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THE BRIGHT SIDE OF DARK PATTERNS:
A proposal of guidelines for the application of deceptive design to UX to stimulate a more sustainable and data protection-oriented customer journey

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GLOSSARY

Controller: means the natural or legal person, public authority, agency or other body which determines the purposes and means of the processing of personal data
Cookie: is a piece of data from a website browsing it and stored on users' device
Cookie wall: walls surrounding websites which users can overcome only by accepting cookies, the majority of which are going to manage users' personal data
Dark Pattern: user interfaces and typologies of user experience implemented on platforms when they influence users into taking non-intentional and potentially harmful actions by weakening their ability to make free and informed choices.
Data processor: means a natural or legal person, public authority or other body which processes personal data on behalf of the controller
User: with the term users, it is intended a person whose data are managed from a controller or a data processor
User Interface: means through which people can interact with platforms

ABSTRACT

Dark Patterns are deceptive design techniques applied to platforms with the aim of manipulating the user's choice.
In April 2022 the European Data Protection Board released a set of guidelines for the application of Dark Patterns
to social media platforms, making no mention to digital business platforms.
Currently, online purchase represents an always growing trend which needs to be properly addressed. This work is
concluded with the proposal guidelines for the application of Dark Patterns to e-commerce platforms to nudge customers into making more sustainable choices, having due regard for freedom of choice and freewill.
This treatment analyses deceptive design practices through their evolution, from physical retail to online commerce, and provides a taxonomy of the principal regulatory instruments in Europe and the United States. For the purpose of this

thesis, a survey was conducted to analyse users' ability in recognising deceptive design and their response to the presence of Dark Patterns.

Results of the survey have shown that, even if explicitly communicated and well visible, Dark Patterns maintain their nudging capacity.

The proposed guidelines highlight the importance of applying the design techniques while maintaining the proper attention in relation to freedom of choice, ensuring compliance with the principal legal provisions in matters of Dark Patterns.

INTRODUCTION

We are living in a digital and digitalized era. Every day we spend, on an average, 26% of our time on the Internet engaging with social media platforms and content[1]. Our behaviour online is monitored, influenced, and leveraged to the benefit of the minds behind the design of what are now called *Dark Patterns*.

Dark Patterns, as defined by their father Harry Bringull, are "*the ways in which software can subtly trick users into doing things they didn't mean to do or discouraging behaviour that's bad for the company*" (Bingull, 2017).

These instruments are used to nudge (persuade) online users in taking specific decisions. This practice is exceptionally common when dealing with social media platforms and e-commerce.

The tremendous diffusion of the use of platforms in everyday life during the latest years stimulated lawmakers worldwide to develop normative frameworks to safeguard users from two directions. From the one hand by defining borders to the allowed actions that platform owners can put in place to gather data and nudge users, and from the other by teaching and educating users to recognise a threat when they encounter one.

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[1] Statista. (2022, February 7). Share of time spent online in selected European markets 2020–2021, by category. Full report: https://www.statista.com/statistics/1287007/time-spent-online-europe-by-category/

This work is aimed at developing a draft proposal of guidelines to shepherd the application of Dark Patterns to influence customers in taking more sustainable decisions during their shopping experience.

The objective of this work is going to be achieved by demonstrating that, even if well shown and in good evidence, Dark Patterns are still able to persuade users into taking the choice they were created for. This is going to be done by an A-B test, issued to a panel of people selected by sharing the survey through personal social media channels. A-B testing consists in showing and asking to compare two versions of a sample to understand which one performs better according to the proposed audience. In this case, what is shown are two versions of the same web interface and the aim is to analyse whether users, chosen between different age groups and cultural backgrounds, are able to identify a Dark Pattern and to deliberately choose to avoid it or to go along with it.

The report starts with the explanation of what are Dark Patterns and an historical excursus of nudging techniques and behavioural economics in user experience. To do so, it will be analysed and reviewed Thaller's and Sunstein's point of view on this topic. The analysis proceeds deepening the regulatory framework that, at the state of the art, regulates the phenomenon of Dark Patterns dwelling on the American and European approach. In Chapter 3 it will analyse the concept of Dark Patterns in digital shops and will underline the regulatory framework applied to protect consumers, again underlining the difference between the American and European approach. Subsequently, after a brief descriptive analysis of the test conducted, the guidelines will be proposed. The guidelines will define methods of application of Dark Patterns and easily recognizable red flags to enhance awareness of customers.

The main aim of the study is indeed to demonstrate how users, even if acknowledged of the presence of a nudging tool, will still be persuaded by the Dark Pattern in taking the most sustainable choice.

CHAPTER 1: THE IMPACT OF DARK PATTERNS ON CONSUMERS BEHAVIOUR

Today we are living in a socio-technical system in which designers and engineers are hired to increase at the maximum level corporate gains, going far beyond users' satisfaction. They are doing this better and better by implementing user experience designs that work with human's brain, tricking it, and pushing it to follow some predicted schemes. It was Harry Brignull, in 2010, to propose the first idea of ethically uncertain design applied to digital platforms by coining the neologism *Dark Pattern (Brignull, 2019)*[2]. Brignull defines Dark Patterns as "*a user interface that has been carefully crafted to trick users into doing things...they are not mistakes, they are carefully crafted with a solid understanding of human psychology, and they do not have the user's interests in mind*" (Brignull, 2010)[3].

THE EVOLUTION OF DARK PATTERNS

Brignull in his study has identified and defined 12 Dark Patterns; hereunder it will be provided the definition Brignull himself gives for each of them and provide an example for better clarity (Brignull, 2010)[4]:

1. Bait and Switch: this Dark Pattern happens when the user sets out to do one thing, but a different, undesirable thing happens instead. *The most famous example of Bait and Switch was Microsoft's misguided approach to push users to update their software to Windows 10.*

2. Confirmshaming: this Dark Pattern consists in the act of guilting users for not opting in the direction of something. In this design the option to decline is worded in such a way as to shame users into compliance. *Examples of this Dark Patterns are such an enormous amount that a Tumblr account (which by the way is full of Dark Patterns) was created to collect experiences from the Internet*[5].

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[2] Brignull H. (2010). *Deceptive Design – formerly darkpatterns.org. Deceptive Design*. https://www.deceptive.design
[3] Brignull, H. (2010*). Dark patterns*, 2019, form: https://www. darkpatterns. org/(cited on p. 23).
[4] Brignull, H. (2010). *Deceptive design - Types of deceptive design. Deceptive Design*. from https://www.deceptive.design/types
[5] Confirmshaming. (2019). Confirmshaming. Retrieved June 2022, from https://confirmshaming.tumblr.com/

3. Disguised Ads: these are adverts that are disguised as other kinds of content or navigation, in order to get users to click on them. *A very common example of this Dark Pattern is encountered when download buttons hide an advert, tricking users into clicking on the ads rather than obtaining what they want.*

4. Forced Continuity: when the user's free trial with a service comes to an end and his/her credit card silently starts getting charged without any warning. Users are not then given an easy way to cancel the automatic renewal. *A real-life example in this respect is represented by Audible, which offers a one-month free trial at the end of which the system automatically charges the fee for the second month, without asking the user for authorization.*

5. Friend Spam: in this Dark Pattern the product asks for users' email or social media permissions under the pretence it will be used for a desirable outcome, but then spams all user's contacts in a message that claims to be from him/her. *The most renowned example for the case in point has LinkedIn as the main character.*

The LinkedIn case (Austin Night, 2019)[6]**:**

LinkedIn in 2015 was ordered to pay 13 million $ for the loss of a lawsuit for the case labelled "*Perkins v. LinkedIn Corp.*". LinkedIn, in fact, has been condemned to pay damages to its users for applying the "Add Connections" or "Friend Spam" Dark Pattern since 2011. Due to this Dark Pattern, emails were sent on behalf of users – but without their permission - inviting other account owners to connect with them. Even if the individual damages only amount to 10$ per user, this sets a precedent, demonstrating the real impact that design has on users' lives and concretising the possibility of legal consequences for violating users' rights.

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[6] Austin Knight. (2019). *Nope, Dark Patterns Never Work*. Austin Knight, from
https://austinknight.com/writing/nope-dark-patterns-never-work

6. Hidden Costs: if a user falls victim of this Dark Pattern, he/she gets to the last steps of the checkout process, only to discover some unexpected charges have appeared. *An example can be encountered in the Proflowers[7] website where, after a 6-steps checkout process, two hidden costs are shown (delivery and care and handling) included in the original price of the purchase.*

7. Misdirection: this happens when the design purposely focuses users' attention on one thing in order to distract from another. *A good example is the Australian low-cost company jetstar.com[8] who automatically adds to the cart the price for the seat choice without allowing the user to effectively choose his/her seat. In addition to that, the button "skip this section" which shall be clicked to avoid the payment is a tiny link under the "continue" big, bold, and bright button.*

8. Price Comparison Prevention: the retailer makes it hard for the users to compare the price of an item with another item, so an informed choice cannot be made. *This practice is very common since the early 2000 when mobile operators and supermarkets adopted it to make it impossible to understand the difference of value between loosed items and packed items.*

9. Privacy Zuckering: this Dark Pattern tricks users into publicly sharing more information about him/herself than he/she really intends to. *This Dark Pattern has been named, by no coincidence, to the Facebook CEO Mark Zuckerberg. This Social media is well known for the difficulties caused to those who want to keep some data private.*

10. Roach Motel: this design makes it very easy for the user to get into a certain situation but then makes it hard to get out. *The best example for this Dark Pattern is encountered in the subscription and unsubscription process.*

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[7] Proflowes website: https://www.proflowers.com
[8] Jetstar website: https://www.jetstar.com/au/en/home?adults=1&children=0&flexible=1&flight-type=2&infants=0&origin=MEL&tab=1

The Amazon case (Martinson, 2019)[9]**:**

The only way to delete your purchase history on Amazon is by
deleting your account. The issue arises because, while Amazon
makes it extremely easy to create an account, deleting one is far from
intuitive. To cancel your profile and, therefore your data, you do not
have to modify your profile settings, as it might seem the most
obvious. You shall scroll all the page down instead, click on "Help"
and then reach, after an innumerable series of clicks and scrolls, to a
chat interface in which you will need to ask a chatbot to delete your
account. At the end of this endless process, you will discover that you
cannot delete your account by yourself, they have to do it for you.

