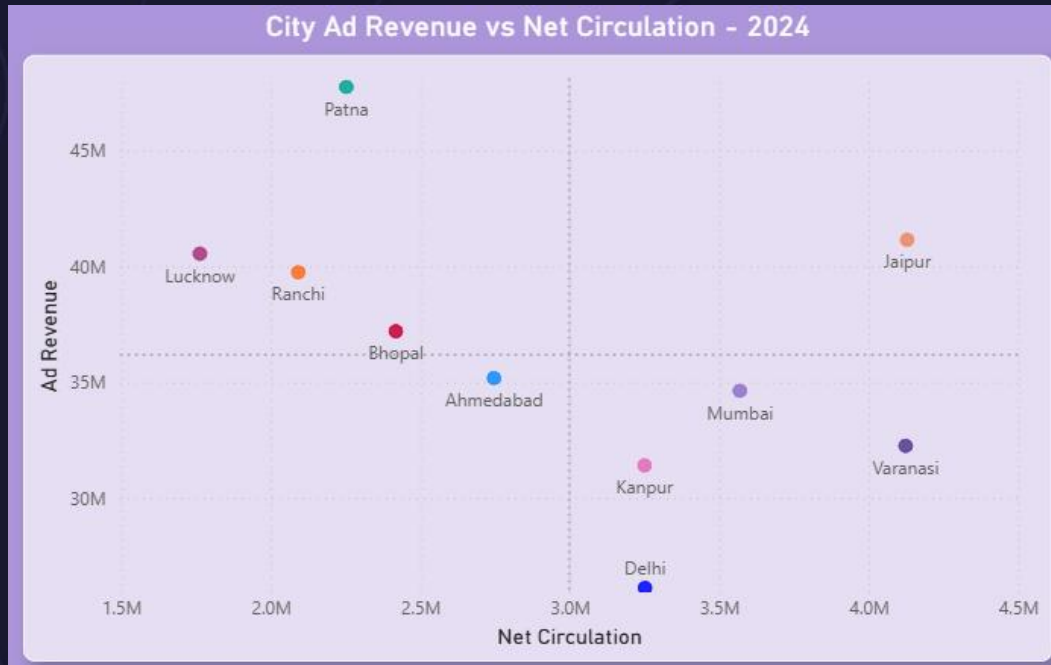
**Recovery story:** Automobile (40% growth despite volatility)

**Declining categories:** FMCG (-29%) and Government (-17%)

**Strategy:** Maximize Real Estate/Automobile growth, reverse FMCG/Government decline

# City-Level Ad Revenue Performance

Which cities generated the most ad revenue, and how does that correlate with their print circulation?



City	Net Circulation	Ad Revenue
Patna	2.25M	47.75M
Jaipur	4.13M	41.15M
Lucknow	1.76M	40.55M
Ranchi	2.09M	39.75M
Bhopal	2.42M	37.20M
Ahmedabad	2.75M	35.18M
Mumbai	3.57M	34.63M
Varanasi	4.12M	32.26M
Kanpur	3.25M	31.41M
Delhi	3.25M	26.13M
Total	29.60M	366.00M

