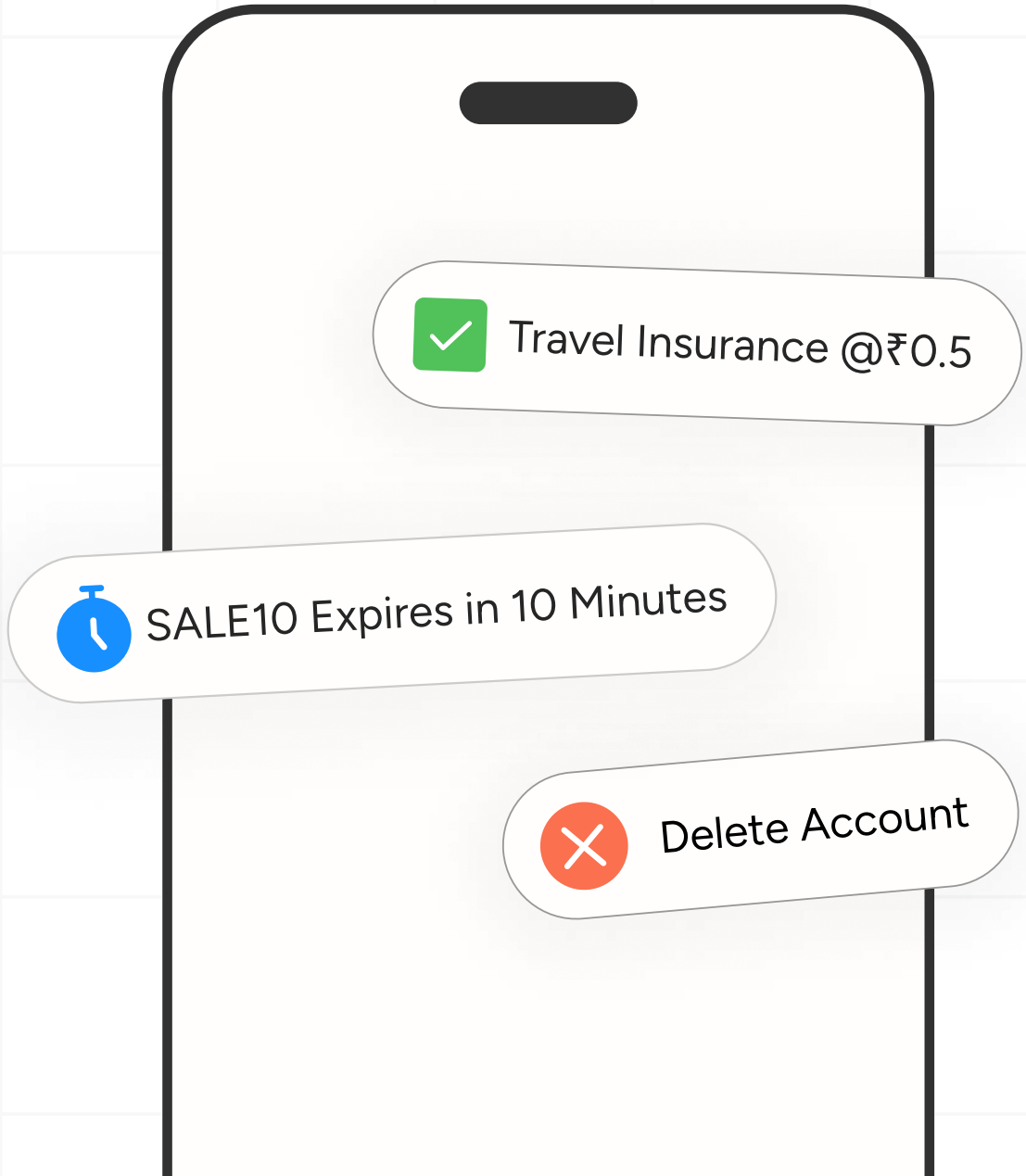# Study of
Deceptive Patterns
in top Indian apps

A comprehensive look into the research of top Indian apps, key insights and the methodology.

August, 2024

Initiative by **ASCI ACADEMY** + *parallel*   Industry partner **nasscom**

Travel Insurance @₹0.5

SALE10 Expires in 10 Minutes

Delete Account

Table of Contents

In 2024 India, conversations about Deceptive or Dark Patterns (DPs) have been gaining traction. While some people recognise these manipulative tactics, fully understanding their scope remains a challenge. This gap exists because we lack a comprehensive resource that not only educates but also enables ethical design.

In the struggle to balance business objectives and meet tight deadlines, users often bear the brunt, sacrificing not just their money but also their data and privacy.

How can we balance business needs with protection of user interests?

This report, resulting from a research collaboration between **ASCI Academy** and **Parallel**, seeks to bridge this gap. It represents the combined efforts of researchers, project managers, designers, and marketers, who explored the deceptive practices of leading Indian apps. It sheds light on:

- **The insights gathered after studying leading Indian apps**
- **The 12 different Deceptive Patterns covered in the study**
- **The methodologies used in the research**
- **The way forward for ethical design in the digital space**

The **'Conscious Patterns'** website is born of this research. It offers in-depth knowledge on the subject, firmly within India's context. It evaluates the ethical stance of various apps, and offers real-world examples to help avoid repeating past mistakes. It's an optimistic step towards creating a more ethical digital landscape.

Introduction

INTRODUCTION

A look at India's digital landscape

751.5 million Indians are internet users as of early 2024[1]

This represents a vast segment of individuals who access the web and mobile applications for productivity, purchasing services or products, and making social connections.

The growing digital landscape offers a wealth of benefits, but it also presents potential pitfalls. Many users often lack the time or digital literacy to stay vigilant against these pitfalls, leaving them vulnerable to:

Deceptive design practices (also known as dark patterns), used by businesses to manipulate users into unintended actions.

These patterns prioritise business interests over user autonomy, potentially leading to financial losses or compromising users' online privacy and security.

[1] Kemp, S. (2024, February 20). Digital 2024: India - https://datareportal.com/reports/digital-2024-india

INTRODUCTION

First steps towards ethical design

To address the growing concern over deceptive patterns, **the Advertising Standards Council of India (ASCI) and the Department of Consumer Affairs (DoCA) recognised the urgent need to protect users.** They collaborated with industry stakeholders to develop and launch guidelines aimed at raising awareness and mitigating the risks associated with deceptive design practices.

22ND NOVEMBER, 2022

ASCI publishes a discussion document on Deceptive Patterns

13TH JUNE, 2023

ASCI, DoCA, and other key stakeholders meet to address the prevalence of Deceptive Patterns online.

15TH JUNE, 2023

ASCI releases guidelines defining 4 Deceptive Patterns and their potential harm.

30TH NOVEMBER, 2023

DoCA officially issues guidelines to provide for the prevention and regulation of 13 Deceptive Patterns.

"Dark commercial patterns are business practices employing elements of digital choice architecture, in particular in online user interfaces, that subvert or impair consumer autonomy, decision-making or choice.

Guidelines for Online Deceptive Design Patterns in Advertising
ASCI
15th June, 2023

Research Overview

First-of-its-kind research in India

ΛSCI + *parallel*
ACADEMY

ASCI Academy partnered with Parallel, a product design studio in Bengaluru, to start an initiative with the following objective:

To assess prevalence and use of Deceptive Patterns in top Indian apps, encouraging the use of conscious designs, and promoting a shift towards ethically conscious online interfaces.

The research involved analysing the core user flows of over 50 apps, examining each screen for Deceptive Patterns across industries. It addressed key questions about consumer impact and the prevalence of these practices.