11. Sneak into Basket: this Dark Pattern happens when users are trying to purchase
    something, but somewhere in the purchase journey the site sneaks an additional
    heading into their basket often through the use of an opt-out ratio button or
    checkbox on a prior page. *A suitable example might happen when purchasing*
    on a digital shop and, by fagging the box "is a gift", you are automatically
    charged with wrapping paper and a birthday card.

12. Trick Questions: While filling in a form, the user responds to a question that
    tricks into giving an answer you didn't intend. When glanced upon quickly the
    question appears to ask one thing, but when read carefully it asks another thing
    entirely. *This often happens during sign-in processes. When you are asked to*
    flag boxes for opt-in/opt-out options, the order of the options is alternated so
    that the user gets confused and accepts some terms he/she would not have
    accepted.

Brignull's Dark Patterns analysis is not the only one that has been developed
since when platforms have become part of our daily lives.

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[9] Martinson, D. (2021, December 16). *UX Dark Design Patterns- The Roach Model Pattern - David Martinson*.
Medium, from https://davidmartinsonnyc.medium.com/ux-dark-design-patterns-the-roach-model-pattern-
224b2aed7e37

Indeed, deceptive design, another way of defining Dark Patterns, still does not have a unique definition. Through the years this topic has been at the centre of other research projects and different definitions have been given. Bösch et al, in a study entitled *Tales from the Dark Side: Privacy Dark Strategies and Privacy Dark Patterns*[10] (2016), stated that Dark Patterns undermine privacy by focusing on the positive aspects of the user's choice and hiding in the dark every negative impact that sharing of data could have. The study identifies 7 privacy Dark Patterns: Proactive not reactive, Privacy as the default setting, Privacy embedded into design, Full functionality, End-to-end security, Visibility and transparency and Respect for user privacy.

A few years later, Gray et al. (2018) published a study entitled *The Dark (Patterns) Side of UX Design*[11]. In the study Gray collects a corpus of examples of Dark Patterns and analyses them from an ethical point of view. The corpus of Dark Patterns identified by Gray revamps Brignull's original enumeration but turns them into 5 design strategies. This study is indeed based on the strategies instead of relying on descriptive content-centric examples.

The 5 strategies identified by Gray et al. are:

1. Nagging: this strategy consists in a reduction of the expected functionalities that persists beyond one or more interactions.

2. Obstruction: this Dark Pattern aims at making actions more difficult than how they are supposed to be with the aim of dissuading the users in taking the action. This strategy includes Brignull's Roach Motel and Price Comparison Prevention Dark Patterns.

3. Sneaking: this strategy has the aim to delay or make it harder for the user to gather information relevant to him/her. This strategy has been defined following

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[10]Bösch, et al. (2016). *Tales from the Dark Side: Privacy Dark Strategies and Privacy Dark Patterns. Proc. Priv. Enhancing Technol*., 2016(4), 237-254, from:
https://petsymposium.org/2016/files/papers/Tales_from_the_Dark_Side__Privacy_Dark_Strategies_and_Prvacy_Dark_Patterns.pdf

[11] Gray et al. (2018, April). The dark (patterns) side of UX design. In Proceedings of the 2018 CHI conference on human factors in computing systems (pp. 1-14), from:
https://dl.acm.org/doi/pdf/10.1145/3173574.3174108
In Proceedings of the 2018 CHI conference on human factors in computing systems (pp. 1-14)

Brignull's Sneak into Basket, Hidden Costs, Bait and Switch and Forced Continuity Dark Patterns.

4. Interface interference: this design escamotage consists in manipulating the user's interface to favour certain behaviours instead of others. In this deceptive design can be recognised Brignull's Disguised Add and Trick Question Dark Patterns.

5. Forced action: this design imposes the user to perform certain actions to access certain functionalities. This design is represented by Brignull's Privacy Zuckering.

	Nagging	Obstruction	Sneaking	Interface Interference	Forced Action
Definition	Reduction of the expected functionalities that persists beyond one or more interactions.	Making actions more difficult than how they are supposed to be	Delay or make it harder to the user to gather information for him/her relevant	Manipulating user's interface to favour certain behaviours instead of others	Imposes the user to perform certain actions to access certain functionalities
Brignull's dark patterns		Roach Motel and Price Comparison Prevention	Sneak into Basket, Hidden Costs, Bait and Switch and Forced Continuity	Disguised Add and Trick Question	Privacy Zuckering

Table 1. Gray et al's deceptive design strategies. Source: own elaboration

In more recent times, the National Commission on Informatics and Liberty (CNIL) published the report *Shaping Choices in the Digital World (2020)[12]* in which is highlighted the impact of Dark Patterns on privacy. What emerges from the study is an analysis of 18 Dark Patterns clustered to highlight their impact on data protection. Some of the listed Dark Patterns might comply with data protection but, according to the modalities through which they are applied, they can incur ethical questions and do not comply with the GDPR anymore. The report clusters the Dark Patterns following five design tactics: enjoy, lure, seduce,

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[12] CNIL. (2019). *Shaping Choices in the Digital World - From Dark Patterns to data protection: the influence of ux/ui design on user empowerment*. IP reports innovation and foresight, from https://linc.cnil.fr/sites/default/files/atoms/files/cnil_ip_report_06_shaping_choices_in_the_digital_world.pdf

complicate and ban. Dark Patterns belonging to each of the pillars are mentioned in the table hereunder:

Design tactic	Dark Patterns
Enjoy	Safety blackmail, default sharing, last minute consent, attention aversion and blaming the individual
Lure	False continuity, trick question, wrong signal, bait and change, chameleon strategy and camouflage advertising
Seduce	Just between you and us and improving the experience
Complicate	Comparison obfuscation, making it fastidious to adjust, confidential settings, repetitive incentive, and obfuscation settings
Ban	Impenetrable wall

Table 2. Design tactics and corresponding Dark Patterns. Source: own elaboration

From the above-analysed taxonomy of Dark Patterns, a roster of features applicable transversally to all Dark Patterns can be deduced. Indeed, all Dark Patterns impose unequal pressure on the choice at the users' disposal (Asymmetric) and incites users into selecting determinate decisions or results without showing explicitly the influencing mechanism to the user (Covert). Deceptive designs induce false beliefs in users through misleading statements and mistreatments (Deceptive) and obscures or delays the gathering of information from the users (Information hiding) reducing therefore the choice presented to the user (Restrictive) (Marthur, 2019)[13]. Still current literature about Dark Patterns lacks clarity and conceptual foundation. Indeed, discrepancies in the definitions can be encountered due to lack of concreteness in prior literature.

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[13] A. Mathur et al. (2019). Dark Patterns at Scale. Proceedings of the ACM on Human-Computer Interaction, 3(CSCW), 1–32. https://doi.org/10.1145/3359183

Bösch et al and the CNIL report define Dark Patterns as the major feature of Dark Patterns being *misleading*. What can be experienced instead is that many of the Dark Patterns described in such literature are far from being misleading. On the other hand, Brignull and Bösch et al, define Dark Patterns as *tricky*. Again, to many of the deceptive designs held under this epithet, it is difficult to attribute a tricky side (e.g. Confirmation Shaming and Forced Registration). Lastly Gray et al state that a Dark Pattern owns deceptive functionalities but, as can be deducted by the definitions provided by himself, there is no deception in nagging.

FROM NEUROSCIENCE TO NUDGE: HOW THE CUSTOMER IS INFLUENCED

What is sure is that Dark Patterns, in their asymmetric, covert, and restrictive form, attempt to influence users' decisions by modifying the set of choices available while, in their deceptive and information hiding form, attempt to influence users' behaviour by manipulating available information. Dark Patterns are indeed aimed at maximising companies' ability to extract revenues from users by tricking (nudging – we will deepen this term later) consumers into spending more than they would, whether in terms of money or data (Narayanan, 2020)[14]. Dark Patterns are structured to work leveraging on humans' cognitive biases, exploiting their weaknesses. Six are the main cognitive biases that affect humans' brain:

- Anchoring effect (Stein & Drouin, 2018)[15]: is the tendency to rely on the initial piece of information the subject is given, analyse it, and draw his/her conclusions without deepening on the topic;

- Bandwagon effect (Howard, 2019)[16]: is the propensity to attribute a higher value to something because other people do so;

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[14] Narayanan, A. (2020, September 1). *Dark Patterns: Past, Present, and Future.* September 2020 | Communications of the ACM. Retrieved May 2022, from https://cacm.acm.org/magazines/2020/9/246937-dark-patterns/fulltext

[15] Stein, C. T., & Drouin, M. (2018). *Cognitive bias in the courtroom: Combating the anchoring effect through tactical debiasing*. USFL Rev., 52, 393.

[16] Howard, J. (2019). *Bandwagon effect and authority bias. In Cognitive Errors and Diagnostic Mistakes* (pp. 21-56). Springer, Cham.

- Default effect (Joeckel & Dogruel)[17]: consists in the tendency to stick with the default option given;

- Framing effect (Smith & Levin, 1996)[18]: is the bias due to which, from the same information, two different conclusions are drawn according to the way the information was contextualised;

- Scarcity bias (Jhon et al, 2018)[19]: is one of the most used when selling a product or a service. This bias is based on attributing a higher value to things that are believed to be scarce;

- Sunk cost fallacy (Haita-Falah, C. 2017)[20]: is the tendency to continue an action once time and effort was initially spent on it.

