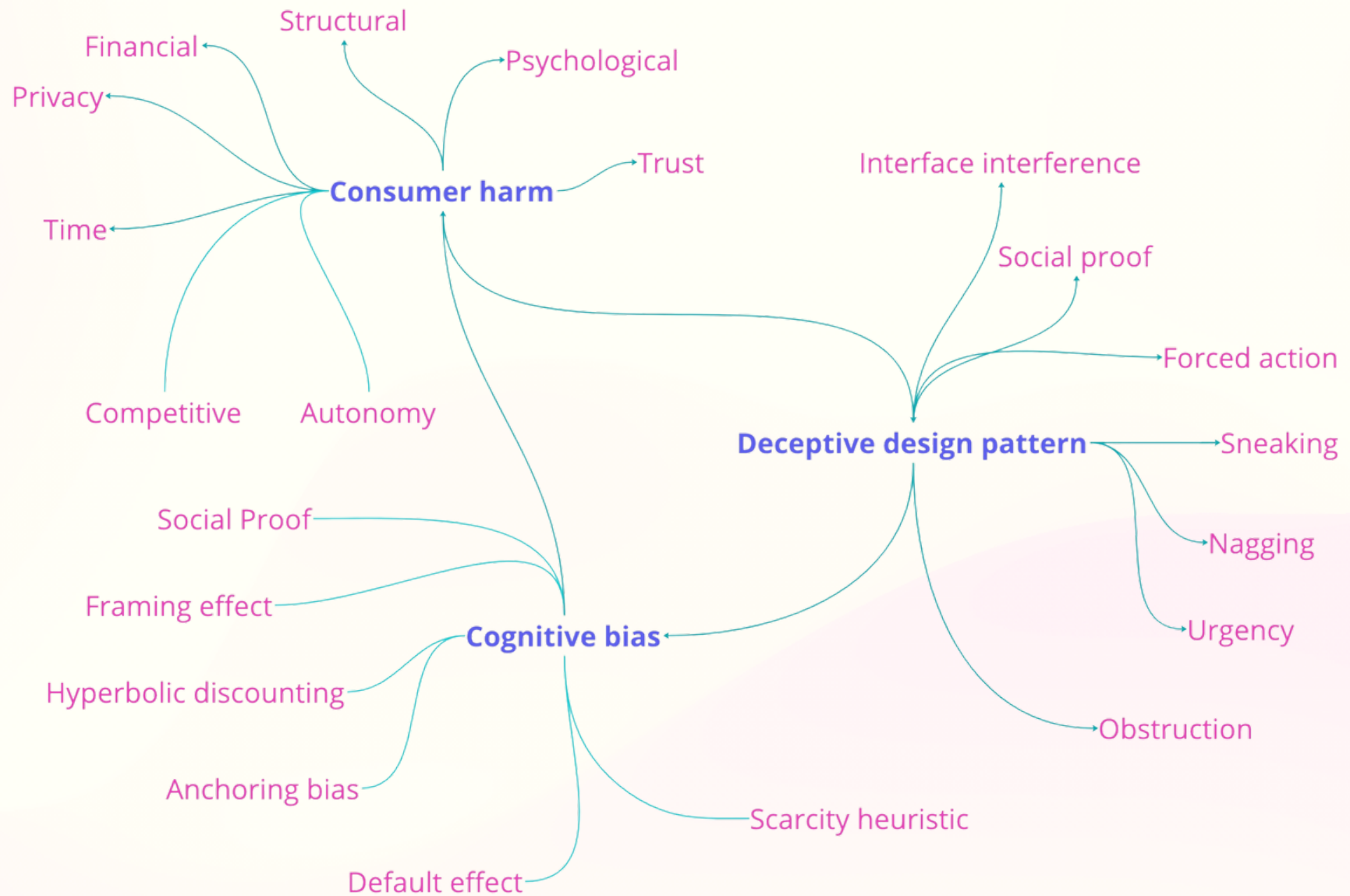


01 What is Deceptive Design?

Concept mapping



Deception by Design

Generally, deceptive design or 'dark patterns' are manipulative practices built into user interfaces that obscure, subvert, or impair consumer autonomy, decision-making, or choice. These patterns are often carefully designed to alter decision-making by users or trick users into actions they did not intend to take.

Defining deceptive design

The OECD Committee on Consumer Policy proposes the following [working definition](#) for deceptive design:

“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. They often deceive, coerce or manipulate consumers and are likely to cause direct or indirect consumer detriment in various ways, though it may be difficult or impossible to measure such detriment in many instances.”