ΛSCI ACADEMY + parallel

Research overview in numbers

- **12,000+** SCREENS ANALYSED

- **53** APPS

- **21 Billion+** DOWNLOADS

- **9** INDUSTRIES

This is just the start

This study serves as a starting point, based on a limited period of research and a limited number of apps. Our goal over time is to gather as many perspectives as possible, fostering a representative and informative communal resource.
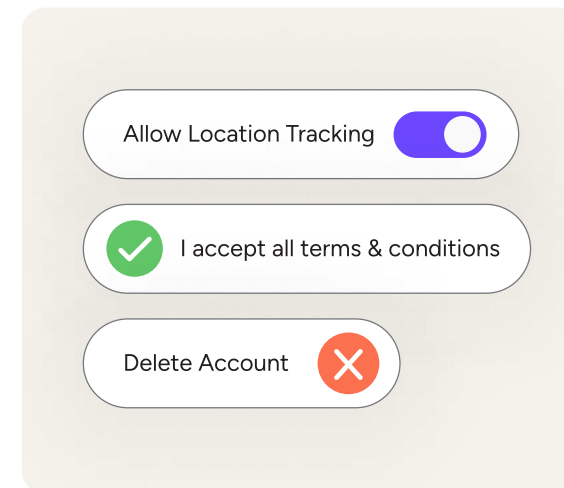
Snapshot of the industries and apps analysed

Cab Booking	OLA	Uber	inDrive	rapido BIKE TAXI			
Delivery & Logistics	SWIGGY	zomato		zepto 10 Minute Grocery Delivery	borzo	blinkit	PORTER°
Ecommerce	bigbasket	NYKAA	amazon	Flipkart	Myntra	AJIO	tira / TATA CLiQ / meesho
Streaming Service	prime video	NETFLIX	Disney+hotstar	YouTube	JioCinema		
Fintech	Paytm	CRED	PhonePe	Groww	ZERODHA		
Travel Booking	agoda	goibibo.com	EaseMyTrip	yatra	makemytrip	cleartrip	redBus / B.
EdTech	Vedantu	upGrad	BYJU'S	unacademy	PHYSICSWALLAH		
Gaming	DREAM11		TEEN PATTI GOLD	Candy Crush	LUDO KING		
Health Tech	TATA 1mg	cure.fit	PharmEasy	HealthifyMe	practo		

The 12 Deceptive Patterns studied

Organised from highest to lowest prevalence in Indian Apps.

1 ## Privacy Deception

Manipulating users into unknowingly sharing more personal data than intended

79.2% of apps contained this Deceptive Pattern

Allow Location Tracking

I accept all terms & conditions

Delete Account

2 ## Interface Interference

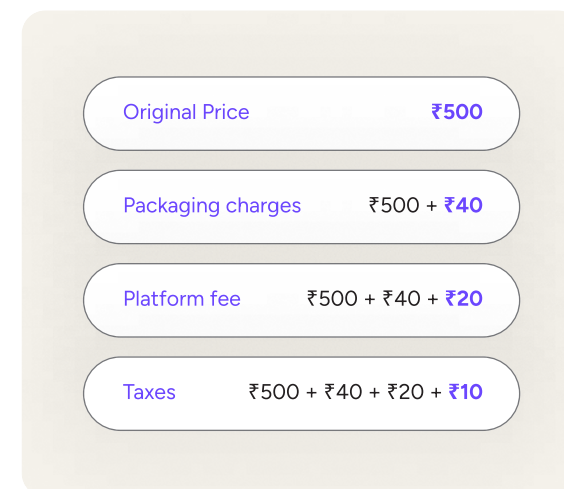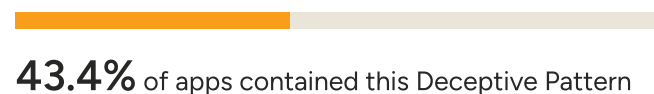Highlighting certain parts of the interface and hiding others, misdirecting users into taking an action

45.3% of apps contained this Deceptive Pattern

Unlock up to 100% Cashback

Unlock Cashback ⟶   Skip

Permissions

Receive Marketing Updates

ASCI ACADEMY + parallel
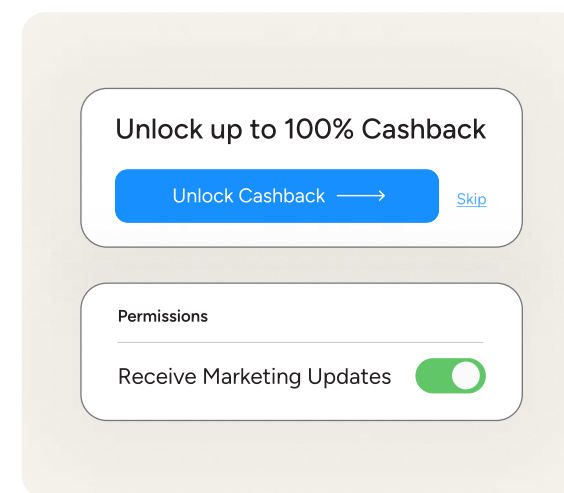
The 12 Deceptive Patterns studied

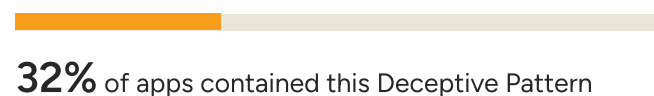### ③ Drip Pricing

Revealing additional fees gradually throughout the purchase process, making the final price higher than that originally quoted

43.4% of apps contained this Deceptive Pattern

Original Price	₹500
Packaging charges	₹500 + ₹40
Platform fee	₹500 + ₹40 + ₹20
Taxes	₹500 + ₹40 + ₹20 + ₹10

④ False Urgency

Creating a sense of artificial pressure, based on time or stock availability, to manipulate users into making rushed decisions

32% of apps contained this Deceptive Pattern

Only **few seats available**

SALE10 expires in 40 mins

HIGH DEMAND!
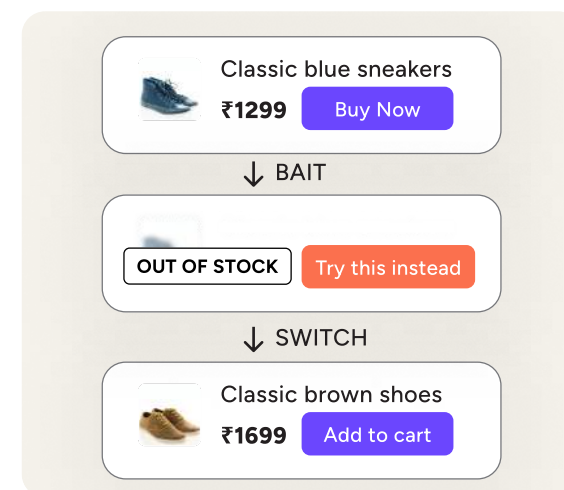2648 people are viewing this
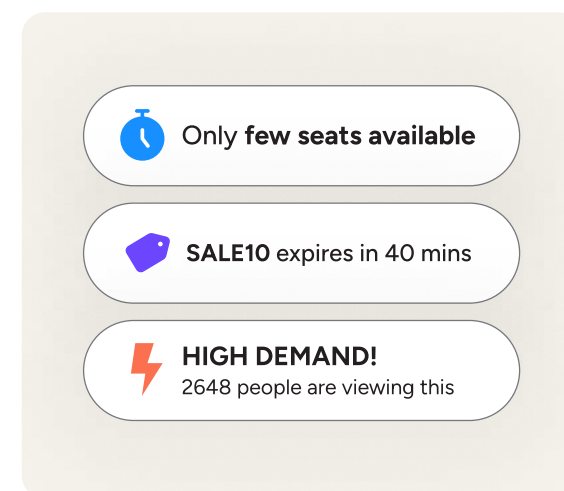
The 12 Deceptive Patterns studied

5 Nagging

Constant pop-ups and notifications pushing users to take an action, making it difficult to finish their task at hand

15% of apps contained this Deceptive Pattern

FLASH SALE!
ONLY FOR TODAY

LAST CHANCE!