**Top ad revenue cities:** Patna (47.7M), Jaipur (41.1M), Lucknow (40.6M)

**Mixed correlation:** High circulation doesn't guarantee high revenue

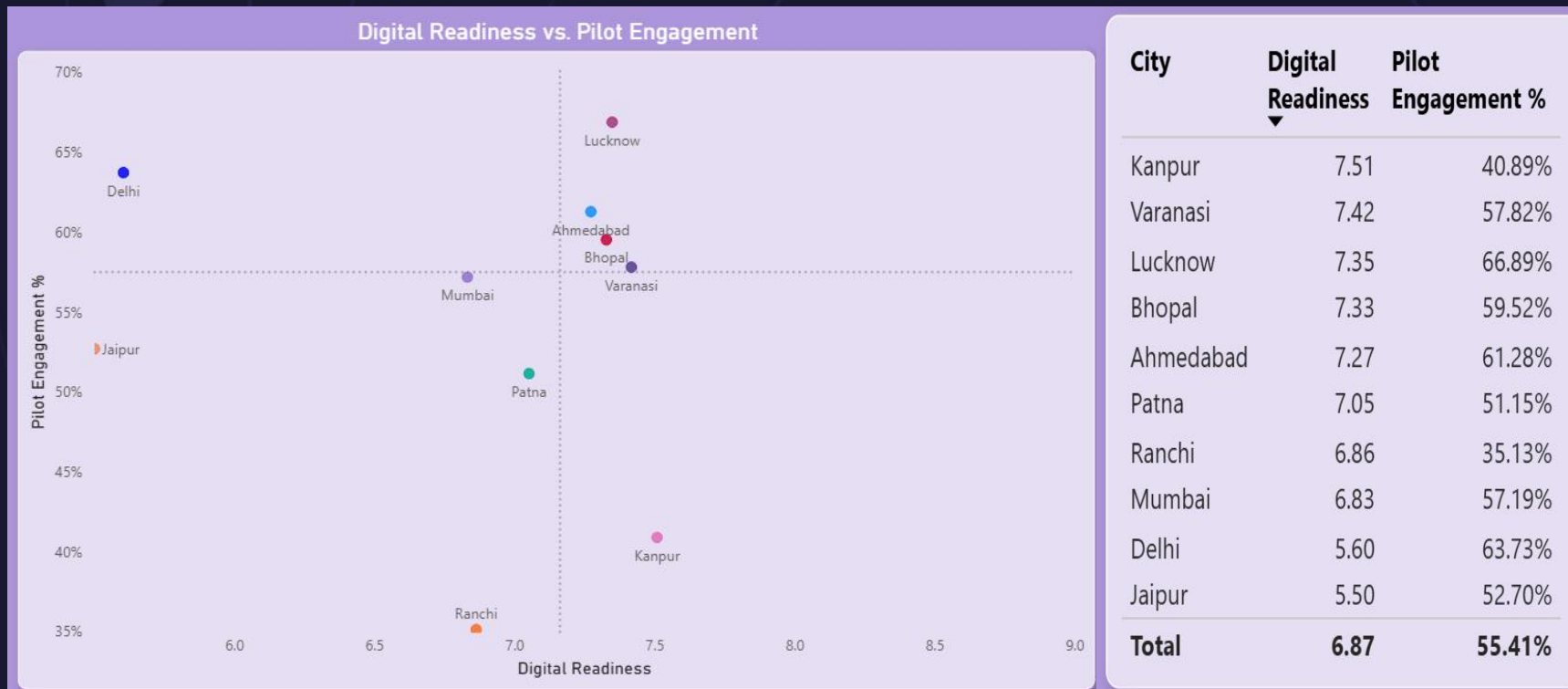
**Key insight:** Market characteristics matter more than circulation volume



# Digital Readiness vs. Performance



Which cities show high digital readiness (based on smartphone, internet, and literacy rates) but had low digital pilot engagement?