To explain what a Dark Pattern is and how it works on the human psyche, it is useful to provide the reader with a slight introduction of the context in which Dark Patterns have been inserted.
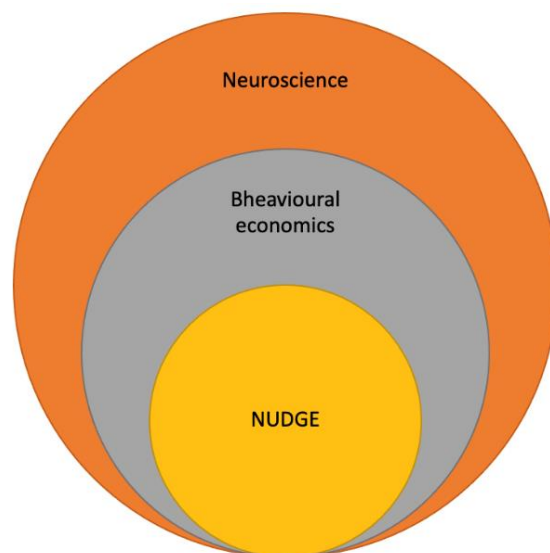
Figure 1. Graphical representation of the link between nudge, behavioural economics, and neuroscience. Source: own elaboration

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[17] Joeckel, S., & Dogruel, L. (2020). *Default effects in app selection: German adolescents' tendency to adhere to privacy or social relatedness features in smartphone apps*. Mobile Media & Communication, 8(1), 22-41

[18] Smith, S. M., & Levin, I. P. (1996). *Need for cognition and choice framing effects. Journal of Behavioral Decision Making*, 9(4), 283-290.

[19] M. John et al (2018). *The preference for scarcity: A developmental and comparative perspective. Psychology & Marketing,* 35(8), 603-615.

[20] Haita-Falah, C. (2017). *Sunk-cost fallacy and cognitive ability in individual decision-making*. Journal of Economic Psychology, 58, 44-59.

Figure 1 shows the three macro-areas in which the concept of Dark Pattern has evolved and is applied. Neuroscience is the scientific analysis of the neuronal system and behavioural economics is an interdisciplinary branch of economics and psychology that studies the interaction between psychological, emotional, and cultural factors on economic behaviours and decisions (Pozharliev et al. 2017)[21]. The combination of neuroscience and behavioural economics gives what is called consumer neuroscience, a branch of neuroscience that analyses which mechanisms guide consumers' behaviour and how they respond to defined stimulus. Nudge is a consequence of behavioural economics; aimed at structuring a choice architecture to the benefit of whom nudge serves.

As can be easily perceived, Dark Patterns are strongly related to failures in human's brain.

The human brain

The brain is our most complex organ and, weighing approximately 1,5 kg and composed by 100billion brain cells, represents 2-3% of our body weight.

Our brain is formed by four lobes (occipital lobe, temporal lobe, parietal lobe, and frontal lobe) each of them responsible for specific moments of the customer's
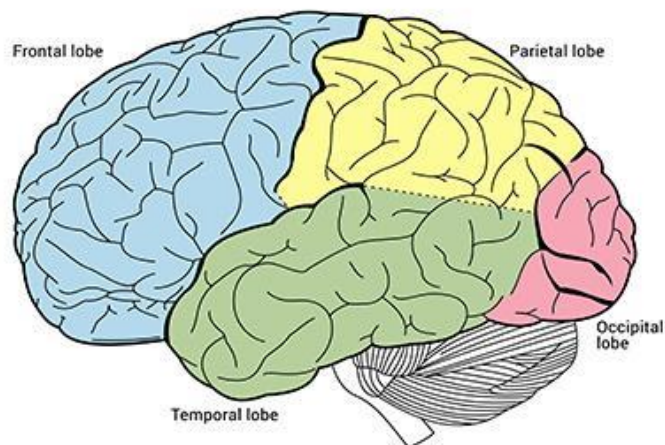
Figure 2. Lobes of the brain. Source: Wikimedia

experience (Zurawicki, 2010). [22]. The occipital lobe is the one in charge of the elaboration of visive information and is responsible

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[21] Pozharliev, R. et al. (2017). *Social consumer neuroscience: Neurophysiological measures of advertising effectiveness in a social context*. Journal of Advertising, 46(3), 351-362.
[22] Zurawicki, L. (2010). *Neuromarketing: Exploring the brain of the consumer.* Springer Science & Business Media.

for customer attention. The temporal lobe receives input from different brain areas (i.e. acoustic perception, memory of events, and instinctive reactions). This lobe is responsible for the customer's framing effect. The parietal lobe receives information about movement and the body and objects' position in space. It has a critical role in the user's experience, being responsible for the ability to navigate in physical and digital shops and to use digital tools. The frontal lobe is where emotions, thoughts, and feelings converge. This lobe is responsible for purchase planning and long-term planification.
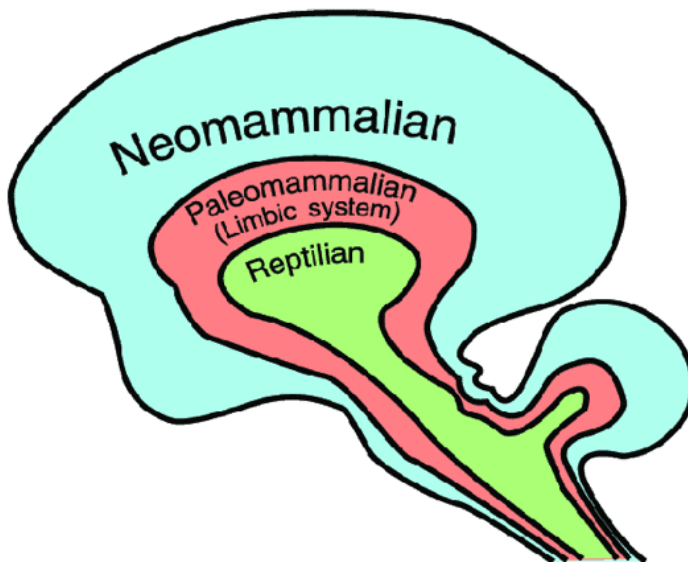
Figure 3. Graphical representation of the triune brain theory. Source: neuroscience business school

According to Paul McLean's *Triune Brain Theory (1977)[23]*, human brain is developed around layers distributed one above the other. The first layer, site of autonomous body functions and primitive instincts, is defined as the Reptilian complex. This portion is moved by fear, a very important feeling in the purchase process.

The Paleomammalian complex is the second layer, guided by emotions and hormones. This stratum is part of the limbic system and has a pivotal role in the decisional process.

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[23] MacLean, P. D. (1977). *The triune brain in conflict. Psychotherapy and psychosomatics,* 28(1/4), 207-220.

> Lastly, the Neomammalian complex is where rational thinking, logic, and knowledge are developed (Butler, 2009)[24].
> The three brains usually coexist in balance but, in special environment circumstances or under particular stimulus, one of them gains the upper hand.

Human brain is notably lazy and evaluating different scenarios and options represents an energy expenditure directly proportionate to the degree of novelty of the scenario. This is the reason behind the fact that, by nature, individuals always choose the easiest and by default option (Kahneman et al, 1991)[25]. Digital shops' designers know this propensity very well and hide tricks in actions that users do automatically. A very relatable example is the *sneak into basket* Dark Pattern; in this case additional expenses are hidden during the entire customer journey until the final purchase moment in which are shown as part of the bill and the customer must manually delete them. This is only one of the multiple ways in which digital services hook users. Several trigger techniques, relying on cognitive biases, psychological needs, and emotions, have been developed by designers and engineers to create or maintain users' addiction to a certain product or service. Here is a record of the most common tactics (CNIL, 2019)[26]:

- Repetition of cycles: it is aimed at eliminating the need for an external trigger to perform an action (i.e. usually users open Instagram and Facebook even if they do not receive any notification);

- Variability of the reward: it is based on a change in the result of an action. (i.e. a game in which, by pushing a button, the outcome is always different is more appealing than one in which the outcome is always the same);

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[24] A.B. Butler (2009), Triune Brain Concept: A Comparative Evolutionary Perspective, Larry R. Squire, Encyclopedia of Neuroscience, Academic Press, 2009.

[25] D. Kahneman et al. (1991). *Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias*. Journal of Economic Perspectives, 5 (1): 193-206.

[26] CNIL. (2019). Shaping Choices in the Digital World - From Dark Patterns to data protection: the influence of ux/ui design on user empowerment. IP reports innovation and foresight, from https://linc.cnil.fr/sites/default/files/atoms/files/cnil_ip_report_06_shaping_choices_in_the_digital_world.pdf

- User habits: the company becomes part of users' habits. (i.e. today it is everyone's habit to use hand sanitizers, an action that in the past was very much related to the sanitary sector);

- Fear of missing out – FoMo (Swan & Kendall, 2016)[27]: is a feeling of apprehension caused by the fear that others might have a rewarding experience from which one is absent. (i.e. limited edition offers strongly work on the fear of not being able to secure the purchase before others).

Since the very beginning of society, individuals are subject to external factors during decision processes. Individuals are indeed subject to social influence which is an unconscious process through which beliefs and behaviours of people living in the same environment tend to resemble each other (Melnyk et al, 2022)[28]. The need for social acceptance leads individuals' behaviour to converge into implicit social norms (Niosi, A. 2021)[29] that represent socially accepted beliefs about what can and what cannot be done in a specific social context.

The unconscious process of research for social acceptance concludes with the reach of private acceptance. Reached this status, the individual is convinced that the choice he or she has made was the result of personal decision process only; not realising instead that the decision made was generated by thousands of external influences gathered from the society.

Social norms are, on the one hand, strongly endangered by the digitalisation era: when people have their identity covered, they are more likely to ignore socially favourable behaviour.