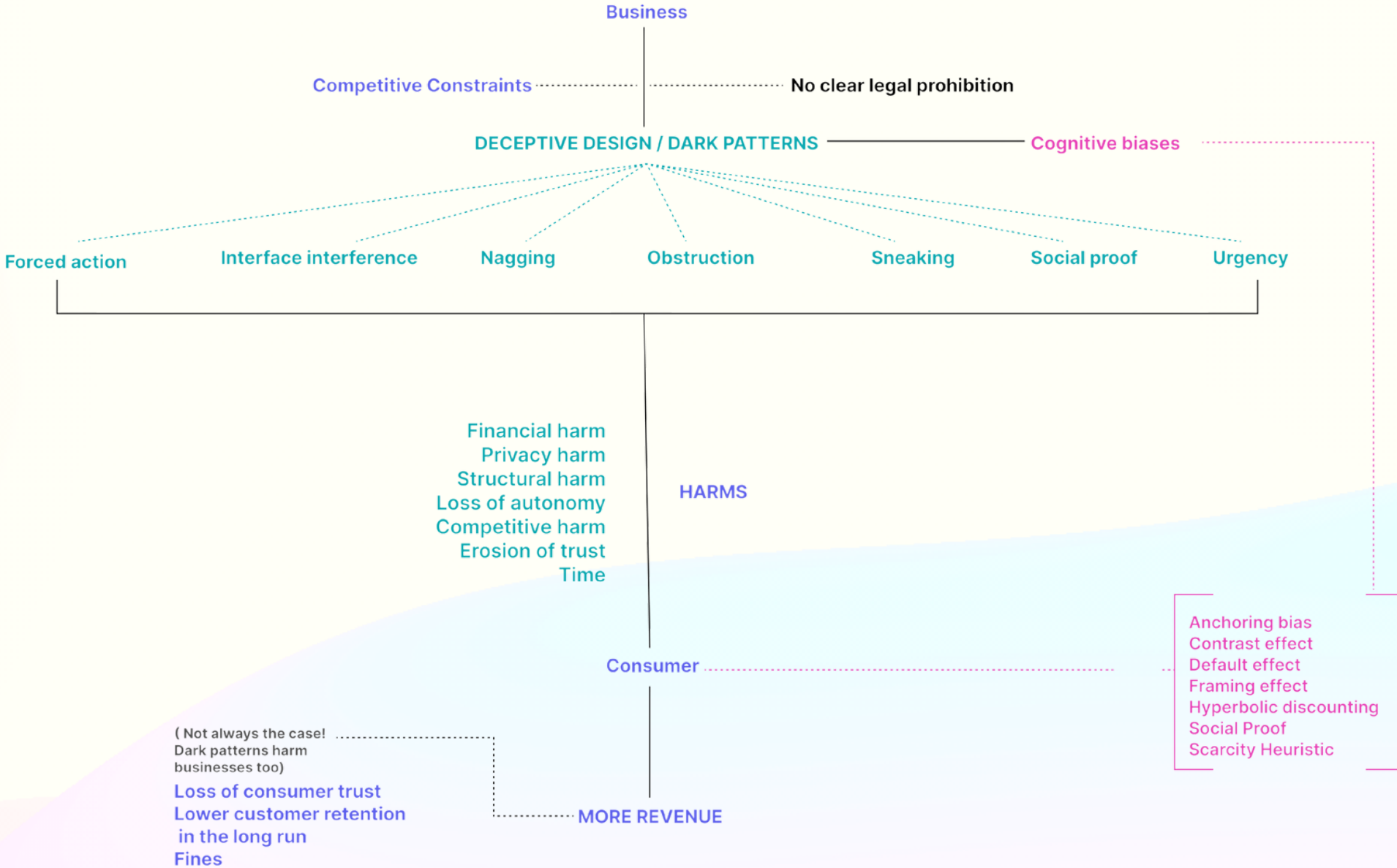
Gray [defines](#) dark patterns as explicit, deceptive design choices that are created by understanding human psychology and manipulating it in a way that are not in the user's best interest.

[The Norwegian Consumer Council](#) has a simpler definition, describing them as “Features of interface design crafted to trick users into doing things that they might not want to do, but which benefit the business in question, or in short, nudges that may be against the user's own interest.”

“ Designer Katherine Zhou [states](#) that deceptive designs are “often carefully designed to alter decision-making by users or trick users into actions they did not intend to take.” ”

[Mathur et al.](#) emphasise that dark patterns steer, coerce, or deceive the user into making decisions which they might not have otherwise done. While some customers might be coerced into spending money in response to these coercive designs, in other customers it might elicit responses of slight annoyance to frustrations at having to give up personal data.

