
DARK PATTERNS IN INDIAN APPS

Farheen Ansari and Saniya Shaikh, KES Shri Jayantilal H Patel Law College

ABSTRACT

This Research paper looks at Dark Patterns in Indian mobile applications. Dark Patterns are misleading design techniques used by apps to influence users into making choices they didn't intend to make, like hidden fees and unwanted subscriptions. The paper also reviews current consumer protection laws in India. The study relies on doctrinal research and small survey of users. The results show that users are not very aware of these issues. They highlight the need for stricter regulations and greater consumer awareness to stop these deceptive practices. The paper also looks at the Legal Framework in India, focusing on the Consumer Protection Act,

2019¹, and the guidelines from the Central Consumer Protection Authority (CCPA) regarding Dark Patterns.² While these laws offer some protections against unfair trade practices, they lack specific and strong enforcement mechanisms to properly regulate misleading design practices in digital spaces. The study combines Doctrinal research with Empirical Analysis.

Researchers conducted a survey among users to gauge their awareness and experiences with Dark patterns in mobiles applications. The results show that most users do not fully understand what Dark Patterns are, yet they often encounter these practices while using apps. The paper suggests that stronger legal regulation, better enforcement, and increased consumer awareness are needed to tackle the growing issue of Dark Pattern and to promote fairness and Transparency in the Digital World Ethical design principles must also be adopted throughout digital based platforms and application, prioritising user welfare over profit. Regulatory bodies should proactively monitor digital platforms to ensure they comply with pre-existing regulations. Through collaboration with policy makers, technology specialists, and customers' right groups, collaborative efforts to provide and integrated response to counteract deceptive practices will increase. Users digital literacy enhances their ability to identify and avoid such relating techniques.

Keywords: Dark Patterns, CCPA Guidelines, Digital Ethics, Legal Regulations, Unfair Trade Practices, Deceptive Designs.

¹ Consumer Protection Act, 2019 India

² Central Consumer Protection Authority (CCPA) guidelines for Regulation of Dark Patterns

Introduction

Dark patterns are widely seen as manipulative tactics in the digital space. According to the Consumer Protection Acts of 2019, these practices are classified as unfair trade practices.³

The Central Consumer Protection Authority (CCPA) has released the Guidelines for Prevention and Regulation of Dark Patterns in 2023.⁴ These guidelines limit practices such as fake urgency, basket sneaking, and subscriptions traps. The CCPA has already issued over 400 notices to companies for failing to comply.⁵

These practices often hide within the design of the application and are not easily noticeable to users. Common examples of dark patterns include false urgency, such as showing limited-time offers, hidden costs that appear at the final stage of payment, confusing or misleading buttons, forced subscriptions, and difficulties in cancelling services.

These techniques take advantage of users' lack of attention, awareness, or psychological tendencies. In India, where digital literacy is still developing, many users are not fully aware of these deceptive practices. As a result, they may unknowingly fall into these traps and face financial loss, privacy issues, or inconvenience. This raises serious concerns about consumer protection, transparency, and fairness in digital platforms. It also questions whether users are truly giving informed consent when using these applications.

Objectives of the Study

- To understand the concept of dark patterns
- To look at their presences in Indian mobile applications
- To study user awareness and experiences through a survey
- To review the legal framework in India

Concept of Dark Patterns

Concept of Dark Patterns are deceptive design practices used on digital platforms to influence

³ Consumer Protection Act 2019

⁴ Central Consumer Protection Authority (CCPA) guidelines for Regulation of Dark Patterns

⁵ Reports on enforcement actions by Central Consumer Protection Authority (CCPA) 2023

how people behave. These designs take advantage of users psychological tendencies and lead them to make unintended choices.

These designs are intentionally created to mislead, confuse, or pressure users into actions like making purchases, sharing personal information, or subscribing to services without fully understanding the consequences. They violate the idea of informed consent by making it hard for users to make clear and voluntary choices.

Common types of dark patterns include:

1. Hidden Costs

Additional charges are shown only at the final stage of a transaction, surprising users after they have already spent time on it.

2. Forced Subscriptions

Users are pushed to sign up for subscriptions or free trials that automatically renew without clear or easy ways to cancel.

3. Misleading Buttons and Interface Design

Buttons are designed confusingly, such as highlighting the “accept” option while hiding or minimizing the “decline” option.

4. Privacy Intrusion Platforms

Encourage or trick users into sharing more personal data than needed through pre-selected settings or vague consent requests.

5. Confirm Shaming Users

Are guilt-tripped into making certain choices through emotionally charged language (e.g., “No, I don’t want to save money”).