In e-commerce and online retail, the customer experience linked to the interaction between personnel and customer gets entirely lost, affecting the persuasive impact of a person during purchase decisions. A relevant example for the case in point is represented by donations asked during the payment phase. In a physical shop (i.e.

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[27] Swan, A. J., & Kendall, P. C. (2016). *Fear and missing out: Youth anxiety and functional outcomes*. Clinical Psychology: Science and Practice, 23(4), 417.
[28] Melnyk, V. et al (2022). *The influence of social norms on consumer behavior: A meta-analysis*. Journal of Marketing, 86(3), 98-120.
[29] Niosi, A. (2021). *Social Influences – Introduction to Consumer Behaviour.* Pressbooks, from https://kpu.pressbooks.pub/introconsumerbehaviour/chapter/social-influences/

at the supermarket), it is difficult to refuse to donate a few euros for a good cause, difficulty stressed by the emotional pressure generated by people around. When purchasing online, the message generated by the website does not have the same effect of a person and it will probably be easier to avoid giving extra money. Same story happens when tipping at the restaurant compared to tipping the rider that brings food, individuals feel less guilty not tipping from the app if compared to not tipping in person.

This topic will be tackled more in detail, focusing on the impact of social norms in retail, in the next chapter.

It is now clear to the reader that Dark Patterns are created using the knowledge of experts of human behaviour against humans themselves to influence their choices and decision-making process, this practice is called *nudge*. Nudge is "*any aspect of choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentive*" [30](Thaler & Sunstein, 2009).

At this point of the argument, it is important to make a clarification: to nudge is very different than to manipulate, even if the two seem very the same.

Manipulation is the subversion of individuals' decision-making and to deny authorship over decisions. On the other hand, to nudge is to influence behaviours towards what are considered to be positive objectives, leaving the freedom to make other choices to the user. Nudge is indeed a form of libertarian paternalism. According to this school of thought, governments, institutions, and business should engineer choice architecture using behavioural science for the benefit of those whom they serve or employ.

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[30] Richard H Thaler and Cass R Sunstein. (2009). *Nudge: Improving decisions about health, wealth, and happiness.* Penguin

CHAPTER 2: DARK PATTERNS IN DIGITAL RETAIL: THE EVOLUTION OF DECEPTIVE DESIGN

Dark Patterns are the result of a three decades-long process of marketing evolution. Indeed, Dark Patterns are the consequence of the combination of multiple behavioural economics and marketing practices that range from research on nudges, deceptive practices in physical retail and growth hacking (Competition & Markets Authority, 2022)[31]. Since 1970 many have been the deceptive practices applied by retailers. In the late XX century irrational purchase behaviour became the object of the analysis of behavioural economics scholars (Earl et al., 2016)[32]. The possibility to somehow guide individuals' choices was in a first moment applied to government and politics to direct citizens' behaviour but not later was enthusiastically adopted by businesses in their interaction with customers. Once businesses realised the power of influencing users' choices, made of this practice their strengths. Growth hacking (Racco, 2019)[33], being an entanglement of data analysis, programming, and marketing, is the direct ancestor of Dark Patterns. It consists in applying those three fields and competences to improve the growth of a company in the shortest time. The first example of growth hacking was registered in 1996 when Hotmail automatically added to users' signatures in the emails an invitation to subscribe to Hotmail, exponentially rising the number of users.

> **P.S. I love you: A growth hacking case** (Muntasir, 2022)[34]
>
> Hotmail was the first web-based email service, opening email to the general public and giving the possibility of access from any place. In the past email services were only accessible to a small

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[31] Competition & Markets Authority. (2022, April 19). *Evidence review of Online Choice Architecture and consumer and competition harm*. GOV.UK. https://www.gov.uk/government/publications/online-choice-architecture-how-digital-design-can-harm-competition-and-consumers/evidence-review-of-online-choice-architecture-and-consumer-and-competition-harm

[32] Earl, P. E. et al. (2016). *The evolution of behavioural economics* (pp. 17-29). London: Routledge.

[33] Racco, P. (2019, September 17). *Growth Hacking: Analysis, Creativity and Strategy*. Advantage Media Corporation, from https://advantagemedia.com.au/growth-hacking-what-is/

[34] Muntasir, M. (2022, January 4). *Hotmail's Growth Hacking Secret That Earned Them $400 Million. Medium.*, from https://medium.com/marketing-meets-data/hotmails-growth-hacking-secret-that-earned-them-400-million-bc2ee4cee876

> group of people and was not possible to access them from portable devices. It can be said that Hotmail had a very good product for which, on the other hand, there was no demand because people did not know about it.
>
> Due to budget constraints Hotmail could not rely on marketing campaigns using billboards or TV spots and it is probably thanks to the scarcity of resources needed to satisfy a necessity that Hotmail created a simple yet ingenious strategy to reach the higher number of people.
>
> They added a default signature at the bottom of every email, after the real user signature, saying:
>
> ***P.S. I love you. Get your free email at Hotmail***
>
> With this simple phrase they were communicating that Hotmail was free, that anyone could have an account, and, thanks to the friendly approach, users could perceive that the service was more user friendly than other existing providers.
>
> Moreover, most of the time the receiver was someone who already used emails and knew the sender hence, the link was more trustworthy and punctual.

Today, a growth hacker is a very required business role which is mainly covered by designers, programmers and marketers that use their skills to drive product adoption.

As the economy matured, services turned their attention toward revenues more than towards growth and this is exactly when Dark Patterns were born. Dark Patterns were created as manipulative techniques to extract and maximise revenues from existing users instead of searching for new ones, because the first rule of the marketer is that it is more profitable to retain an already acquired user than acquiring new ones.

MARKETING STRATEGIES: THE ANCESTORS OF DARK PATTERNS

As it was mentioned during this chapter, retailers have been tricking customers leading them into doing something for decades (i.e. buying more, spending more time on a website or giving consent to data treatment).

Today customers are so used to those tricks that are no matter for discussion anymore but if this reader frames any casual shopping experience occurred in the near past, it shall be easy for him to recon these features (Quinn, 2020)[35]:

- Product placement (Hq,2018)[36]: any product positioning inside a shop has a precise reason. Products are disposed to ensure that their layout appeals to shoppers' needs, senses, and desires. An interesting example is the choice of setting fruits and vegetable shelters at the entrance of a supermarket, to give customers the impression of entering a healthy place. More known is the strategy of placing more expensive products at eye-level;
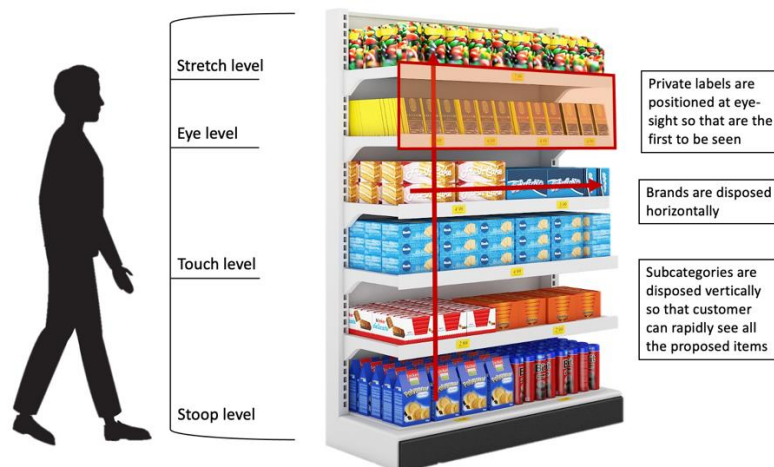
Figure 4. Shelf merchandising: optimizing product shelf placement. Source: own elaboration

- Pricing games: one among the most common strategies to trick customers' minds. Two of the most common strategies are the 0.99 prices, illuding customers that are spending less (3.99$ is perceived as 3$ instead of 4$) and

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[35] Quinn, S. (2020, January 24). *How Retailers Trick Shoppers Into Spending More*. MoneyWise, from https://moneywise.com/managing-money/budgeting/how-retailers-trick-customers-into-spending-more
[36] Hq, D. C. (2022, February 18). *How To Merchandise Retail Shelving*. The Display Centre, from https://displaycentre.co.uk/merchandise-retail-shelving/

removing the value sign from the price tag, making customers lose the association with money;

- Packaging plays (Rundh, 2013)[37]: it has been demonstrated that people who buy single-serving items end up consuming more. As an example, mini-size drinks are sold claiming to be representative of the commitment to face food-waste problem and to invite customers to a more conscious diet habit still, the effect is an increase in the consumption of the product;

- Sensorial marketing (Biswas, 2019)[38]: it influences customer behaviour by leveraging on his five senses. The American Marketing Association published a study demonstrating that playing calm music in supermarkets slows down the shopping experience stimulating the customer to dwell on different products instead of only collecting the ones noted in the shopping list. On the other hand, an uncomfortable shopping experience can stimulate impulsive purchases.

The Abercrombie & Fitch case - Part 1:

Everyone born between the end of the 90s and the beginning of the new century perfectly knows what Abercrombie & Fitch is, it has been one of the most popular brands for teen-agers for decades. What not everyone knows is that A&F is one of the best examples of sensorial marketing. Everything in the stores worked on consumers' senses and psyche to influence their shopping behaviour. When walking by one of the stores the shutters and the black gates in contrast with the white of the buildings immediately gave the idea of exclusivity and stimulated curiosity to enter, feeling confirmed by the infinite queues of anxious teenagers. Once one managed to get in, the atmosphere was not typical for a shop, yet it was more similar to a very exclusive club with barely

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[37] Rundh, B. (2013). *Linking packaging to marketing: how packaging is influencing the marketing strategy*. British
Food Journal.
[38] Biswas, D. (2019). *Sensory aspects of retailing: Theoretical and practical implications*. Journal of Retailing, 95(4), 111-115.

enough light to see where to go, loud music and the iconic cologne
permeating the air. At this point, after hours spent waiting to get
in, even if the environment is everything but comfortable for
shopping – waiting lines for fitting rooms, impossible to perceive
colours and fabrics and rude shopping assistants – it was
impossible not to buy something. Customers grabbed the first item
strategically positioned on the shelves and covered in cologne and
rushed to the cash register realising probably too late that the red
t-shirt they were convinced to have bought was in reality bright
pink. Once home, the inebriant smell of the unmistakable cologne
will remain on the clothes through washes, drawing forever in the
mind of the customer the memory the brand and the status symbol
it represents.