A deceptive design meta map: The actors, types and some harms



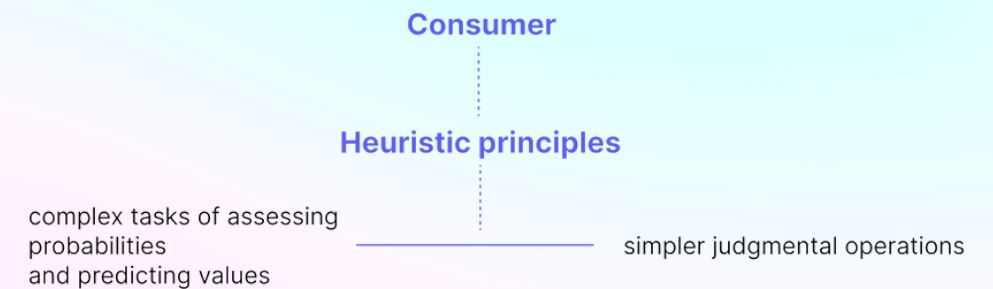
Deceptive design has multiple harms

Deceptive design have multiple harms baked into them. Research on deceptive designs has linked these patterns to loss of privacy, financial harms, loss of time, psychological harms, and loss of consumer trust over digital services. Apart from end-user harms, these patterns also have [consequences for digital markets](#) at large, and impact competition in such markets.

These errors in thought and judgement lead consumers to make choices (or not) which may harm them in various ways.


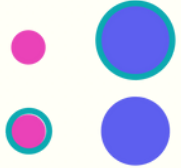



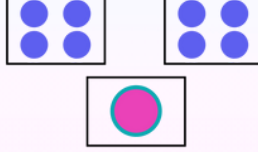
Deceptive design exploits human cognitive biases

Deceptive design practices leverage human cognitive biases in order to trick or manipulate users. [Cognitive bias](#) is a systematic thought process caused by the tendency of the human brain to simplify information processing through a filter of personal experience and preferences. The filtering process is a coping mechanism that enables the brain to prioritize and process large amounts of information quickly. While the mechanism is effective, its limitations can cause errors in thought.



Users rely on heuristics in the above mentioned way and in some cases it can result in severe, systematic errors which are cognitive biases.

Here are some key types of cognitive bias that are leveraged in deceptive design practices:

<p>Anchoring Bias</p> <p>Tendency to base decisions around a particular reference point</p>  <p><i>This prominent option looks better than the rest, so why not go for it?</i></p>	<p>Hyperbolic discounting</p> <p>Humans prefer smaller immediate rewards and satisfaction over larger future rewards</p>  <p><i>Last chance: Order today for free shipping over \$300!</i></p>	<p>Default effect & contrast effect</p> <p>Tendency to choose the status quo or the default option. Using contrast generate a desired impression on the user</p>  <p><i>This option looks better than the others! Why to think too much? let's go with the existing choice.</i></p>
<p>Framing effect</p> <p>Tendency to make different choices based on the same information depending on how it is presented</p>  <p><i>When things look different, but are actually the same!</i></p>	<p>Social Proof</p> <p>Tendency to make choices that conform with those of others</p>  <p><i>Everyone is doing it, let's do it too!</i></p>	<p>Scarcity Heuristic</p> <p>Tendency to place higher value on scarce options</p>  <p><i>There is one last piece left! Let's pick that quickly!</i></p>

Types of Deceptive Design Patterns

1 Interface Interference

These deceptive design patterns use framing of information to privilege specific actions that are favourable to the business. They may exploit framing or anchoring effects or default bias.

Sub-types

Confirm shaming, Disguised ads, Preselection, Trick questions, False hierarchy, Hidden information, Misleading reference pricing

Cognitive Biases

Anchoring bias, Bandwagon effect, Framing effect, Functional fixedness, Hyperbolic discounting, Optimism bias

Harms

Consumer autonomy, Financial loss, Privacy harm, Weaken or Distort competition

<p>Confirm Shaming</p> <p>Daily guide to Healthier life Delivered to your inbox daily</p> <p>Enter your email here</p> <p>Live Healthier</p> <p>I don't want to be healthier</p>	<p>Disguised ads</p> <p>Download now! start download</p> <p>Click to start download!</p> <p>Download!!!</p>
<p>Preselection</p> <p><input checked="" type="checkbox"/> Make this my default search engine</p> <p><input checked="" type="checkbox"/> Make this my default home page</p> <p>Continue</p>	<p>False hierarchy</p> <p>Make selection to continue installation</p> <p><input checked="" type="radio"/> Express (recommended)</p> <p><input type="radio"/> custom installation (Advanced)</p> <p>Install</p>

Examples include:

- Hidden information includes visually obscuring important information
- Displaying a discounted price with reference to an original misleading or false higher price (misleading reference pricing)
- Using intentional or obvious ambiguity with trick questions (e.g. double negatives)
- Disguising advertisements

2 Social Proof

These patterns attempt to trigger users to make a choice based on potentially false information about how other consumers are behaving.