FINAL HOUR!
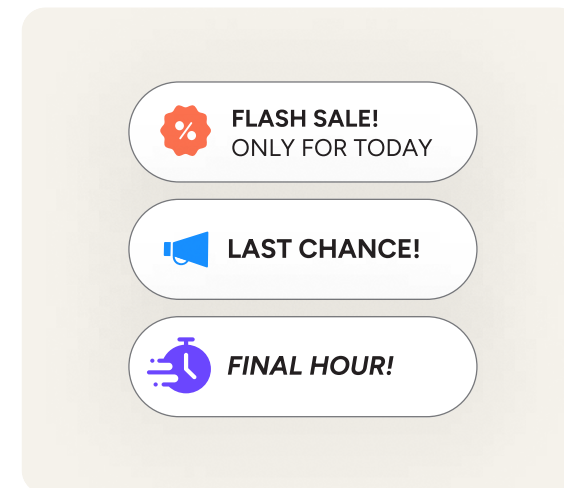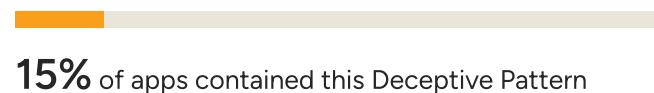
6 Bait & Switch

Advertising a particular outcome based on the user's action but deceptively serving an alternate outcome

13.2% of apps contained this Deceptive Pattern

Classic blue sneakers
₹1299   Buy Now

↓ BAIT

OUT OF STOCK   Try this instead

↓ SWITCH

Classic brown shoes
₹1699   Add to cart

The 12 Deceptive Patterns studied

7 **Basket Sneaking**

Adding unwanted items to a user's online shopping cart without their explicit consent

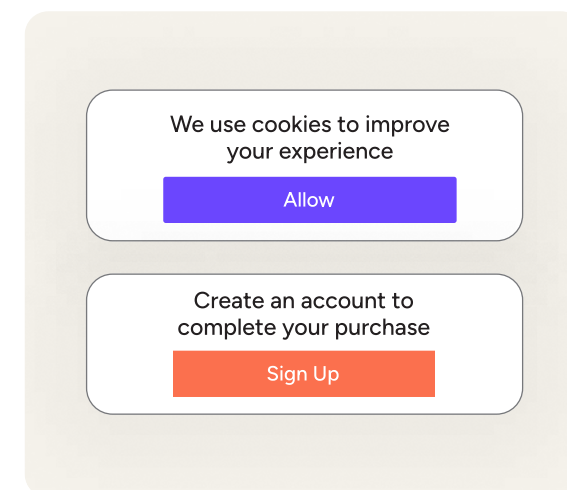**13.2%** of apps contained this Deceptive Pattern

Donate ₹1 to feed India foundation ✅

Saving ₹45 with premium
Remove
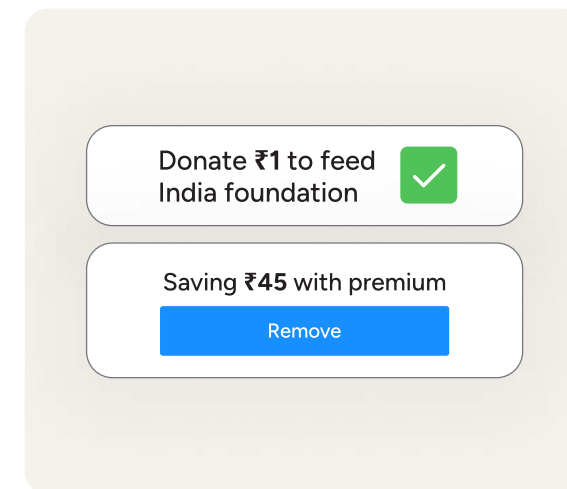
8 **Forced Action**

Forcing users to complete an unwanted action to proceed or access desired content

11.3% of apps contained this Deceptive Pattern

We use cookies to improve your experience
Allow

Create an account to complete your purchase
Sign Up

The 12 Deceptive Patterns studied

9 ## Confirm Shaming

Using guilt or social pressure to manipulate users into confirming an action

7.5% of apps contained this Deceptive Pattern

Upgrade Now

I don't want a smarter software

◉ No thanks, I'll risk it
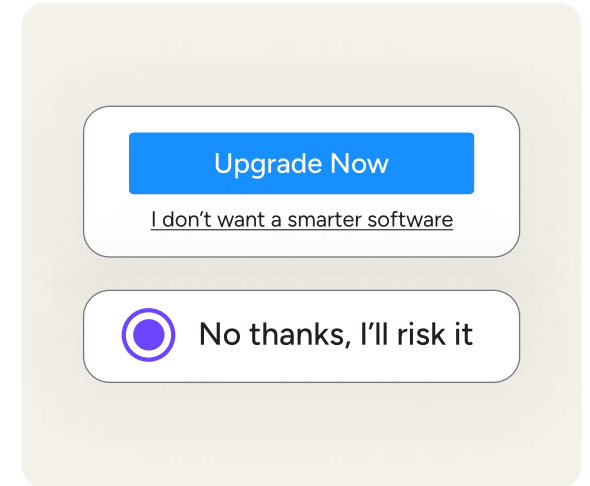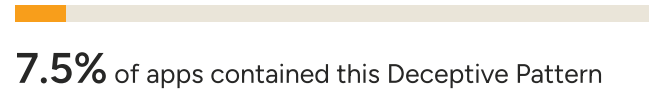
10 ## Subscription Trap

Deceiving users into subscribing to a recurring service without fully grasping the ongoing commitment, often making cancellation difficult
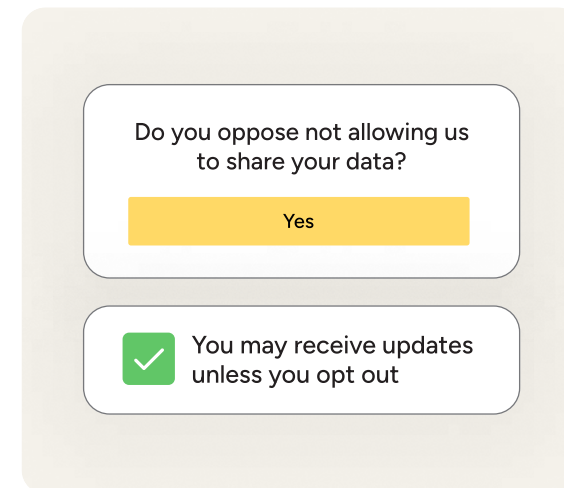
1.9% of apps contained this Deceptive Pattern

Try now for ₹1249

Cancel your subscription anytime*

*T&C's apply

📞 Contact Support to Cancel
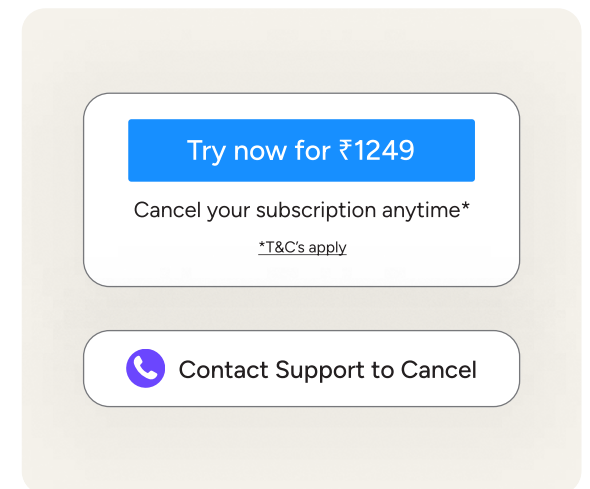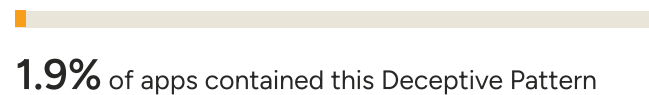
The 12 Deceptive Patterns studied

11 Trick Question

Deliberate use of confusing or vague language, misdirecting users into taking an action

1.9% of apps contained this Deceptive Pattern

Do you oppose not allowing us to share your data?