- Compound machines: machines that give discounts for new products, can urge customers to try all expensive items only because one has a coupon. Still, it has been demonstrated that customers with one-time coupons pay more than those who search for cheaper products without a coupon.

Thanks to marketing tricks and deceptive information, brands can make consumers perceive a higher value for a product and consumers feel their self-control lowered and are more stimulated to buy.

DECEPTIVE DESIGN ONLINE: HOW INFORMATION IS MANIPULATED

Three are the ways of manipulating customers using alteration and manipulation of information to enhance customer evaluation: information content, information presentation, and information generation. Information content consists in alternating the content, in the case in scope of an e-commerce. Information originally provided by the web can be cancelled, equivocate, or falsified, altering the availability and quality of information so to enhance customers' evaluation. Information presentation is the alteration of the design of how product is presented. In an e-commerce it can be applied by manipulating the order and the configuration in which certain information is transmitted with the aim of stimulating a determined

behaviour. It has been demonstrated that the order in which information are displayed can influence the perception consumers have of the brand. Lastly, information generation consists in the dynamic production of information based on customers' preferences (Xiao & Benbasat, 2011)[39]. As an example of information presentation manipulation can be mentioned the selections in which are collected exclusive items in digital shops; those section claim to collect all products of a certain category which can be easily used to focus customers' attention towards a specific category of the brand. The best example can be encountered in Product Recommendation Agents (PRAs) which, if used correctly can help users make conscious decision giving advice based on their preferences. At the same time can be an important instrument of manipulation, giving the users suggestions calculated relying on the company's interests.

What has been described until now relies on traditional retailer shops but can be transposed to e-commerce. E-commerce, being a commercial way of making transactions online, is the direct evolution of traditional retail shops, which became necessary due to technological evolution and increase of competition in markets. Dark Patterns' incidence in digital markets is incredibly high; a study of 2019 conducted by Marthur et al (2019)[40] takes under analysis 11.000 popular e-commerce with the aim of demonstrating the prevalence of Dark Patterns, finding that the 11% of e-commerce contains a deceptive design.

The application of Dark Patterns to digital shops is very close to the application of deceptive techniques to traditional shops. There are several elements that brands can leverage to influence customers' behaviour:

- Customer purchase: a purchase can be planned or impulsive. A planned purchase happens when the customer has a specific purpose in mind and in this case, what can be manipulated to influence his purchase decision should be the information generation. On the other hand, impulsive purchase is not preceded by any intention. When making this kind of purchase, the customer is less

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[39] Bo Xiao, Izak Benbasat. (2011). *Product-Related Deception in E-Commerce: A Theoretical Perspective on JSTOR*. JSTOR, from https://www.jstor.org/stable/23043494?seq=1

[40] Mathur, A. et al. (2019). *Dark Patterns at scale: Findings from a crawl of 11K shopping websites. Proceedings of the ACM on Human-Computer Interaction*, 3(CSCW), 1-32,l

active in the process because positive emotions are perceived like a favourable environment that does not need high cognitive attention. In this case it is better to manipulate the way in which information is presented, to maximise the positive feeling.

- Product type: one of the classifications that has been made for products is whether they are search products or experience products. Search products are characterised by a value that can be attached to them without the need to experience the product while experience products need to be – as the word says – experienced before the purchase.

- Task complexity: when a customer is able to individually evaluate his choices, it can be said that the task presents a low level of complexity. In this case what is more efficient is a manipulation of information content. On the other hand, when customers are influenced by peripheral clues in their choice process, what can be influential is the manipulation of information presentation and/or generation.

Some e-commerce deceives consumers while others coerce them into making choices from which it is not the customer that benefits but the company (Bo & Benbasat, 2011)[41].

Reached to this point of the work, the reader might have understood that the link between deception in real life and in digital business relies on advertisement, that is the way information is presented. Yet, it is important to clarify the difference between Dark Patterns and persuasive marketing techniques, that relies on the hamper of consumers' decision-making architecture.

Nowadays there is still no univocal definition for dark commercial patterns, but they are generally defined as *users interface used by some online businesses to lead*

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[41] Bo Xiao, Izak Benbasat. (2011). *Product-Related Deception in E-Commerce: A Theoretical Perspective on JSTOR*. JSTOR, from https://www.jstor.org/stable/23043494?seq=1

consumers into making decisions that they would not have otherwise made (OECD, 2021)[42].

Dark Patterns are indeed profoundly different from any other marketing technique, distinguishable by analysing two features identified by Marthur, Mayer, and Kshirasgar. In the first place, Dark Patterns change customers' choice architecture also by modifying choices and information at their disposal, hindering their independent and informed choices. Secondly, consumers' detriment caused by the application of Dark Patterns can generate losses to individual welfare as well as to collective welfare and autonomy.

It is legitimate for the reader to interrogate the reasons behind the application of Dark Patterns to e-commerce.

The first reason can be encountered in a strong increase in competition and velocity of the market: brands do not have time anymore to analyse and gather an always growing number of data and compete with an always expanding number of companies. Marketing strategies then and e-commerce now are a means to combat a war that goes beyond the distinction between physical and digital. This leads to the second reason behind the application of deceptive design to e-commerce: new technologies allow the creation of new deceptive practices. In a digital environment with extremely low entry barriers, where anyone can share and publish contents, web pages are created to attract or distract the attention of the customers following the precise scheme enacted by user experience designers that juggle customer's perception as puppet masters. In addition, and as a confirmation to that, the Internet allows anonymisation of contents and sources, disinhibiting customers behaviour, creating a sheer around the sense of truthfulness normally searched by customers. Hereby, e-commerce retailers are able to obtain an impressive number of insights about customers' interaction with their shops and are therefore able to adjust design settings to persuade and influence users' competitive nature. It is deductible that

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[42] OECD. (2021, February). Directorate for science, technology and innovation Committee on consumer policy.
https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/CP(2020)23/FINAL&docLanguage=En

high engagement rate corresponds to high economic success, which is the main reason leading companies to apply Dark Patterns to their strategy.

Other schools of thought, breaking a spear in justification of the application of Dark Patterns, attribute their nature to the speed of creation of a website nowadays which does not leave enough time to pay attention to details of such a level. From this rush and need of always running through novelty derives the inaccuracy at the basis of a justification of deceptive design founded on good faith (Nevala, 2022)[43].

COOKIES, SUGAR COATING DECEPTIVE DESIGN

Cookies are fragments of data produced by users while browsing a website and saved in user's device to improve his or her online experience. Cookies are created by the server and sent on user's device. The exchange of information allows therefore websites to recognise the device in which cookies have been sent and to create ad hoc advertisement for those users (Panda Security Mediacenter, 2020)[44].

Cookies, besides the sweet allusion, are among the most subtle for of dark patterns. To cite the thought proposed by Prof S. Zuboff in her book The Age of Surveillance Capitalism (Zuboff, 2019) [45], cookies represent fuel for the complex engine of a business and societal model where companies' main profit comes from personal information. Under the seeming curtain of consent, cookies hide misdirection dark patterns aimed at strongly vehiculate consent (DesignYourPrivacy.eu, 2021) [46].

As it will be deepened lately in this work, Dark Patterns are here analysed under the European and USA perspective. Therefore, the legislation took in force are the General Data Protection Regulation (GDPR) for Europe and the California Consumer Privacy Act (CCPA), as representative for the United States.

According to the GDPR the data subject shall be informed when data in his or her respect is collected, for how long data is kept and for which purpose. To be GDPR compliant, a

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[43] Nevala, E. (2022). *Dark patterns and their use in e-commerce*, from: https://jyx.jyu.fi/bitstream/handle/123456789/72034/URN%3aNBN%3afi%3ajyu202010066090.pdf?sequence=1&isAllowed=y
[44] Panda Security Mediacenter, (2020, September 16), Cookie: cosa sono, come vengono usati e quando sono pericolosi. from https://www.pandasecurity.com/it/mediacenter/mobile-news/cookie-pericolosi/
[45] Zuboff, S. (2019). *The Age of Surveillance Capitalism*. Profile Books.
[46] DesignYourPrivacy.eu. (2021, December 15). *Cookie consent is (still) broken* - UX Collective. Medium, from https://uxdesign.cc/cookie-consent-is-still-broken-a4257f8249b9

cookie banner shall demonstrate adequate balance both to the accept and deny buttons, it shall provide detailed information about cookie destination and use, alert user if the website shares data with third parties and include a link to the website's cookie policy and one to the cookie settings interface.

The CCPA affects businesses that collect Californian's data and that meet one of the following conditions:

- The business earns $25 mln or more in revenue

- It processes data of 50K consumers

- It derives at least 50% of its annual revenue from selling personal information.

To be compliant with the CCPA, a cookie banner shall provide information about cookie use, give balanced relevance to bot the accept and deny option and the possibility to opt out from selling personal information (big difference compared to the GDPR) (CookiePro, 2021)[47]

INFLUENCERS: HUMAN DARK PATTERN

As mentioned in the previous chapter, individuals are not only influenced by deceptive design techniques: a strong social influence impacts individuals' decision process (Niosi, 2021)[48].