Sub-types

Activity messages and testimonials

Cognitive Biases

Bandwagon effect, Social proof bias, Anchoring bias, False uniqueness effect

Harms

Reduce consumer trust and engagement, Financial loss, Time loss, Psychological detriment

The diagram illustrates social proof elements in a user interface. It is divided into two main sections: **Activity messages** and **Testimonials**.

- Activity messages:** This section features two notification boxes: "Person A from Garden City just saved 50% on her order" and "760 people viewed this item in last 24 hours". Below these is a prominent teal button labeled "Order now!".
- Testimonials:** This section features four notification boxes: "25k Claps!!!", "60 responses!", "100 friends recommend it!", and "4k followers!". Below these is a prominent teal button labeled "Add to cart".

Examples include:

- Notifications about other consumers' activities or testimonials about their recent purchases.
- Activity notifications might not be truthful, e.g. where they falsely signal old purchases as if they were sold recently, and testimonials may be misleading or false

3 Forced Action

Deceptive design patterns involving forced action seek to compel the consumer to do something in order to access a specific functionality.

Sub-types

Forced Registration, Gamification, Privacy Zuckering, Friend spamming

Cognitive Biases

Functional fixedness, Framing effect, Contrast effect, Default effect

Harms

Privacy harms, Psychological detriment, Time loss, Weaken or distort competition

The image shows three examples of deceptive design patterns:

- Forced registration:** A registration form with fields for 'First name and Last name', 'Enter your email here', and 'password'. A prominent teal button labeled 'Join with email!' is positioned below the fields, suggesting that registration is the only way to proceed.
- Privacy Zuckering:** A checkout form with fields for 'Expiry date' (mm/yy), 'CVV', and 'Name on card'. A checkbox labeled 'Save my card information for faster check-out' is checked by default. A teal button labeled 'Add to cart' is at the bottom.
- Friend spamming:** An email input field with the placeholder text 'For eg. abc@gmail.com'. Below the field, a small text block reads: 'See who else is using this platform. Import your contacts and improve you connections!'. A teal button labeled 'Continue' is at the bottom.

Examples include:

- The consumer may be *forced to register* or be tricked into thinking it is necessary, or be *forced into disclosing* more personal information than desired to use a service.
- Another example is the extraction and usage of e consumer’s contacts, possibly without the consumer’s consent, in order to use a service (*known as friend spamming or social pyramid*).

4 Sneaking

Sneaking patterns seek to hide, disguise, or delay the divulging of information relevant to the consumer’s decision, particularly regarding costs. They may exploit limited attention, default bias, the anchoring effect or sunk cost fallacy in consumers.

Sub-types

Hidden costs, Sneak into basket, Forced continuity, Bait and switch

Cognitive Biases

Functional fixedness, Default effect, Loss aversion, False uniqueness effect

Harms

Financial loss, Privacy harm, Weaken or distort competition

Examples include:

- Adding new non-optional charges to the total price when a consumer is just about to complete a purchase (otherwise known as drip pricing)
- Sneaking an item into a consumer’s basket without consent e.g. via a checkbox on a prior page
- Automatically renewing a purchase, including following a trial period, without the consumer’s explicit consent (i.e. hidden subscription also known as forced continuity).