Yes

✓ You may receive updates unless you opt out

12 Disguised Ads

Masking advertisements as editorial or organic content that blends in with the rest of an interface, tricking customers into clicking on them

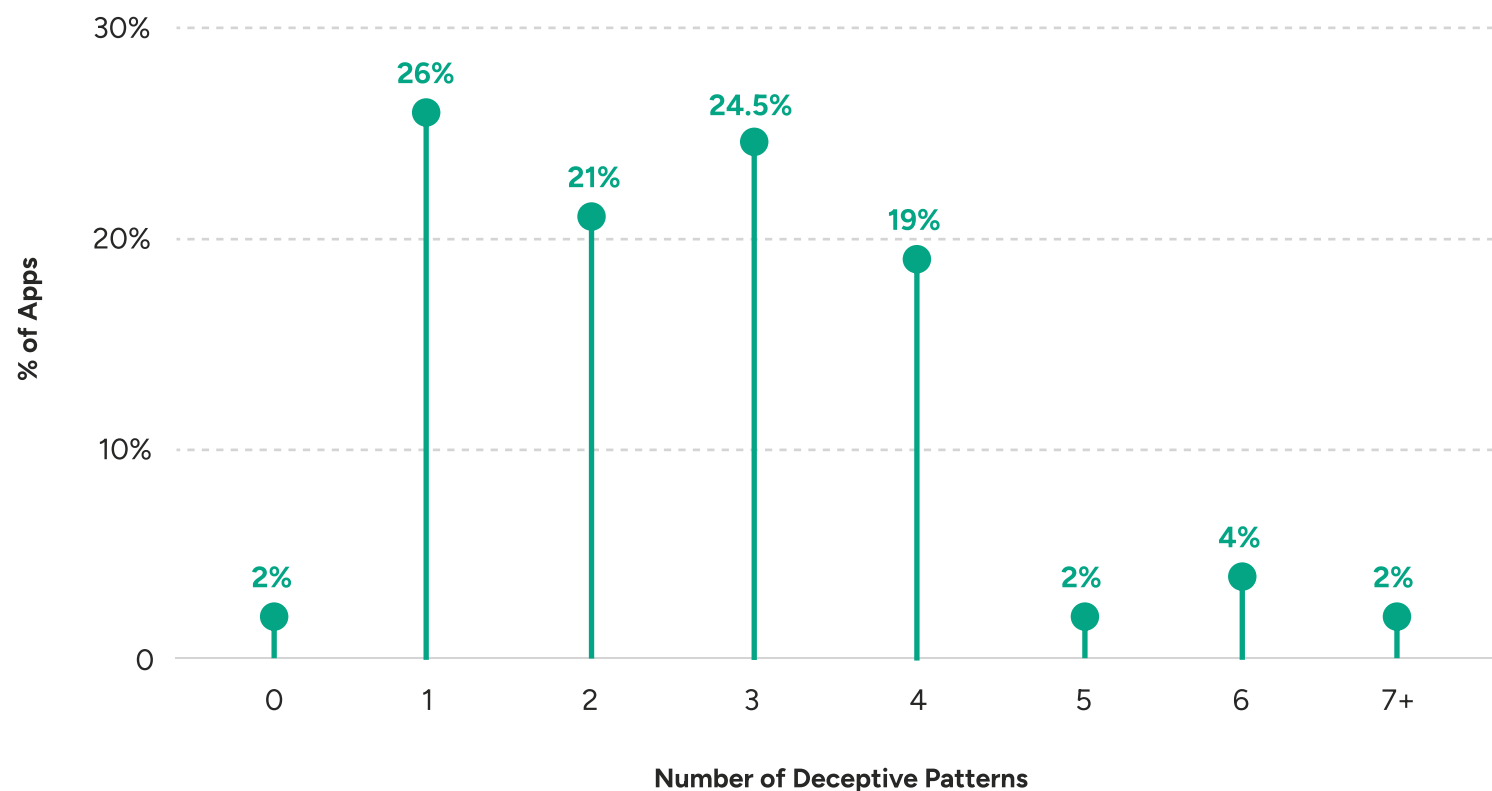**0%** of apps contained this Deceptive Pattern

Top 10 Best Laptops of 2024

READ NOW   Sponsored

Rajesh S.   Ad
★★★★★
I love this product!
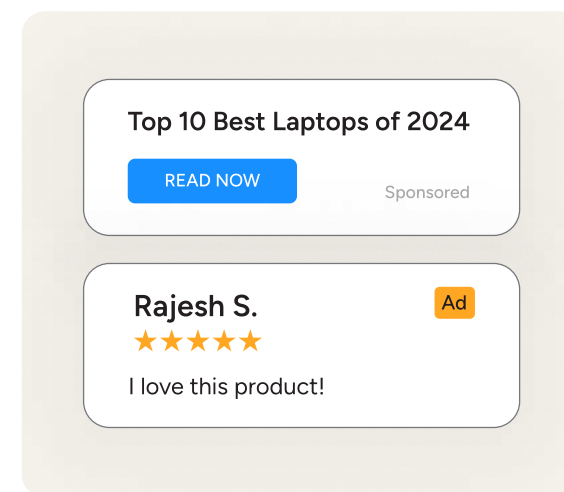
Key Research Findings

52/53 apps studied exhibited at least 1 Deceptive Pattern

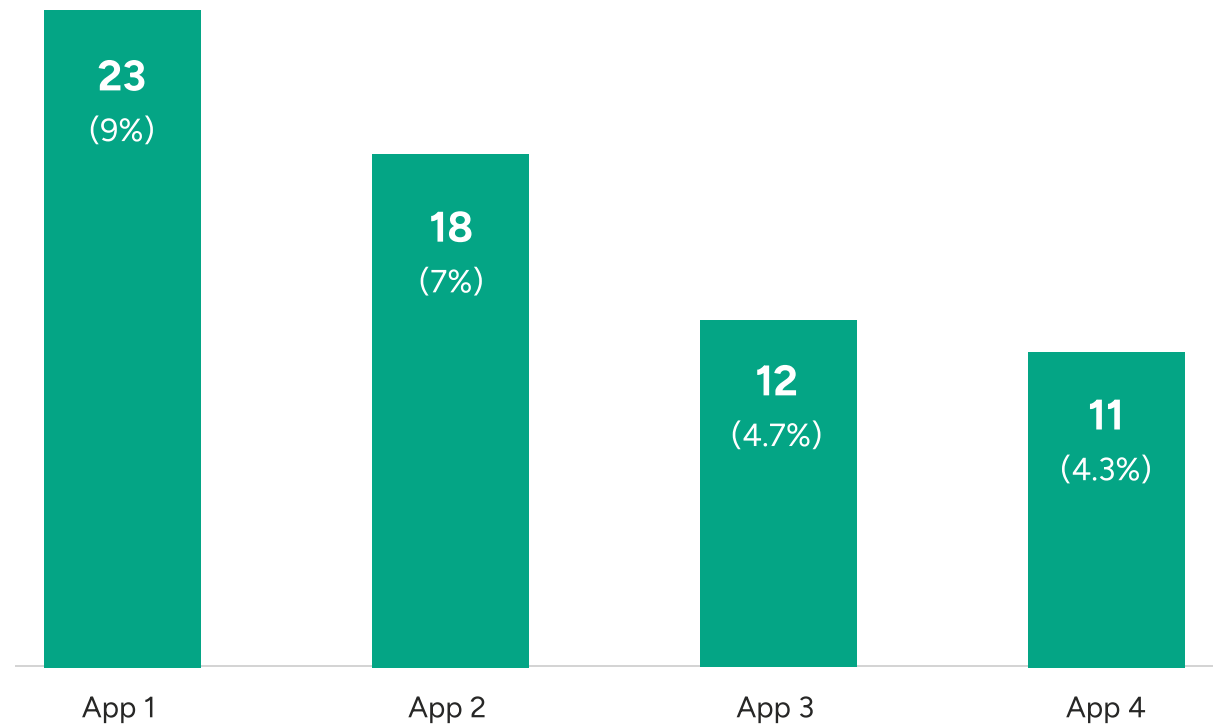**~90%** of apps showed **1-4 Different Deceptive Patterns.**