**High readiness, low engagement:** Kanpur (7.51 readiness, 41% engagement), Ranchi (6.86, 35%)

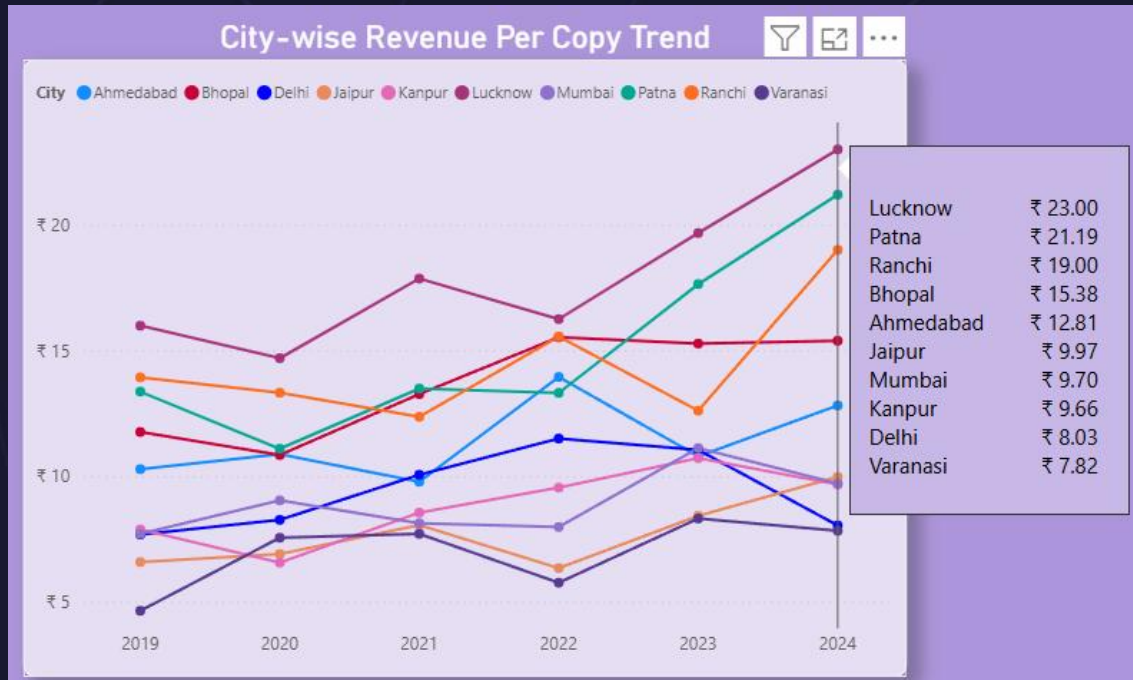
**Underperforming markets:** Jaipur, Patna, Varanasi - above average readiness but below average engagement

**Insight:** Strong readiness not translating into engagement in key markets

# Ad Revenue vs. Circulation ROI



Which cities had the highest ad revenue per net circulated copy? Is this ratio improving or worsening over time?



Year	Ahmedabad	Bhopal	Delhi	Jaipur	Kanpur	Lucknow	Mumbai	Patna	Ranchi	Varanasi
2019	₹ 10.27	₹ 11.75	₹ 7.67	₹ 6.58	₹ 7.87	₹ 15.98	₹ 7.70	₹ 13.36	₹ 13.92	₹ 4.64
2020	₹ 10.87	₹ 10.84	₹ 8.26	₹ 6.90	₹ 6.55	₹ 14.69	₹ 9.03	₹ 11.09	₹ 13.32	₹ 7.55
2021	₹ 9.77	₹ 13.26	₹ 10.05	₹ 8.05	₹ 8.55	₹ 17.86	₹ 8.12	₹ 13.48	₹ 12.36	₹ 7.70
2022	₹ 13.94	₹ 15.52	₹ 11.49	₹ 6.34	₹ 9.54	₹ 16.24	₹ 7.97	₹ 13.31	₹ 15.55	₹ 5.76
2023	₹ 10.78	₹ 15.27	₹ 11.04	₹ 8.42	₹ 10.71	₹ 19.67	₹ 11.11	₹ 17.64	₹ 12.60	₹ 8.31
2024	₹ 12.81	₹ 15.38	₹ 8.03	₹ 9.97	₹ 9.66	₹ 23.00	₹ 9.70	₹ 21.19	₹ 19.00	₹ 7.82

**2024 leaders:** Lucknow (23.00), Patna (21.19), Ranchi (19.00)

**Strong improvement trend:** Lucknow (+44%), Patna (+59%), Ranchi (+37%) since 2019

**Declining efficiency:** Delhi (10.45 - 8.03), Varanasi (4.64 - 7.82)

**Insight:** ROI per copy is shifting from volume-driven metros to smaller, high-yield markets

# Digital Relaunch City Prioritization



Based on digital readiness, pilot engagement, and print decline, which 3 cities should be

prioritized for Phase 1 of the digital relaunch?