5 Nagging

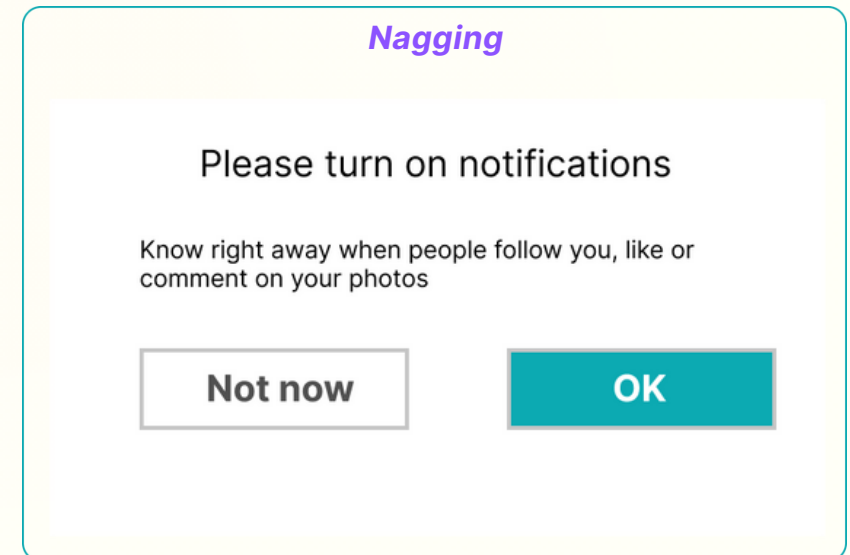
Nagging dark patterns involve repeated requests to the consumer to do something favourable to the business, such as turn on notifications or location-tracking. They usually exploit the consumer's limited willpower or time.

Cognitive Biases

Functional fixedness, Bandwagon effect, Framing effect, Contrast effect, Hyperbolic discounting, Scarcity heuristic

Harms

Psychological detriment and time loss, Privacy harms, Financial loss



Examples include:

- Prompts for enabling notifications in the app, where the only two options are “Not Now” and “OK”, giving the user no ability to discontinue notifications.
- Pop-ups that hide the interface, auto-play audio and video.

6 Urgency

These patterns impose a real or fake time or quantity limit to pressure the consumer into making a purchase.

Sub-types

High demand / Low stock. Count down timer

Cognitive Biases

Framing effect, Loss aversion, Hyperbolic discounting, Scarcity heuristic, Contrast effect, restraint bias

Harms

Financial loss, Reduce consumer trust and engagement, Weaken or distort competition

The image shows two examples of urgency design within a rounded rectangular frame. The top example is titled "Count down timer" and features the text "Offer ends in....." followed by a red digital timer showing "00:09:43" and a teal "Buy now!" button. The bottom example is titled "High demand" and features the text "Hurry!" followed by "The items in your cart are high demand. But we have reserved your items for" and a red digital timer showing "9:43 minutes", with a teal "Buy now!" button below.

Examples include:

- Low stock and high demand messages or a countdown timer to indicate an expiring deal or discount.

7 Obstruction

These patterns make a task flow or interaction more difficult than it needs to be to dissuade a user from taking that action. They try to exploit consumer inertia, limited willpower or time.

Sub-types

Price comparison prevention, Roach motel, Click fatigue, Hard to cancel or opt out, immortal accounts

Cognitive Biases

Bandwagon effect, Framing effect, Restraint bias, Loss aversion, Hyperbolic discounting, Functional fixedness, Contrast effect

Harms

Consumer autonomy, Financial loss, Privacy harms, Psychological detriment, Time loss, Weaken or distort competition

The image displays three examples of deceptive design patterns:

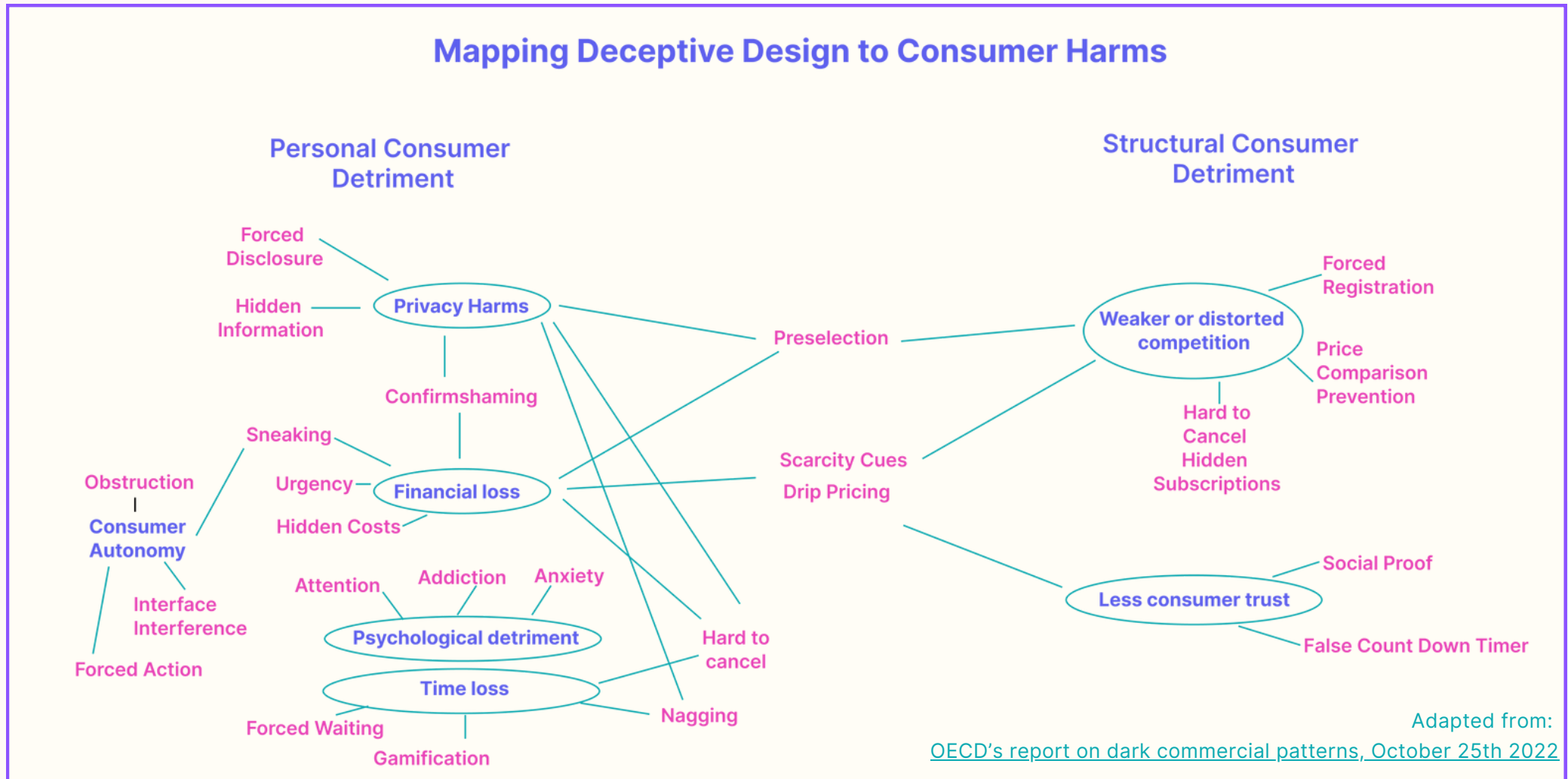
- Price comparison prevention:** A table showing two product types. Type A is priced at 20 \$ per kg, and Type B is priced at 15 \$ for 2 pieces. Both have an 'Add to cart' button. A large 'OK' button is positioned below the table, likely to prevent users from comparing prices.
- Roach motel:** A notification stating 'You are now eligible for our magazine subscription'. Below this, it says 'One year subscription to our design magazine at 20% off valued at 20\$ per month !!'. There is an 'opt out of magazine subscription' checkbox and an 'OK' button.
- Click fatigue:** A 'Data protection' notification. It states 'We use essential cookies to make our site work. With your consent, we may also use non-essential cookies to improve user experience and analyse website traffic. By clicking 'Accept', you agree to our website's cookie use as described in our Cookie Policy. You can change your cookie settings at any time by clicking "Preferences"'. There are 'Preferences' and 'Accept' buttons.

Examples include:

- Making it easy to sign up to a service or opt in to privacy-intrusive settings but hard to cancel the service or opt out to more privacy-friendly settings.
- Making it hard or impossible to delete an account or consumer information (often termed immortal accounts)

Deceptive Design leads to significant consumer harms

Deceptive design can lead consumers to make choices they may not otherwise have made, deny consumer choice, obscure available choices, or burden the exercise of choice. Apart from individual harms, deceptive design practices can also lead to collective harms beyond just the individual user- including threats to democracy and freedom of expression.



Spot the deceptive design!

How many deceptive design patterns can you spot on this screen?
Choose the types from the list of deceptive design patterns below and label them.

- Sneak into basket
- Forced registration
- Friend spamming
- Privacy zuckering
- Preselection
- Forced continuity
- Bait and switch
- Nagging
- High demand

How do you think these patterns possibly harm the consumer?

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Do you have any interesting ideas about how these can be designed differently?