On an **average**, the research found **2.7 Deceptive Patterns per App.**

19

25% of Deceptive Pattern instances were observed in 4 Apps

The app with most Deceptive Patterns had a total of **23 Deceptive Pattern instances**, belonging to **4 different Deceptive Patterns**.
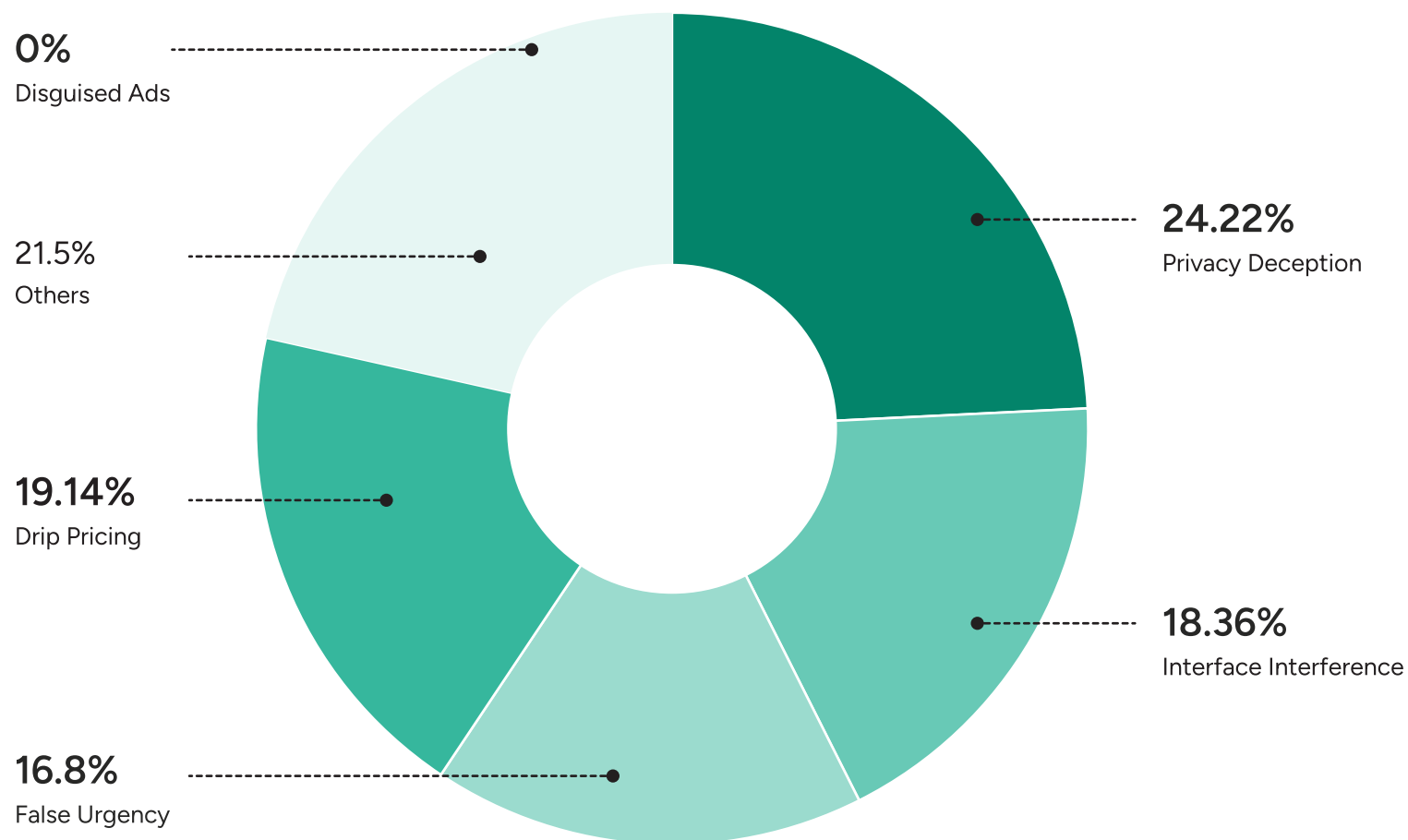

23
(9%)

18
(7%)

12
(4.7%)

11
(4.3%)

App 1   App 2   App 3   App 4

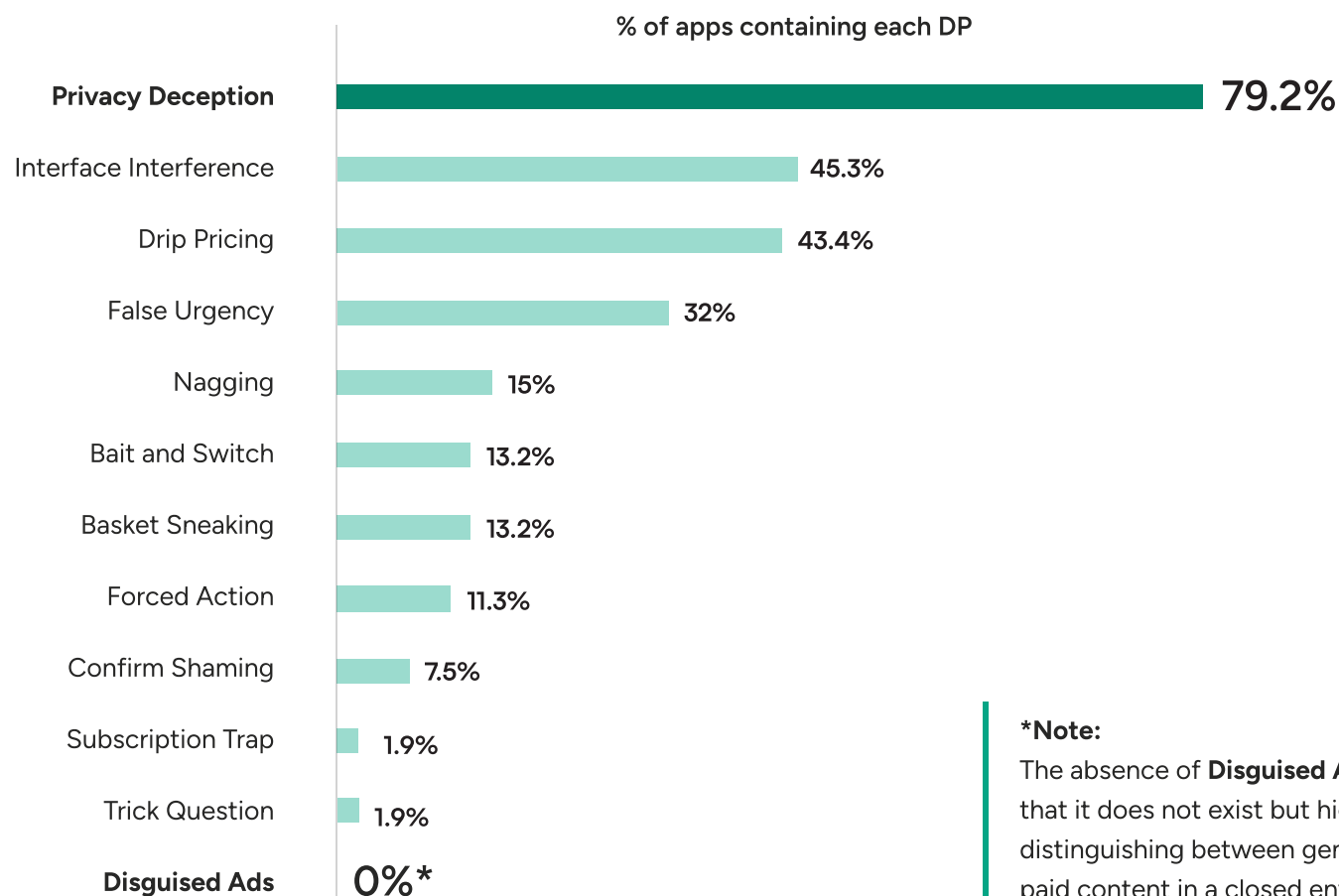**Top 4 apps with maximum Deceptive Pattern instances**

4/12 Deceptive Patterns accounted for 78% of the total occurrences

Disguised Advertisement were not conclusively observed in any of the apps involved in the study.