6. Roach Motel

It is easy to sign up for a service but very hard to cancel or opt out.

7. Bait and Switch Users

They are promised one outcome, but a different result happens after they take action. Dark patterns are widely criticized as unethical because they take advantage of users' trust and lack of awareness.

In many places, including India, regulators are increasingly identifying these practices as unfair trade practices and are working toward stricter guidelines and consumer protection laws. Overall, dark patterns distort user freedom and decision-making, raising serious concerns about transparency, fairness, and digital ethics in today's online world.

LITERATURE REVIEW

The idea of dark patterns has received more attention in recent years, particularly with the rise of digital platforms. Harry Brignull first introduced the term "Dark patterns."⁶ He defined these as deceptive design strategies that trick users into making unintended choices.

Researchers, including Arvind Narayanan, have examined how these patterns influence user behaviour and take advantage of psychological tendencies.⁷ Many scholars have explored how dark patterns impact consumer independence and informed consent.

Research by Mathur et al. shows that practices like hidden costs, forced subscriptions, and misleading design can decrease transparency.⁸ These tactics can lead to financial losses or privacy issues. Many users often do not notice these practices, making them more susceptible to manipulation.

In addition to these findings, studies have identified several other kinds of dark patterns, like confirm shaming, bait-and-switch tactics, and disguised advertisements. These techniques often take advantage of cognitive biases, including urgency, default bias, and loss aversion, to influence user decisions.

As a result, users may unknowingly agree to terms, share personal data, or make purchases they did not plan to. Moreover, research shows that dark patterns are common in e-commerce

⁶ Harry Brignull, Deceptive Dark Patterns

⁷ Arvind Narayanan et al., Dark Patterns: Past, Present and Future.

⁸ Mathur et al., Finding from 11k E-Commerce sites shows Dark Patterns Scale.

platforms, social media apps, and subscription services.

These platforms often put business interests ahead of user welfare. This raises ethical concerns about fairness, transparency, and user choice. In India, research on dark patterns is still developing. However, recent developments show increasing awareness among policymakers and regulatory agencies.

The Central Consumer Protection Authority (CCPA) has begun to address these practices, recognizing them as unfair trade practices under consumer protection laws. This demonstrates a growing effort to protect consumer rights in the digital marketplace. Overall, the literature points to a need for stronger regulations, ethical design, and increased awareness in the digital space.

There is a rising focus on promoting design practices that prioritize transparency and informed consent. This study builds on these concepts, concentrating on dark patterns in Indian apps.

In India, research on dark patterns is still emerging. Overall, the literature indicates a need for stronger regulations, ethical design, and greater awareness in the digital space. This study builds on these ideas, focusing on dark patterns in Indian apps.

Dark Patterns in Indian Apps

In India, dark patterns are commonly found in many types of apps. E-commerce platforms often add hidden charges and misleading discounts. Food delivery apps create urgency with limited-time offers. Subscription-based apps make it hard to cancel, pushing users to keep using their services. These practices not only influence consumer choices but also lead to financial and privacy issues. Platforms such as Amazon, Flipkart, Zomato, Swiggy etc.

These apps lack clear information and transparency, which makes it hard for users to make informed decisions.

Survey Findings- Empirical Analysis

A survey was carried out with **45** respondents to learn about their experiences with mobile apps and their awareness of dark patterns.

1. Awareness of Dark Patterns -

The survey showed that 62.2% of respondents did not know the term “dark patterns,” while only 37.8% were aware of it.

This indicates a significant gap in awareness among users.

2. Experience of Deceptive Practices

When asked if apps try to trick users:

- 60% answered yes
- 22.2% said no
- 17.8% were unsure

This shows that most users feel misled by apps.

3. Accidental Actions

- 66.7% of users admitted they clicked something by mistake
- 33.3% said no

This suggests that app interfaces often confuse users, leading to unintended actions.

4. Difficulty in Cancellation

- 57.8% of users found it hard to cancel subscriptions
- 42.2% did not have such issues This reflects the existence of forced subscription practices.

5. Trust in Applications

The survey indicates low trust among users:

- 40% reported no trust (Level 1)

- Only 8.9% expressed full trust
- The remaining respondents reported moderate trust levels. This shows that dark patterns harm consumer trust.

6. Need for Legal Regulation

- 55.6% of respondents believe these practices should be legally regulated
- 26.7% disagreed
- 17.8% were unsure

This highlights a strong demand for regulatory measures.

7. Types of Apps Used

Most respondents (75.6%) use social media apps the most.