Aristotele says that human beings are social animals, indeed we live in a society that strongly influences our behaviour and beliefs. The society we are living in can be represented as composed by three main figures:

1. Reference group: is the group in which the individual/consumer identifies or to which he or she wants to belong

2. Aspirational reference group: is a group of people that the individual/consumer does not know personally but that admires because of the popularity and notoriety of its members

3. Opinion leader: is a person who influences others because he or she has a particular expertise on a certain topic

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[47] CookiePro. (2021, September 3). Cookie Banner Best Practices by Regulation - Knowledge, from https://www.cookiepro.com/knowledge/cookie-banner-guidelines/
[48] Niosi, A. (2021). *Social Influences – Introduction to Consumer Behaviour*. Pressbooks, from https://kpu.pressbooks.pub/introconsumerbehaviour/chapter/social-influences/
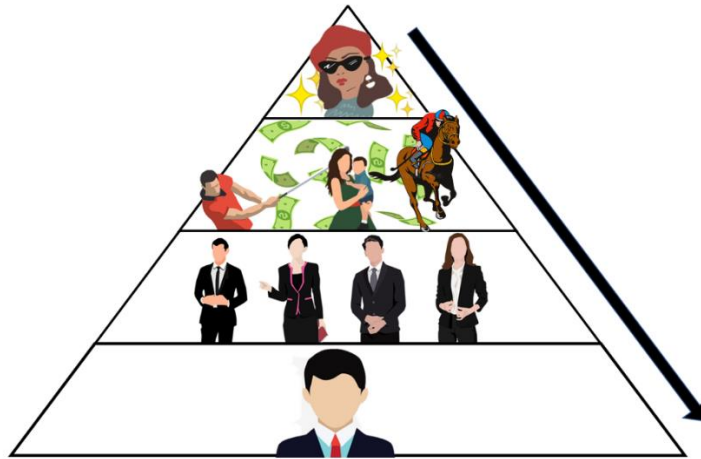
Figure 5. Graphical representation of today's society composition. Source: own elaboration

At the top of the pyramid there is the opinion leader. The opinion leader is the most influential member of the aspirational reference group. in the third layer of the pyramid are represented the members of the reference group to which the individual belongs or wants to join.

The degree of influence an individual is subject to depends on two elements: proximity and mere exposure.

The closer the source of influence is to the individual, the easier it is to be turned into part of the reference group.

The Abercrombie & Fitch case - Part 2:

Abercrobie & Fitch had mastered marketing techniques for many years and was one of the firsts to adopt testimonials and ambassadors to sponsor products. The brand understood that, in order to be fully appreciated and identified by potential customers, ambassadors had to live - and work - close to their target.

For this reason, since the beginning of the 2000, A&F started scouting the coolest, most fascinating and popular students studying at the fanciest colleges in the United States to become

> ambassadors of the one that was one of the most popular brands at
> the time.
>
> This strategy helped Abercrombie & Fitch to reinforce the image
> the brand decided to transmit, setting an allure of a mix between
> reachable and exclusive that granted success for many years.

What Abercrombie & Fitch did through ambassadors in the past, today is done by influencers.

An influencer is a third party who exercises influence on the organisation he or she represents and its potential customers. An influencer has the power to shape purchase decisions, create impacts and set trends (Brown & Hayes, 2008)[49].

In the past, influencers used to be celebrities (i.e. movie stars from Hollywood or singers). Nowadays, due to the omnipresence of social media in our lives, the appeal of the perfect life imagined for an influencer has increased. According to the latest statistics (DMI, 2022)[50], approximately 50% of internet users follow some sort of influencer account on social media and rely on influencer recommendations, whereas 40% bought a product after seeing it on Instagram or YouTube (Young, 2018)[51].

It is then possible to understand the power that these figures have in influencing individuals and the risk they represent if not transparent and fair in their expressions. Is therefore tremendously important to provide some minimum standards for transparency to safeguard users from being illusioned by false standards of life promoted (cf. Guidelines for the application of deceptive design practices to nudge consumers into making more sustainable choice during the shopping experience).

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[49] Brown, D., & Hayes, N. (2008). *Influencer marketing*. Routledge
[50] Simon @ DMI. (2022, April 11). 20 *Surprising Influencer Marketing Statistics*. Digital Marketing Institute, from https://digitalmarketinginstitute.com/blog/20-influencer-marketing-statistics-that-will-surprise-you
[51] Young, K. (2018, January 12). *How Celebrity Endorsements Influence Young Consumers*. GWI, from https://blog.gwi.com/chart-of-the-day/how-celeb-endorsements-influence-young-consumers/

This author firmly believes that, whether supported by wise roots, deceptive design tools can positively impact customers' purchase behaviour. The risk of abuse of such a strength is always behind the corner, reason why in the next chapter will be laid the basis for guidelines for the application of deceptive design to e-commerce aimed at spurring customers to take more sustainable decisions while still maintaining the power of making informed and free choices.

CHAPTER 3: ANALYSIS OF CURRENT REGULATORY PROVISION IN THE UNITED STATES AND EUROPE

Digital services scenario has been continuously changing in the last 20 years. Online platforms have created significant advantages for consumers and for innovation, easing interchanges between foreign States and the European Union and opening new perspectives for a wide range of companies and commercial operators. At the same time, platforms can be used as a means for the diffusion or sale of illegal contents and given the systemic nature of some big platforms, there are several risks for users' rights and information flow.

Dark Patterns have been highly tackled from literature since when deceptive design became a relevant topic for customer protection, still there is very scarce jurisprudence on the subject (Martin Wikinson, 2013)[52].
Every regulation of a computational system that aims to protect user's rights has to be accompanied by a regulation about users' interface design to ensure the protection from deceptive design practices (Soe et al, 2020)[53].

Given the tremendous acceleration of digitalization, the user of the future will be always more moved towards platforms, being increasingly exposed to phenomena such as Dark Patterns.

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[52] T. Martin Wilkinson. 2013. *Nudging and manipulation. Political Studies* 61, 2 (2013), 341–355.
[53] T. H. Soe et al. (2020, October). *Circumvention by design - Dark Patterns in cookie consent for online news outlets*. ACM - Digital Library. Retrieved May 2021, from https://dl.acm.org/doi/10.1145/3419249.3420132

At the same time, as the frequency of deceptive design phenomena increases an increase in legal precedents linked to these phenomena will be registered and, by consequence, it can be forecasted that the regulatory basis in this respect will be more specific and detailed.

To the aim of this analysis, this author took under consideration two legal frameworks as different as pivotal in matters of data protection and privacy: The United State legal framework and the European legal framework.

The principal difference between the two frameworks derives from the ratio behind the regulatory provision.

In the United States, on the other hand, the legal system relies on a principle-based approach. According to the approach adopted by the United States, the legislator leaves to each State freedom to regulate Dark Patterns as is thought to be the best option.

For what concerns Europe, the legislator adopts a rule-based approach. The European approach is highly based on a move towards a regulation providing details about what behaviour is considered admissible and what is not.

For what concerns the United States, the Congress is considering adopting legislation which is aimed at restricting the application of Dark Patterns. Specifically, in California, a regulation is already in force prohibiting to corporations to obtain consent to data collection and management if it is given through a Dark Pattern.

European jurisprudence approached Dark Patterns for the first time through an enforcement of previous regulatory measures aimed at fixing a standard adopted for the identification of scenarios in which Dark Patterns are harmful for users (Marthur et al 2021)[54].

Below this work will proceed with an analysis of the principal pieces of legislation applied by the two judicial systems.

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[54] Mathur A. et al(2021, May). *What makes a Dark Pattern… dark? Design attributes, normative considerations, and measurement methods*. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (pp. 1-18).

UNITED STATES

In the United States, authorities and legislators have developed normative proposals which light a candle of hope in terms of customer's safeguard.

The theme of Dark Patterns is tackled from United States jurisprudence as built around three pillars:

1. Disclose: businesses shall disclose clearly and conspicuously all material related to the product or service (i.e. how much it costs, deadline by which the user shall sign-off to avoid further charges, how to cancel). To be *clear and conspicuous* it is meant that the information must be provided in advance, when the consumer sees the offer in the first place.

2. Consent: consent has to be obtained from the consumer before charging him/her for a product or service. It is explicitly stated that the acceptance of the negative option feature shall be given separately from the other options of the entire transaction and that in the consent request shall not be given information that interferes with, detracts from, contradicts or undermines in any way the user's ability to provide their informed consent.

3. Cancellation: cancellation shall be easy and simple. The sing-out process shall be at least as simple as the sing-in process (Kellogg, 2020)[55].

The main legal provisions adopted in the US are the California Consumer Privacy Act[56] (CCPA) and the California Privacy Right Act[57] (CPRA). In addition to the aforementioned acts, the United States' legislature enforced numerous cases of sanctions applied by the Federal Trade Commission (FTC) for infringements of provisions related to Dark Patterns. The sanctions created a legal precedent for diverse cases in point.

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[55] Kellogg, S. (2020, December 1). How US, EU approach regulating 'Dark Patterns.' International Association of
Privacy Professionals, from https://iapp.org/news/a/ongoing-dark-pattern-regulation/
[56] *California Consumer Privacy Act,* 2018, California Consumer Privacy Act (CCPA)https://oag.ca.gov
[57] *California Prvacy Right Act,* 2019, https://oag.ca.gov/privacy/ccpa

ABCmouse case (Alfred & Morris, 2021)[58]

In January 2018, a mother of three living in Washington D.C. saw a charge from her children's application ABCmouse. ABCmouse is an educational app, dedicated to children. What has been contested by American society was the extreme difficulty encountered by users to sign-out from the service. Contrary to what was advertised, the cancelling procedure forced the user to disentangle themselves in an informational labyrinth that discouraged people from concluding the opt-out procedure.

The player of this story remembered that she had cancelled the subscription process but still she received a bill for about $50 and, when asking the company for clarifications, they responded she had to read the fine print. The character of this story has stumbled across a Dark Pattern. Last September ABCmouse reached a $10million settlement with the Federal Trade Commission over its automatic subscription renewals for customers who signed under free trial, and it was imposed for the company to refund more than 200,000 people.