## Pilot Performance Overview & City Relaunch Priority Ranking

City	Cost Of Pilot	Avg Literacy Rate %	Avg Smartphone Penetration %	Avg Internet Penetration %	Digital Readiness Score	Pilot Engagement %	Print Decline %	Relaunch Priority Score
Kanpur	1.40M	71.31%	78.84%	75.14%	7.51	40.89%	-4.90%	3.94
Varanasi	1.30M	70.71%	77.09%	74.73%	7.42	57.82%	-7.61%	3.85
Bhopal	1.26M	82.73%	70.61%	66.53%	7.33	59.52%	-6.21%	3.80
Lucknow	1.29M	89.07%	75.02%	56.39%	7.35	66.89%	-6.23%	3.79
Ahmedabad	0.79M	75.11%	68.76%	74.34%	7.27	61.28%	-5.46%	3.76
Patna	1.04M	75.64%	68.30%	67.65%	7.05	51.15%	-6.23%	3.69
Ranchi	0.95M	66.45%	76.94%	62.52%	6.86	35.13%	-6.64%	3.64
Mumbai	1.63M	81.89%	48.48%	74.60%	6.83	57.19%	-5.88%	3.56
Delhi	1.13M	70.61%	48.65%	48.88%	5.60	63.73%	-5.66%	2.92
Jaipur	1.42M	84.83%	70.22%	10.00%	5.50	52.70%	-6.89%	2.91

**Top 3 priorities:** Kanpur (3.94), Varanasi (3.85), Bhopal (3.80)

**Key strengths:** High digital readiness (7.3+), significant print decline creating urgency



# Strategy & Recommendations



# Phased Digital Transition Strategy



What should Bharat Herald's phased digital transition strategy look like, given the readiness and engagement data?

**Phase 1 (0-6 months):** Kanpur, Varanasi, Bhopal - High readiness + print decline urgency

**Phase 2 (6-12 months):** Medium readiness, high engagement cities - Scale proven strategies

**Phase 3 (12-18 months):** Lower readiness markets - Digital education & awareness programs

**Resource allocation:** Efficient deployment where digital uptake most likely to succeed

**Kanpur opportunity:** Highest readiness (7.51) but lowest engagement (40.89%) - massive potential.



# Regaining Advertiser Trust



How can Bharat Herald regain advertiser trust in key cities or categories where confidence dropped the most?

**FMCG Recovery Strategy:** Direct client meetings, success case studies, 15% pricing discount

**Government Relations:** Leverage circulation stability, local partnership programs

**Trust Rebuilding Initiatives:** Monthly performance reports, ROI guarantees, hybrid packages

# Content Format & Delivery Optimization



What changes to content format or delivery (e.g., WhatsApp bulletins, mobile-optimized e-papers) might boost digital engagement?

**WhatsApp Integration:** Daily bulletins (7 AM, 7 PM), breaking news alerts, city-specific content

**Mobile-First E-papers:** 60% faster loading, offline reading, voice-to-text features

**Interactive Elements:** Weekly polls, community forums, live video streams

**Content personalization:** AI-driven local story recommendations

# Subscription & Monetization Strategies



What role can subscription bundling, loyalty programs, or pay-per-article models play in revenue recovery?

**Subscription Bundles:** Print + Digital combo, Family plans, Student packages

**Loyalty Programs:** Local business partnerships, reader reward points system

**Flexible Pricing:** Pay-per-article options, Weekly passes, Premium content tiers

**Pilot markets:** Start with top 3 profitable cities

# Leveraging Local Influencers & Journalists



How can Bharat Herald leverage local influencers or journalists to re-establish digital credibility in regional markets?

**Influencer Partnerships:** Local journalists, community leaders, micro-influencers per city

**Hyperlocal Content:** Dedicated city reporters, majority local stories, community event coverage

**Community Engagement:** Monthly town halls, quarterly reader meets, annual journalism awards

**Digital presence:** City-specific social media accounts, local hashtag campaigns

**Credibility focus:** High local story coverage, strong community event participation



# Ad-hoc Requests





# Monthly Circulation Drop Check



## Business Request – 1: Monthly Circulation Drop Check

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
Varanasi	2021-01	382018
Varanasi	2019-11	431606
Jaipur	2020-01	420680