0%
Disguised Ads

21.5%
Others

19.14%
Drip Pricing

16.8%
False Urgency

24.22%
Privacy Deception

18.36%
Interface Interference

79% of the apps studied showed instances of Privacy Deception

% of apps containing each DP

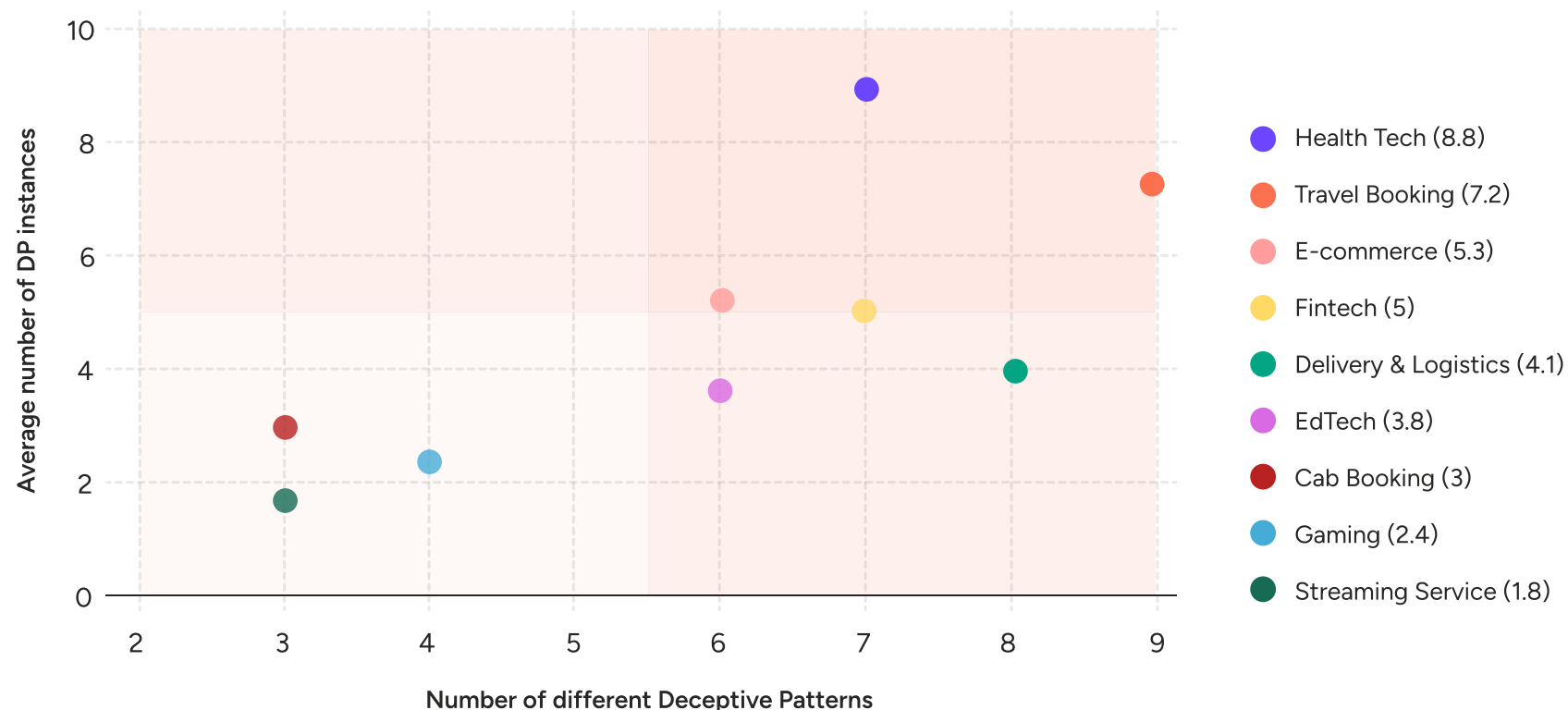| Deceptive Pattern	%
Privacy Deception	79.2%
Interface Interference	45.3%
Drip Pricing	43.4%
False Urgency	32%
Nagging	15%
Bait and Switch	13.2%
Basket Sneaking	13.2%
Forced Action	11.3%
Confirm Shaming	7.5%
Subscription Trap	1.9%
Trick Question	1.9%
Disguised Ads	0%*

*Note:
The absence of **Disguised Ads** observed does not imply that it does not exist but highlights the difficulty in distinguishing between genuine organic content and paid content in a closed environment like mobile apps.
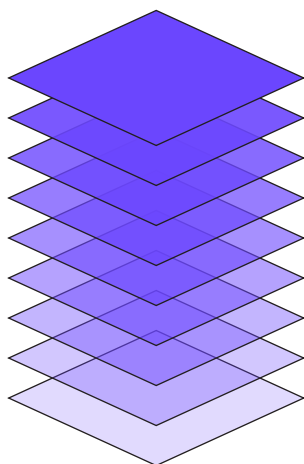
9/12 Deceptive Patterns were observed in Travel Booking Industry, followed by Delivery & Logistics (8/12)

Health-tech showed the highest average number of instances per app (8.8)

Chart — X axis: Number of different Deceptive Patterns (2 to 9). Y axis: Average number of DP instances (0 to 10).

Legend:
- Health Tech (8.8)
- Travel Booking (7.2)
- E-commerce (5.3)
- Fintech (5)
- Delivery & Logistics (4.1)
- EdTech (3.8)
- Cab Booking (3)
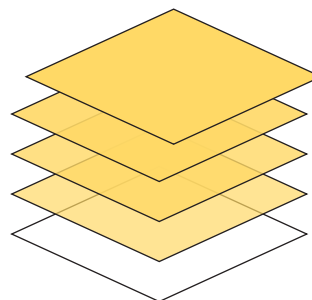- Gaming (2.4)
- Streaming Service (1.8)

E-commerce

9/9

Apps made it difficult for users to **delete their account** (**Difficult Deletion**)
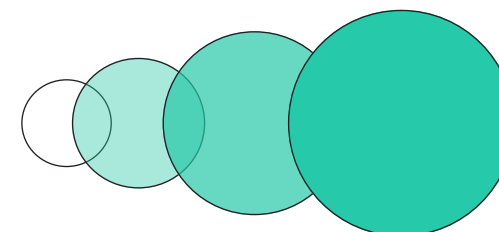
Health-tech

4/5

Apps relied on **Time based Pressure (False Urgency)** to rush users into decisions
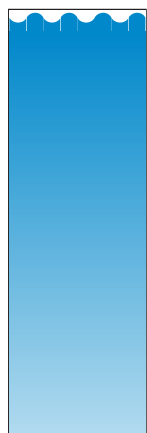
Delivery & Logistics

4X

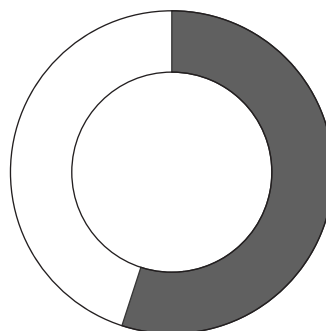prevalence of **Basket Sneaking** compared to other industries

Travel Booking

100%

of instances of **Confirm Shaming** were observed in Travel Booking

Fintech

55%

of instances of **Asymmetric Choice (Interface Interference)** were observed in Fintech

Gaming
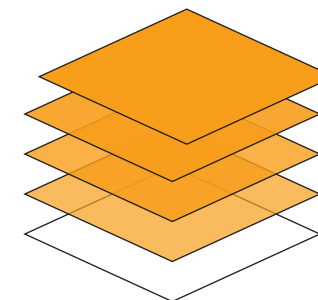
4/5

Apps relied on **False Hierarchy (Interface Interference)** to manipulate users into an action.