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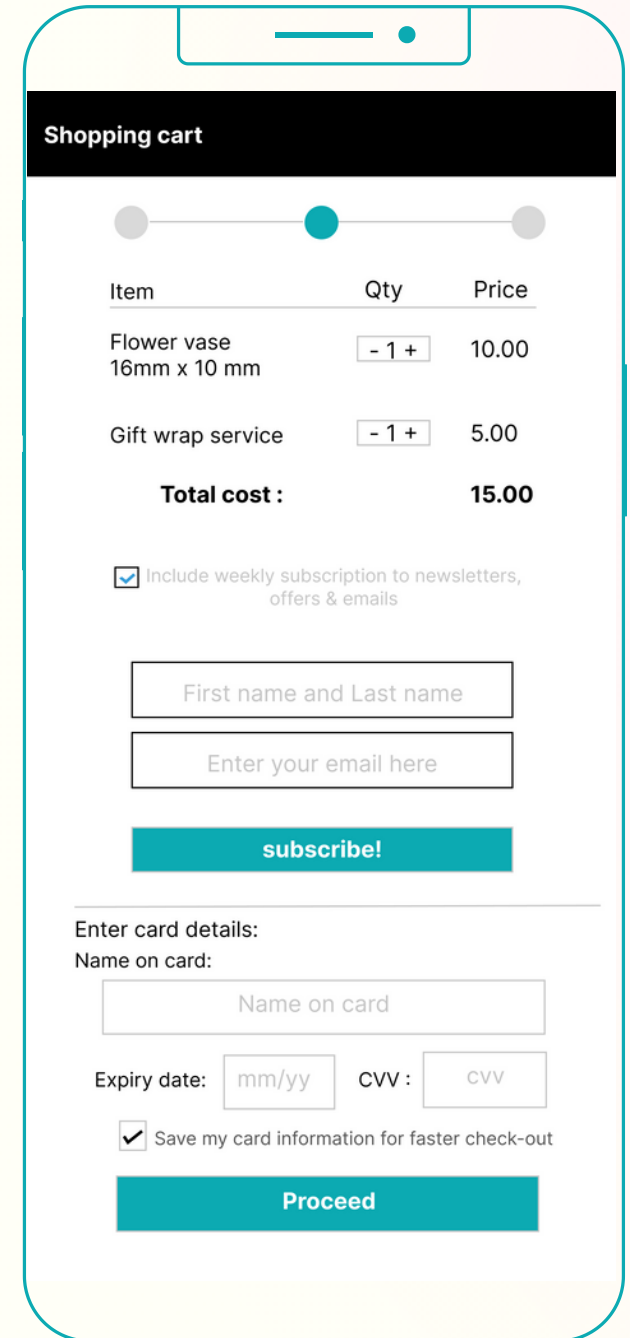
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Answer: Sneak into basket, Forced continuity, Forced registration, Privacy zuckering



ACTIVITY

Spot the deceptive design!

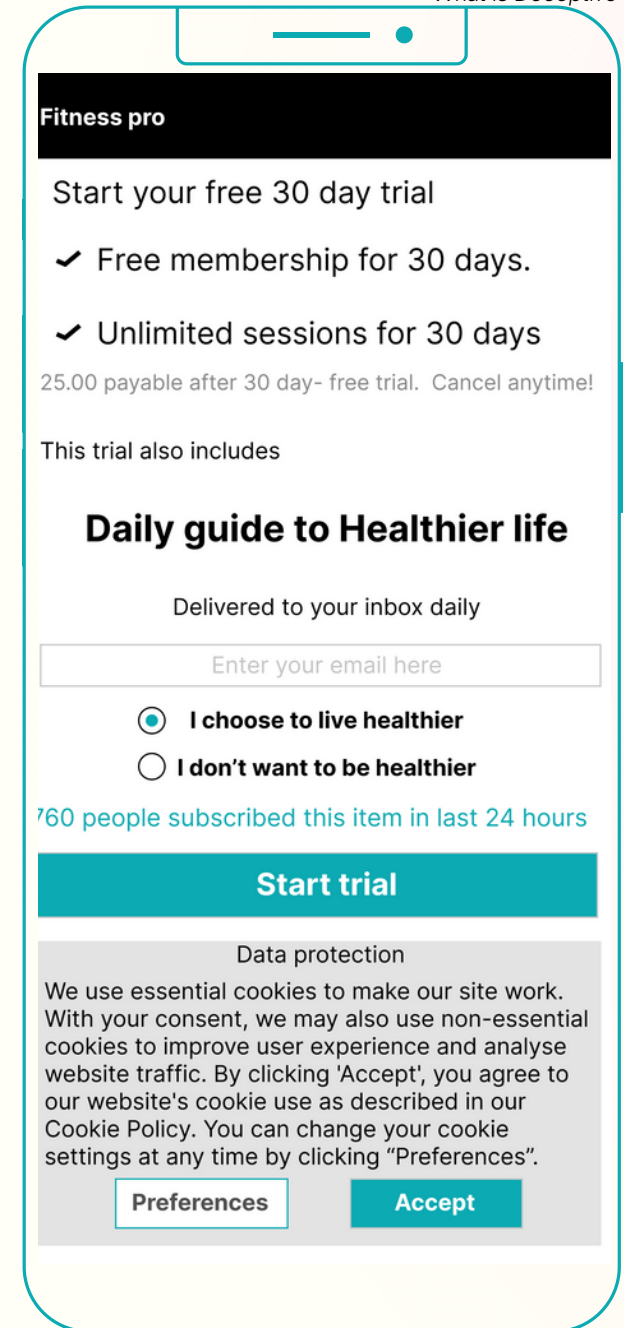
How many deceptive design patterns can you spot on this screen?
Choose the types from the list of deceptive design patterns below and label them.