THE CCPA AND CPRA

The California Customer Privacy Act (CCPA) is a legal provision that settles displays aimed at giving the State the possibility to have more autonomy on their data and regulates what companies can do with gathered data.

In 2020 the California Customer Privacy Act was modified, adding provisions regarding the number of passages that the customer has to address in order to sign-off a defined product/service. According to section 999.315(h) of the CCPA the number of steps a customer has to go through in order to sign-off cannot overcome the number of steps a customer has to go through to sign in. If the number of passages is higher, it can be claimed to be a Dark Pattern defined as a roach motel (see section 1.1). Section 999.315(h)(2) of the same ACT prohibits businesses to

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[58] Alfred Ng And Sam Morris. (2021, June 3). Dark Patterns that Mislead Consumers Are All Over the Internet – The Markup. The Markup, from https://themarkup.org/2021/06/03/dark-patterns-that-mislead-consumers-are-all-over-the-internet

use misleading wording when clients initiate the opt out process, while section 999.315(h)(3) outlaws businesses to make users read/listen to reasons not to sing-out.

The theme of Dark Patterns within the perimeter of United States legislation has been tackled more in depth in the California Privacy Act (CPRA).

The Act states that consumers shall be able to limit the use companies make of their data so that it is non-invasive and respectful of their privacy. According to what disposed from Section 1798.140(h), user's consent obtained through the application of Dark Patterns to the interface, cannot be considered as informed and freely given and, therefore, valid. In addition to that and in light of what defined from Section 1798.185(a)(20), it is California General Procurator's duty to ensure that opt-out mechanisms offered by companies do not contain Dark Patterns aimed at discouraging and mislead users.

Furthermore, within the United States legal framework, it is explicitly tackled the theme of children. Indeed, it is established that parents of minors shall be able to control what kind of information are collected about their children and how the information are monetised. Moreover, parents shall have the right to ask for erasure of the data.

THE DETOUR ACT[59]

Lastly, but not for importance, Dark Patterns in the United States are regulated by the DETORU Act (Deceptive Experience To Online Users Reduction Act). The DETOUR Act is a bipartisan legislation aimed at curb manipulative Dark Patterns which prohibits large companies – counting more than 100 million active users per month – from relying on users' interface that intentionally harms users' autonomy. In this respect the Act makes it illegal for big companies to apply any form of deceptive design with the aim of obscuring, subverting, or impacting users' autonomous decision making or choice to give consent or not.

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[59] House of Representatives, Congress. (2022, April 14). H.R. 7501 (IH) - I–70 Detour Act. [Government]. U.S. Government Publishing Office. https://www.govinfo.gov/app/details/BILLS-117hr7501ih

The Act enables the creation of a professional standard body which will become an independent regulatory body, partially supported by the FTC. It also prohibits the segmentation of consumers from behavioural experiments. To reach this goal, an independent review board is necessary to provide the advertising on practice. The DETOUR Act prohibits the use of users' design from intermediaries to create compulsive usage among children younger than 13 years old.

In the end, the DETOUR Act provides that companies shall stipulate rules within one year from the engagement to carry out requirements related to informed consent.

EUROPEAN UNION

Dark Patterns represent a problem for European Data Protection Law. Indeed, the GDPR is the main source for European Data Protection regulation and is based on the fact that users give their free and informed consent to companies assessing how much data can be shared. Still, certain deceptive design practices are purposely made to influence users' decisions in advantage of companies' interests.

European legislation for Dark Patterns applies a regulation-based approach, which means that the legislator provides a set of regulatory provisions that define what can and cannot be done. Within the perimeter of European legislation, several themes linked to platforms have been addressed (i.e. hate speech, disinformation) but still no specific regulation has been released for what concerns Dark Patterns.

THE GDPR [60]

The main source of regulatory provisions for on-line behaviour and data protection in Europe is provided by the General Data Protection Regulation (GDPR). The GDPR is the European Regulation on Data Protection which

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[60] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), https://eur-lex.europa.eu/eli/reg/2016/679/oj

clarifies how personal data shall be managed, including collecting methods, use, protection, and sharing.

The ultimate aim of the GDPR is to strengthen data protection for the benefit of all the users whose information fall within the perimeter of application of the aforementioned Regulation.

The field of application of the GDPR is vastly broad, being applied whenever:

- the organisation identified as a controller is located within the perimeter of the European Union, independently of whether the activity takes place within the European territory or not;

- the organisation, even if not located in the European Union territory, provides goods or services - for a fee or free - to European citizens. The organisation can be a public or private entity, a physical person or a non-governmental organisation;

- the organisation, even if not located in the European Union perimeter, monitors the behaviour of people living within the above-mentioned perimeter, as long as the behaviour takes place within the perimeter of the Union.

Such a wide scope of application covers approximately all the activities and therefore it is possible to state that the GDPR is applied independently of whether a company is located within the European Union or not. A survey conducted by PwC has highlighted that the GDPR is considered a priority for 92% of US companies.

According to the GDPR, users' data can be collected and analysed only if there is a legal scope behind the management. The main principles for the treatment of data are:

- the user has given free and informed consent for one or more purposes,

- data treatment is necessary for the execution of a contract to which the user has adhered, or to undertake preliminary interactions,

- the treatment is necessary to fulfil a legal obligation,

- the treatment is necessary for the execution of an activity for the public interest which falls within the scope of application of public powers of which data manager is entitled,

- the treatment is necessary for the legitimate interest of the data manager or third parties, unless data subject interests do not prevail if he/she is a minor.

According to the GDPR, data subjects benefit from several rights that data managers shall comply with. These rights are summarised in the box hereunder:

> **Data subject rights - GDPR**
>
> **Right of access (**Article 15)
>
> The data subject has 1) the right to know whether data concerning him or her are being processed and if so, access it with loads of additional stipulations.
>
> **Right to rectification** (Article 16)
>
> The data subject shall have the right to obtain from the controller without undue delay the rectification of inaccurate personal data concerning him or her. Taking into account the purposes of the processing, the data subject shall have the right to have incomplete personal data completed, including by means of providing a supplementary statement.
>
> **Right to erasure - or right to be forgotten** (Article 17)
>
> The data subject shall have the right to obtain from the controller the erasure of personal data concerning him or her without undue delay and the controller shall have the obligation to erase personal data without undue delay.
>
> **Right to restriction of processing** (Article 18)
>
> The data subject shall have the right to obtain from the controller restriction of processing where the accuracy of personal data is contested by the data subject, the processing is

unlawful and the data subject opposes the erasure of personal data, the controller no longer needs the personal data, and the data subject has objected to processing.

Right to be informed (Article 19)

The controller shall communicate any rectification or erasure of personal data or restriction of processing carried out to each recipient to whom the personal data have been disclosed, unless this proves impossible or involves disproportionate effort. The controller shall inform the data subject about those recipients if the data subject requests it.

Right to data portability (Article 20)

The data subject shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used, and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided.

Right to object (Article 21)

The data subject shall have the right to object, on grounds relating to his or her particular situation, at any time to processing of personal data concerning him or her, including profiling based on those provisions. The controller shall no longer process the personal data unless the controller demonstrates compelling legitimate grounds for the processing which override the interests, rights, and freedoms of the data subject or for the establishment, exercise or defence of legal claims.

> **Right not to be subject to a decision based solely on automated processing** (Article 22)
>
> The data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her.

EDPB GUIDELINES[61]

The theme of Dark Patterns has been tackled more recently by the EDPB guidelines on Dark Patterns. The Board published in March 2022 the document n.3/2022 entitled "*Dark Patterns in social media platform interfaces: how to recognise and avoid them*".

An important premise to be made before deepening the topic of EDPB guidelines is that this document addresses the use of personal data collected through social media platforms. Still, it would be unjustified to confine the indications provided by the Board to the social media perimeter only, being entirely possible to calculate the same risks and practices to different scopes as well.

In the first instance the document gives an overview of the scenario in relation to data protection and privacy on the two sides of the Ocean highlighting the importance of consumer protection through the investigation of topics such as social engineering and vulnerability.

From a European perspective, the guidelines released by the EDPB cite some relevant studies carried out on the theme (i.e. the CNIL report "*Shaping Choices in the Digital World: from Dark Patterns to data protection* – above cited).

The guidelines highlight the interdisciplinarity of the theme of Dark Patterns, in which are clearly necessary different professional profiles, from web designers to psychologists and communication experts. All these profiles are, not by chance, involved in the legal design; a discipline that deals with the customer at the centre

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[61] Guidelines 3/2022 on Dark Patterns in social media platform interfaces: How to recognise and avoid them, https://edpb.europa.eu/our-work-tools/documents/public-consultations/2022/guidelines-32022-dark-patterns social-media_en

of the operations, paying attention to dedicate him the best communication possible, avoiding asymmetries in the information and promoting transparency.

The EDPB classifies Dark Patterns in six categories on the basis of the effect produced on consumers:

1. Overloading: users face difficulties in front of a big quantity of requests, information, options, and opportunities so to push them to share more data and give consent to the treatment of personal data against their will,

2. Skipping: the interface is designed so that users forget or do not think about some aspects related to data protection,

3. Stirring: consists in influencing choices made by users that otherwise would not be made, leveraging on their emotions or by stimulating their senses,

4. Hindering: an obstacle blocks user in the informational process or in data management, making the action that benefits the user difficult or impossible to act,

5. Fickle: the interface design is incoherent and non-clear, making it difficult for users to navigate through different instruments of data control and protection,

6. Left in the dark: the interface is designed so to hide information or instruments for data management and protection or generating uncertainty about how data is managed.

The definitions the EDPB gives of Dark Patterns come from the GDPR. Indeed, by contextualising Dark Patterns in the context of data protection, it is evident that article 5 of the GDPR, highlighting the importance of fairness and transparency, article 12 dealing about transparent and accessible information and article 7 about informed consent, are pivotal. These principles shall be the guiding star of every compliance, especially the fairness principle.