Other categories, such as food delivery (11.1%) and shopping (6.7%), were less common.

This suggests that social media platforms are the main sources of exposure to dark patterns.

Legal Framework in India

India does not have specific laws that directly address dark patterns.

However, some existing laws offer indirect protection:

- Consumer Protection Act, 2019, protects against unfair trade practices.⁹
- The Information Technology Act, 2000, deals with data protection issues.¹⁰
- Guidelines from the Central Consumer Protection Authority (CCPA) aim to manage deceptive practices and promote transparency.¹¹

Despite these laws, there is still a gap in clear and specific regulations for deceptive design practices on digital platforms.

⁹ Consumer Protection Act, 2019 (India)

¹⁰ Information Technology Act, 2000 (India)

¹¹ Central Consumer Protection Authority (CCPA), Guidelines on Dark Patterns, 2023.

¹² General Data Protection Regulation (GDPR) European Union.

NEED FOR SPECIFIC REGULATION IN INDIA

Even though laws such as the Consumer Protection Act, 2019 provide some protection, there is a pressing need for more specific and comprehensive regulations concerning dark patterns. The current legal framework does not define all types of deceptive design practices clearly; therefore, it is difficult to enforce. Also there is no clarity on penalties and accountability for the companies that use these practices. If companies do not have strict consequences, many will continue using dark patterns to optimise their profits.

India may draw on international frameworks such as the EU's GDPR to have a framework that focuses on obtaining transparency and consent for using individuals' data while using guidelines to ensure that deceptive design practices operate under a legal framework, to prevent such practices.¹² Regulatory authorities should also be granted stronger powers to monitor firms using the internet and take timely action on violations of consumer rights in the rapidly growing digital economy of India.

IMPACT ON CONSUMERS

Dark patterns negatively affect users in several ways:

- Financial loss from hidden charges
- Loss of privacy
- Reduced control over decisions
- Decreased trust in digital platforms

These issues underscore the urgent need for stricter regulations and increased awareness... Apart from financial and privacy concerns, dark patterns also have psychological and behavioural effects on users. These practices can create confusion, pressure, and urgency, which influence how people make decisions.

Users may feel compelled to act quickly without fully understanding the consequences. Repeated exposure to these manipulative designs can weaken users' confidence in digital platforms. This often leads to frustration, dissatisfaction, and a lack of trust in online services.

In some cases, users may even choose to avoid certain applications altogether because of bad experiences. Dark patterns also add to what is called “decision fatigue.”

Users can become overwhelmed by too many confusing options or misleading choices. This makes them more likely to pick default or highlighted options, even if those aren't the best for them. Therefore, the effects of dark patterns are not just economic. They also have psychological consequences, impacting user autonomy and overall digital well-being.

Case Law:

WhatsApp Privacy Policy Case (2021)

1. Facts of the Case

In 2021, WhatsApp updated its privacy policy. This required users to accept new terms that allowed more data sharing with Facebook (Meta).¹²

Users were told that if they did not accept the updated policy, their access to WhatsApp would eventually be limited. This situation left users with little choice but to accept the policy, raising concerns about forced consent, transparency, and the misuse of personal data.

The policy faced challenges in the Supreme Court of India, along with scrutiny from regulatory bodies like the Competition Commission of India due to public pressure and legal examination.

2. Court’s Observation / Judgment

The Supreme Court of India raised serious concerns about user privacy and consent.¹³ It noted that:

- Users must have free, informed, and meaningful consent.
- Digital platforms cannot impose unfair or one-sided conditions.
- Privacy is a fundamental right under Article 21, as recognized in the Puttaswamy judgment.¹⁵

¹² WhatsApp Privacy Policy Case (2021), Supreme Court of India .

¹³ Observation of the Supreme Court of India on users consent and Privacy ,WhatsApp Case (2021)

¹⁵ K.S.Puttaswamy v. Union of India (2017).

The Court did not immediately ban the policy but questioned WhatsApp's practices. It allowed regulatory authorities to investigate the issue further. Additionally, the Competition Commission of India (CCI) started an investigation into WhatsApp for possible abuse of dominance.¹⁴

3. Measures / Actions Taken

- The Supreme Court ordered that users who did not accept the policy should not lose access to their accounts right away.
- The CCI began a detailed investigation into WhatsApp's data-sharing practices.
- Public pressure and legal scrutiny caused WhatsApp to delay and ease enforcement of the policy.

This case sparked wider discussions on data protection and digital regulation in India.