- Click fatigue
- Forced registration
- Friend spamming
- Preselection
- Forced continuity
- Activity messages
- Nagging
- High demand

How do you think these patterns possibly harm the consumer?

Do you have any interesting ideas about how these can be designed differently?

Answer: Forced continuity, Click fatigue, Preselection, Activity messages



ACTIVITY

Spot the deceptive design!

How many Deceptive design patterns can you spot on this screen?

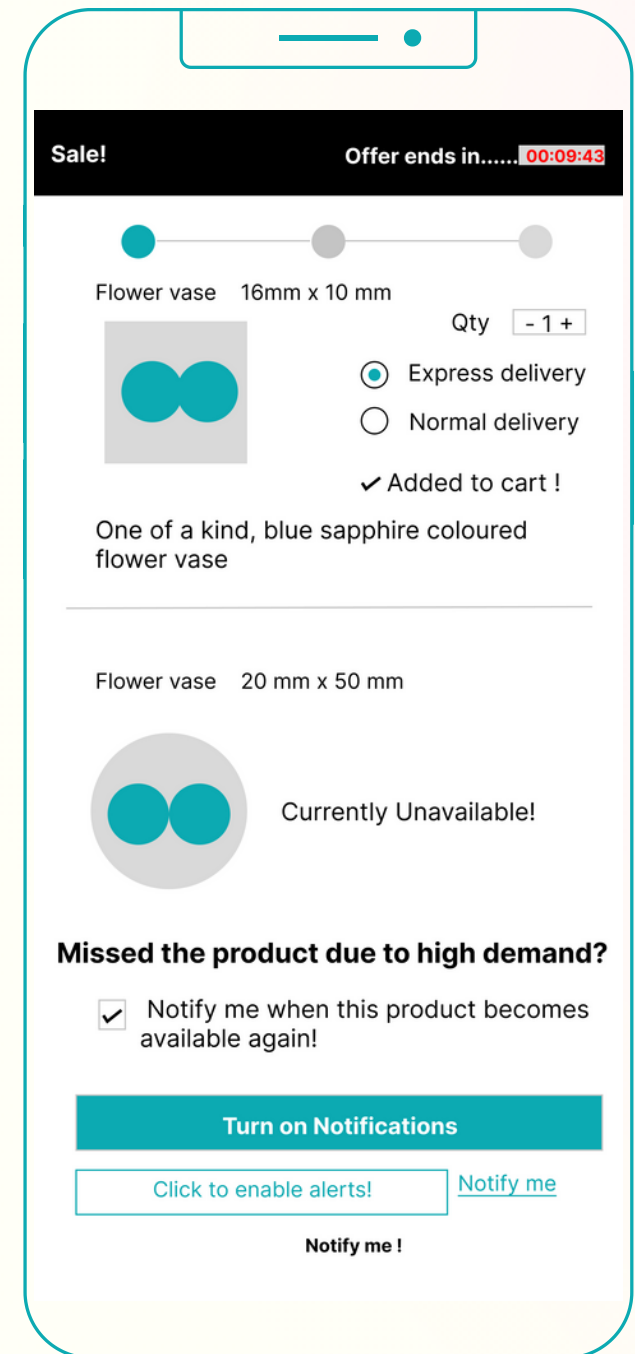
Choose the types from the list of deceptive design patterns below and label them.

- Countdown timer
- Nagging
- Friend spamming
- Preselection
- False hierarchy
- Activity messages
- Disguised ads
- High demand

How do you think these patterns possibly harm the consumer?

Do you have any interesting ideas about how these can be designed differently?

Answer: Countdown timer, Nagging, Preselection, Disguised ads



ACTIVITY