Highest instances of Deceptive Patterns were observed in Purchasing/Subscribing/Booking flows

25.2%
Settings/Profile

27.2%
Browsing/Searching

39.2%
Purchasing/
Subscribing/Booking

8.4%
Onboarding
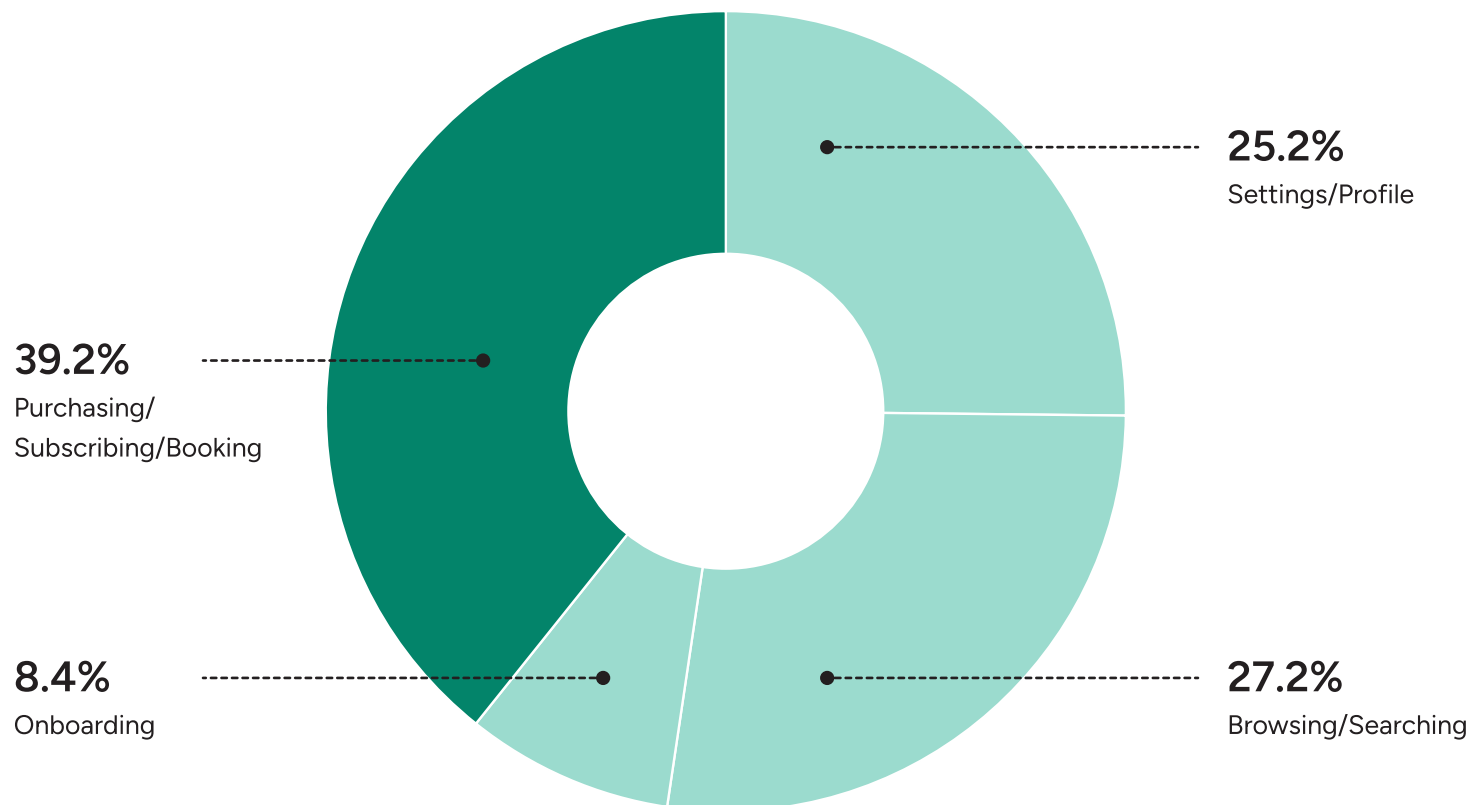
43/53 apps contained a Deceptive Pattern in Settings/Profile

Of the **43 applications** that exhibited at least one Deceptive Pattern in settings or profile, **40 were related to data privacy and security settings**.

Number of apps containing a Deceptive Pattern

Category	Value
Settings/Profile	43
Purchasing/Subscribing/Booking	33
Browsing/Searching	24
Onboarding	13

ASCI ACADEMY + paraljel
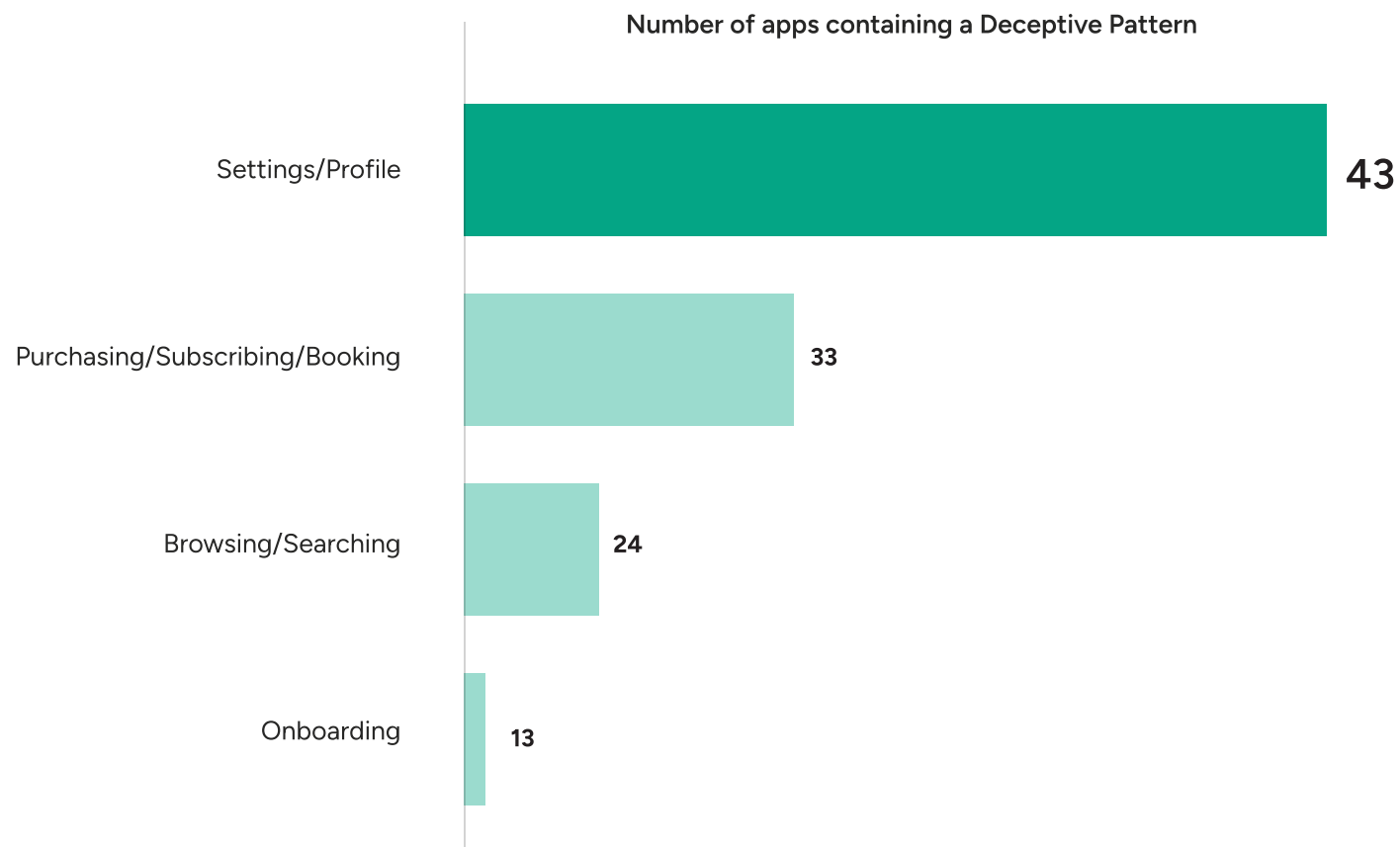
52 of 53 apps studied exhibited at least 1 Deceptive Pattern