**Varanasi Jan 2021:** 382K circulation - Steepest monthly decline

**Varanasi Nov 2019:** 432K circulation - Second major drop

**Jaipur Jan 2020:** 421K circulation - Third significant decline

# Yearly Revenue Concentration by Category



Business Request – 2: Yearly Revenue Concentration by Category Identify ad categories that contributed > 50% of total yearly ad revenue.

year	category_name	category_revenue	total_revenue_year	pct_of_year_total

**No single category exceeded 50% contribution in any year (2019–2024)**

**Implication:** Revenue is diversified across multiple categories, which reduces dependency risk

# 2024 Print Efficiency Leaderboard



## Business Request – 3: 2024 Print Efficiency Leaderboard

For 2024, rank cities by print efficiency =  $\text{net\_circulation} / \text{copies\_printed}$ . Return top 5

city_name	copies_printed_2024	net_circulation_2024	efficiency_ratio	efficiency_rank_2024
Ranchi	2309444	2092062	0.91	1
Ahmedabad	3046823	2746691	0.90	2
Patna	2506557	2252819	0.90	3
Jaipur	4594153	4128641	0.90	4
Varanasi	4591555	4123611	0.90	5

Ranchi, Ahmedabad, and Patna are the most efficient; even high-circulation cities like Jaipur and Varanasi maintain strong efficiency

# Internet Readiness Growth (2021)



## Business Request – 4 : Internet Readiness Growth (2021)

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	2.43
AHMEDABAD	73.03	74.8	1.77
DELHI	48.68	50.41	1.73
PATNA	67.73	68.56	0.83
LUCKNOW	55	55.71	0.71
JAIPUR	10	10	0
VARANASI	73.51	73.45	-0.06
BHOPAL	68.21	66.48	-1.73
RANCHI	63.49	60.36	-3.13

**Highest improvement:** Kanpur - 2.5% growth (74.27% - 76.77%)

**Strong performers:** Mumbai (+2.43%), Ahmedabad (+1.77%)

**Concerning declines:** Ranchi (-3.13%), Bhopal (-1.73%)

**No Change:** Jaipur (0%)

# Consistent Multi-Year Decline (2019–2024)



Business Request – 5: Consistent Multi-Year Decline (2019→2024)

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

city_name	year	yearly_net_circulation	yearly_ad_revenue	is_declining_print	is_declining_ad_revenue	is_declining_both

**No city meets this criterion**

**Indicates resilience; no market experienced simultaneous, uninterrupted decline across both metrics**



# Digital Readiness vs Pilot Engagement – Outliers



## Business Request – 6 : 2021 Readiness vs Pilot Engagement Outlier

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

city_name	readiness_score_2021	engagement_metric_2021	readiness_rank_desc	engagement_rank_asc	is_outlier
Kanpur	75.23	88749	1	1	Yes
Ranchi	68.64	110125	7	2	Yes
Jaipur	54.95	119681	10	3	Yes
Delhi	56.08	121423	9	4	No
Patna	70.77	121974	6	5	No
Lucknow	73.2	123945	4	6	No
Mumbai	68.33	128561	8	7	No
Ahmedabad	72.39	135003	5	8	No
Bhopal	73.21	139626	3	9	No
Varanasi	73.89	143151	2	10	No

**Outliers (from screenshot):** Kanpur, Ranchi, Jaipur

**Insight:** High digital readiness does not guarantee user adoption; these cities need targeted engagement strategies.

# Bharat Herald: Key Insights & Strategic Way Forward



## Key Insights:

- Consistent decline in circulation across 2019–2024 (~25%)
- High-circulation cities are not always the most profitable
- Digital readiness varies; engagement gaps exist in key cities
- Revenue efficiency is higher in smaller, well-targeted markets

## Strategic Recommendations:

- Phase 1 Digital Relaunch: Kanpur, Varanasi, Bhopal
- Boost engagement via WhatsApp bullets, mobile e-papers, interactive content
- Recover revenue through subscription bundles, loyalty programs, pay-per-article
  - Strengthen regional credibility using local influencers and journalists



THANK YOU