4. Link to Dark Patterns

This case relates closely to dark patterns because:

- It involved forced consent, where users felt pressured to accept terms.
- The design of the policy created pressure and limited real choice.
- It shows how digital platforms can sway user decisions through their interface and policy structure. Thus, the case supports the argument that such practices can be unfair trade practices and highlights the need for clear regulations on dark patterns in India.

Constitutional Perspective on Dark Pattern

1) Article 21

- Right to Life and Personal Liberty's
- Right To Privacy (K.S. Puttaswamy v. Union of India, 2017)¹⁵

¹⁴ Competition Commission of India (CCI), Investigation into WhatsApp Privacy Policy, 2021.

¹⁵ K.S. Puttaswamy v Union of India (2017).

Particulars of the detailed case of *K.S. Puttaswamy v. Union of India* (2017) are as follows:

- * Article 21 recognises Right to Privacy as a Fundamental Right
- * Emphasized on free, informed and meaningful consent

Other Landmark Judgments pertaining to the Right to Privacy include -

Justice K.S. Puttaswamy(Aadhaar) vs Union of India (2018)¹⁶

- Scope of data collected
- Only collect data that is limited and necessary
- Two principles established data collection will be governed by the laws of Proportionality

***R. Rajagopal v State of Tamil Nadu* (1994).**¹⁷

- * Recognised each person has a right to exercise control over how their personal information is used
- * Provides for protection to individuals concerning data usage

***PUCL v Union of India* (1997).**²⁰

- * Right to privacy shall be protected from arbitrary interference by any person or authority
- * Rules against the misuse of surveillance

This violates the concept of informed and consent, therefore infringing Article 21.

2. Article 19(1)(a) - Right to Freedom of Speech and Expression

- Includes the right to receive information that is clear and accurate

¹⁶ *Justice K.S. Puttaswamy(Aadhaar) v. Union of India* (2018), Supreme Court of India.

¹⁷ *R. Rajagopal v. State of Tamil Nadu* (1994), Supreme Court of India.

²⁰ *PUCL v Union of India* (1997), Supreme Court of India.

- Dark Patterns Bypass Access to Truthful Information through misleading costs, misleading buttons and confusing interfaces
- Thus indirectly infringing upon an individual right under Article 19(1)(a)

3. Article 14 - Right to Equality

- Protects against arbitrary and/or unfair practices
- Dark Patterns are used to create a disproportionate relationship between companies and individuals by exploiting their lack of knowledge.
- This creates an unfair treatment of consumers and therefore violates Article 14.

4. Article 38 – Directive Principles of State Policy

- The State will promote social and welfare and justice
- The existence of Dark patterns within Digital Platforms indicate a lack of fairness on the part of Digital Platforms.
- This creates the necessity for more extensive Regulation of Digital Platforms to protect consumers.

5. Article 39(b) - Distribution of Resources for Common Good

- Fairness is integral to how resources in society are to be shared between people.
- In the digital world, one of these resource distributions is equal access to both information as well as the services provided on specific websites or platforms.
- When organisations use dark patterns, profit is made more important than the consumers' well-being.

Thus, dark patterns are contrary to the statutory laws and constitutional values of fairness and transparency, and infringe on the rights of individuals.

Role of Consumer Awareness

Consumer education is very important for dealing with the problem of dark patterns. Unless a person knows what their rights are and how digital services use misleading tactics, even the most comprehensive laws cannot be effective. Helping consumers learn about some of the more common forms of dark patterns will give them the ability to avoid those practices.

There are many ways that consumer education can be achieved, such as through digital literacy training, by using social media to educate people and by developing educational programs in schools. Another way to increase awareness about dark patterns would be to teach digital ethics and online safety in schools and universities.

The more informed a consumer is, the less likely they will fall into deceptive traps. This, in turn, promotes transparency and ethical behaviour by the providers of digital services. Thus, the increase of consumer education about dark patterns is an important step towards ensuring fairness and profit over consumer welfare.

Challenges in Regulating Dark Patterns in India

Dark patterns have finally been recognised for many years, yet many issues exist when attempting to regulate them in India. One primary issue is the speed at which technology advances. Digital technologies such as mobile applications and online platforms regularly update their user interfaces, making the tracking and identification of any deceptive practices very difficult in real-time. Therefore a dark pattern today can evolve into a deceptive design tomorrow.

Another complication is the absence of clear definitions and classifications for dark patterns in Indian legislation and regulations. Even though guidelines exist from the Central Consumer Protection Authority (CCPA), the majority of dark patterns still exist in a grey area. This creates uncertainty and ambiguity for both regulators and companies and as a result, it causes inconsistent enforcement of the laws. As a result, there are likely ways that companies take advantage of this uncertainty to continue applying poor UX techniques without fear of punishment.