25% of total Deceptive Pattern instances were observed in 4 Apps

4 Deceptive Patterns accounted for 78% of the total occurrences

Privacy Deception was observed in 79% of the apps studied

Travel Booking (9), followed by Delivery & Logistics (8), showed most number of different Deceptive Patterns

9/9 e-commerce Apps made it difficult for users to delete their account

4/5 Health-tech Apps relied on Time based Pressure (False Urgency) to rush users into decisions

Basket Sneaking is 4x more prevalent in Delivery & Logistics than other Industries

Purchasing/Subscribing/Booking flows are where most Deceptive Pattern instances were observed

>80% of Apps contained a Deceptive Pattern in the Settings/Profile

Conscious Patterns Website

The research findings helped us create <u>Conscious Patterns</u>, a resource for makers to build **Digitally Conscious Products**
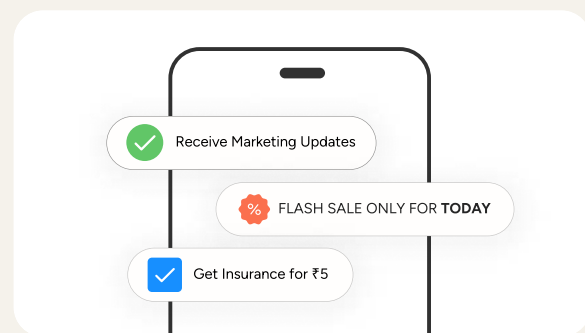
Learn about
Deceptive Patterns

Explore ⟶

Get inspired from
Ethical Alternatives

Explore ⟶

Test your app and get a
Conscious Score

Explore ⟶

Vision of Conscious Patterns

Enabling informed consumer choices online
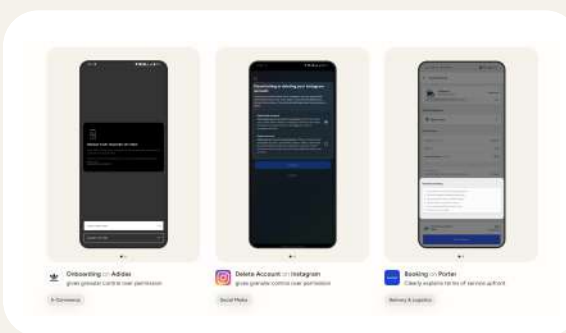
FOR MAKERS/BUSINESSES

It offers resources to identify areas for improvement in their products and to advance ethical design.

FOR DESIGNERS

It provides resources to integrate ethical design into their workflow, defend their design choices, and suggest improvements.

FOR CONSUMERS

It contains knowledge to protect against manipulation, safeguarding data privacy & security, and more.

Research Methodology

The objective of this research was to identify the **presence of Deceptive Patterns and analyse usage trends** across popular Indian mobile applications.

① Data Collection

a. App Selection

The process of selecting apps to study involved reviewing the number of downloads on the Playstore in order to shortlist the top B2C apps across categories. The final shortlist included 53 top downloaded apps (potentially not exhaustive) across nine categories.

· ·

b. App Analysis

To capture a new user's experience, each app was downloaded on a new Android device. Android being the most widely used operating system in India was the focus of the study. Researchers then performed a series of key tasks across all categories, including:

1. Account creation and logout processes
2. Product and service searches
3. Purchase attempts (including adding to cart)
4. Deal and promotion application
5. Settings exploration
6. Account deletion

Screenshots were taken to document the user flow for each app as of **April - May 2024**, the period during which the analysis was conducted.

c. Limitations of the Data Collected

The study prioritised core user flows for analysis, and as a result excluded a few screens including:

1. Text-only screens within Terms & Conditions or Terms of Service agreements
2. Frequently Asked Questions (FAQs) sections
3. Post-purchase journeys within the app
4. Content embedded within social media videos

Excluded screens, though outside the scope of this research, could present Deceptive Patterns for first-time users.

② Data Analysis

a. Deceptive Pattern Taxonomy

A robust taxonomy of 12 Deceptive Patterns was developed based on two key resources:

1. The DoCA Guidelines for Prevention and Regulation of Dark Patterns, 2023 and;
2. ASCI Guidelines for "Online Deceptive Design Patterns in Advertising".

The final list included Deceptive Patterns from both sets of guidelines, excluding those not applicable to B2C apps. It also incorporated data privacy-related patterns referenced in global research papers.

ΛSCI + parallel

b. Screen Analysis

Each screen was analysed for Deceptive Patterns from the taxonomy. Patterns identified across different flows were documented as separate occurrences, but repeated instances within the same flow were not marked.

c. Manual Review

Three researchers independently reviewed each app screen using the pre-defined criteria. They then aligned on the Deceptive Pattern instances found to mitigate Deceptive Pattern - blindness. Any disagreements were resolved by the research team through a majority vote.

3 Validation

Inter-Rater Reliability

Regular calibration sessions were held to ensure consistency in identifying and categorizing Deceptive Patterns among the three researchers.

4 Results

Trend Analysis

The final list of Deceptive Pattern instances was studied to uncover their prevalence within the Indian digital landscape and to analyze variations across industries, applications, and severity levels.

Team & Resources

MEET THE TEAM

Makers of the report

The Academy is The Advertising Standards Council of India's (ASCI) flagship program to build the capacity of all stakeholders in creating responsible and progressive advertising. ASCI Academy aims to raise standards of advertising content through training, education, outreach, and research on the preventive aspects of advertising self-regulation. Be it advertisers, agencies, industry bodies, educational institutions, consumer bodies, government and research and insight organisations, all are joining hands to create a more responsible future!

The Academy offers unique training, education and advisory support to all stakeholders of the advertising ecosystem.

Visit Website ⟶

Parallel is a product design studio based in India, at the forefront of leveraging design to redefine everyday experiences for the last decade. They are dedicated to enhancing how individuals interact with technology, making it more intuitive and personalized.

They have helped several YC companies, Meta, Sarvam, UrbanPiper and more create experiences that make winning products. They have also done some very interesting work on designing. By understanding unique preferences and adapting to evolving needs, Parallel ensures that technology is not just a tool but a personalized companion.

Visit Website ⟶

Websites

Deceptive Patterns

*Fair*patterns by "amurabi

DARK PATTERNS TIP LINE

dapde
Dark Pattern
Detection Project

Others

· ·

UI Dark Patterns and Where to Find Them: A Study on Mobile Applications and User Perception

Linda Di Geronimo, Larissa Braz, Enrico Fregnan, Fabio Palomba, Alberto Bacchelli (Department of Informatics, University of Zurich, Switzerland)

· ·

I, Obscura — Illuminating deceptive design patterns in the wild

A zine by Stephanie Nguyen & Jasmine McNealy

· ·

Tricked by Dark Patterns?

Angela Lötscher

· ·

**Deceptive Patterns in UX:
How to Recognize and Avoid Them**

Maria Rosala

SPONSORS

ASCI Academy is supported by