Moreover, many regulatory agencies do not have enough technical knowledge to adequately regulate dark patterns. The detection of dark patterns requires a familiarity with UI design,

behavioural psychology and data analytics. Also, without appropriate knowledge and trained staff, the possibility of identifying and punishing the application of dark patterns becomes extremely difficult.

Jurisdictional problems develop due to the global nature of many digital platforms. Application owners may be in different countries from where their applications are used (e.g., an application is used in India, but its owner is outside of India); therefore, applying Indian law to the owner of the application will not be straightforward. Coordination of enforcement actions with appropriate international regulators will be necessary but will also present a challenge.

In addition to jurisdiction problems, there is a lack of consumer knowledge about using deceptive practices by companies. Even though users may experience the deceptive practice, they do not recognize its violation of their rights or are reluctant to make a complaint. This results in less accountability for those companies.

To address these issues, a multi-pronged approach must be taken that includes establishing clearer laws and stronger enforcement tools, having technical expertise, and cooperating internationally. All of these efforts combined will give India a better chance to regulate dark patterns and create a safer digital environment for all users.

Future Scope of Study

The issue of dark patterns is continually changing, especially within the Indian digital landscape. Future studies could include larger sample sizes in order to gain a more accurate understanding of user behaviour and awareness. Researchers may want to also study specific industries/verticals (i.e., e-commerce industry, fintech industry, and social media) to get a better understanding of the behaviour of users.

Additional research on artificial intelligence and dark patterns will be of great benefit to future project teams and designers. Developing better user interface designs and understanding how user decision making functions will be an ongoing process with many aspects to consider as technology continues to develop and evolve quickly.

This type of research will also help inform policy makers and designers/developers so they can create ethical and user-friendly digital platforms.

Ultimately, successfully addressing the issue of dark patterns will after have involved some form of balance between having strong legal frameworks in place, ethical design practices, and well-informed end users.

Conclusion

Studying the use of dark patterns (deceptive design practices) in mobile applications from India indicates that there is an increasing worry over the use of such practices in our digital world.

Dark patterns have a negative financial impact, negatively impact a consumer's privacy and decrease consumers' trust in digital environments due to the way they manipulate users into unexpectedly making different choices than intended.

The results of this study show that most people who use mobile applications are unaware of what dark patterns are but are frequently affected by dark pattern tactics while using mobile applications.

Although India has laws including the Consumer Protection Act (2019) and regulatory authority guidelines to provide consumer protection; enforcement of the laws against deceptive design practices (dark patterns) has been ineffective.

The WhatsApp Privacy Policy matter exemplifies another way in which consumers (users) can be indirectly pressured into accepting unfair terms through the practices of dark patterns or manipulation.

In my opinion, while the growth of the digital market has improved the ease with which consumers can access goods/services, it is critical that the ease of access does not diminish or mitigate consumers' rights.

Thus, addressing deceptive design tactics is crucial to sustaining transparency, fairness and trust in the digital marketplace.

Suggestions / Recommendations

- There should be specific laws in India that directly regulate dark patterns on digital platforms.
- Regulatory authorities like the Central Consumer Protection Authority (CCPA) should

enforce strict penalties for companies that use deceptive practices.

- Mobile applications should maintain clear, transparent, and user-friendly interfaces that do not mislead users.
- Companies need to make sure that user consent is free, informed, and not influenced by design manipulation.
- Awareness campaigns should educate users about dark patterns so they can make informed decisions.
- In my opinion, ethical design practices should be encouraged, prioritizing Shopping Websites (Government of India).

REFERENCE

1. Harry Brignull, Deceptive Dark Pattern <https://www.deceptive.design/>
2. Arunesh Mathur et al., Findings from 11K E-commerce Sites Show Dark Patter2
<https://arxiv.org/abs/1907.07032>
3. Arvind Narayanan et al., <https://arxiv.org/abs/2009.10194>
4. The Consumer Protection Act of 2019, (India)
https://ncdr.nic.in/bare_acts/CPA2019.pdf
5. The Central Consumer Protection Authority of India, Guidelines to Prevent and Regulate Dark Patterns, 2023. <https://www.nls.ac.in/wp-content/uploads/2021/04/Dark-Patterns.pdf>
6. The Information Technology Act of 2000, (India). <https://cag.gov.in/uploads/media/IT-ACT-20210330163049.pdf>