The document provides the reader with several examples highlighting best practices in the different fields impacted by Dark Patterns.

In terms of structure and ease of access, the user should have at its disposal links to information and settings that can provide concrete help in their data use and

management, especially in terms of data protection settings. Pages and sections of the website where users shall define settings in relation to data protection and management shall be easily accessible from the main navigation menu.

For what concerns transparency, a good practice is to make it easy for the user to reach the EU supervisory authority by stating the specific identity of the latter and adding a link to its website. This information should be provided in a section where it is intuitive for the user to find it.

In relation to terminology and explanations, the wording across the website shall be coherent with the one used in data protection concepts and definitions of unfamiliar and technical words shall be provided. For this purpose, it would be useful to provide examples and explain consequences of users' actions.

Lastly, the document addresses the theme of notifications highlighting that these – including data breach notifications – can be used to increase users' awareness and can be implemented in several ways (i.e. messages, pop-in windows, banners).

DIGITAL SERVICE ACT[62]

The objective of the Digital Service Act (DSA), in combination with the Digital Market Act (DMA), is to protect the European digital space through a limitation of the market power of the big techs. The DSA is aimed at protecting users' fundamental rights, making digital markets more open for everyone.

The Digital Service Act updates the Directive 2000/31/CE regulating e-commerce, ensuring that European legislation is adequate to the digital era.

The DSA introduces mandatory regulatory provisions at European level to be applied to all digital services creating a connection between consumers and goods, services, and contents. procedures have also been provided for the removal of illegal contents and for the global protection of fundamental rights of the user.

Online platforms reaching 10% of the European online population (approximately 8 million users) are considered of a systemic nature and are therefore subject to

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[62] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on a Single Market For Digital Services (Digital Services Act) and amending Directive 2000/31/EC

specific obligations in relation to risk management and the introduction of a surveillance structure.

The 23rd of April 2022 the European Council and the European Parliament reached an agreement in relation to the Digital Service Act, agreeing that:

- it is necessary to strengthen obligations in matters of online markets,
- micro and small enterprises with less than 45 million active users per month within the European perimeter will be exonerated from the abovementioned obligations,
- the European Commission will gain exclusive supervisory power on platforms and search engines,
- it is necessary to protect users, prohibiting misleading interfaces and introducing transparency requirement,
- in response to the conflict in Ukraine it is necessary to introduce a response mechanism to the crisis in order to analyse the impact of the activity of platforms and big search engines.

The Digital Service Act directly impacts Dark Patterns as well. Transparency and fairness of information will be ensured at any level and for any service while it will be possible to choose whether to be profiled by big platforms and search engines. In addition, deceptive design interfaces will be prohibited as pure misleading practices will be. Lastly, platforms accessible by minors will fall under the obligation to put in place special protection measures and advertisements relying on minors' personal data will be prohibited.

Once in force, the dispositions established by the Digital Service Act in matters of platforms and big search engines will be applied for 20 months, while other dispositions will be in force for 12-18 months.

ANALYSIS OF THE RESULTS

PREMISES

1. This questionnaire has been shared through personal social media channels in order to collect answers from a selected target of users. This analysis is indeed directed to social media and online retail platforms users.

2. The percentage of answers given to statements in "favour" of Dark Patterns shall not be expected to be high. Indeed, even a small percentage of answers in favour can be considered satisfying due to the delicate nature and novelty of the topic.

3. Every proposed application of Dark Patterns shall be done in full compliance and incentivising freedom of choice and individuals' privacy.

METHODOLOGY

The survey has been created to support the development of the aforementioned guidelines for the application of Dark Patterns in digital businesses, still protecting customer privacy, independence and freedom of choice.

Before providing the questions, a brief explanation of what a Dark Pattern is has been given to respondents. The survey has been developed on a three-phased structure.

In the first phase the objective is to target the respondents, creating a profile of the average user of digital businesses in order to adapt the guidelines to the dedicated users.

The second phase of the survey is dedicated to practically introducing respondents to Dark Patterns by proposing them an A-B test in which they had to recognize the interface designed with Dark Patterns.

In the third and last section of the survey respondents have been asked to choose between hypothetical reactions to deceptively designed interfaces. This was useful to understand how different degrees of Dark Patterns could influence users and which was the maximum level tolerated.

The survey has been analysed and the main highlights are reported hereunder. For an entire view of the survey please see Annex I.

LET'S KNOW EACH OTHER

In the first section of the survey ("*Lets know each other"*) questions have been posed to target the respondents.

A balance has been registered in gender between men (49,2%) and women (50,8%) while, in terms of age groups, the majority of the respondents belong to the group 19-29 years old.

Predictably, all respondents have an account in social media channels - mainly Instagram, LinkedIn, and Facebook - and more than 90% use digital shops. Shopping frequency in digital shops is very homogeneous, ranging from two times per week to less than one time per month.

To the question "*Would you define yourself as easily influenceable?"* only less than 30% of the respondents answered affirmatively.

User's Persona:

Gender: balanced between men and women

Age: 19-29 years old

Education: Master's degree student

Social media: Instagram, LinkedIn, Facebook

Online purchase habits: according to the needs and the period of the year the frequency ranges from twice a week to less than once a month

He/she does not define him/herself as easily influenceable

WARM UP

An A-B test has been proposed to the respondents. In the test were shown two images differing for the presence and absence of a Dark Pattern. The respondents had to recognise in which image the Dark Pattern was.

To 5 (five) questions out of 6 (six) the majority of the respondents have recognised the image with the Dark Pattern. The question to which the majority of the respondents gave the wrong answer was the first one: more than 64% of error.

NOW IT IS YOUR TURN

In this phase (*"Now it is your turn"*) respondents were put in front of an interface designed with Dark Patterns. It has been asked to choose between 4 (four) actions which one was the most similar to the possible reaction of the respondent.

Question 1

In this interface a pop-up appears when opening the description of a product. Two are the Dark Patterns applied in this interface: confirm shaming and fake urgency scarcity Dark Pattern.

In this scenario, a small percentage (11,9%) of respondents has shown interest in the topic and has demonstrated to be willing to pay more attention to environmental questions during purchase decisions.

Question 2

This interface shows three shipping methods, sorted from the more sustainable and slower to the less sustainable but fast. In this interface it has been clearly stated that pre-choice has been made and that the customer is free to modify it. The Dark Pattern here is represented by the pre-selected shipping method. The survey shows that almost one quarter of the respondents would choose to maintain the pre-selected and more sustainable shipping method.

Question 3

The proposed interface shows a pop-up offering a discount on the new organic collection. In the pop-up is clearly visible the "*Shop the collection*" button, while the "x" to close the pop-up can be barely noticed at the top right corner of the pop-up. The Dark Pattern is constituted by the design of the pop-up itself. Indeed, only 35,6% of the respondents were able to see the "x" but up to 15,3% were encouraged by the discount to visit the page.

Question 4

The interface provided for this question asks to sign into a mailing list and, jointly, offers the possibility to be automatically registered for events in the city of the respondent. This interface offers the possibility to skip the registration, still the button - in the upper right corner - is not clearly visible. In addition, the answer "*YES*" has been automatically given to both of the questions.

This question obtained very good results. Indeed 16,9% of the respondents, being aware of the possibility to select only one option, choose to subscribe to the mailing list.

Question 5

This scenario represents an interface that appears after a purchase to offer a coupon to be offered to someone in exchange of personal data (i.e. name, surname, email). Here the deceptive design is represented by the need to provide personal data in order to benefit from the discount.

Even if the Dark Pattern is clearly visible in this interface, results have shown that 23,7% of the respondents are willing to offer the discount - and therefore share their data - of their contacts who are willing to buy sustainable products. Surprisingly, up to 10,6% of the respondents are willing to share their entire contact list's data.

Question 6

This interface represents the shopping cart of a customer. Here, in addition to the items selected for the purchase, it is possible to identify the item "*Your help for the planet*". In small font it is explained that the automatic add-on can be removed by modifying account settings. In this interface two are the deceptive designs identifiable: sneak into basket and roach motel, respectively represented by the automatic cost item added to the cart and by the impossibility to remove the item directly from the interface.

The results show how 26,1% of the respondents would end up paying the additional expense even not knowing its nature.

Question 7

This scenario shows notifications from a fictitious application sent each 5 minutes. In this case the Dark Pattern is represented by the notifications themselves.

Notification can be very annoying when insistent, still 7,7% of the respondents have shown interest in the topic and the contents promoted.

Question 8

This interface represents a pop-up that appears when the user is about to book a room in a hotel. The pop-up asks to provide Name, email and phone number to register to a newsletter and it is not possible to skip registration to proceed with the booking. This Dark Pattern is called forced registration.

20,3% of the respondents are willing to register and proceed with the booking, among which 3,1% is concretely interested in receiving updates from the newsletter.

Question 9

The interface shows the final steps of the purchase process through e-commerce. What is shown is the request to register, through a big black button well distinguishable from the purplish colours of the background. In a smaller font, still visible, it is explained that the registration required is related to a marathon while, in a barely-visible purple, is given the possibility to skip registration. It can be easily deduced why the Dark Pattern here is called "hidden in plain sight". Even if the deceptive design is evident, almost 16% of the respondents have answered that would register. Among them more than 3% would be doing it on purpose.

Question 10

The proposed scenario represents a household appliance e-commerce showing a pop-up in which is asked to donate to safeguard an endangered animal species.

In the pop-up is well visible the "x" to avoid the donation and no other Dark
Pattern is perceivable.

Still the percentage of positive responses was incredibly high: almost 30% of the
respondents are willing to donate. 21,9% of them would like to have more
detailed information about the recipient of the donation, not excluding to proceed
if the values are shared while up to 6,3% is pleased to donate apart from the
recipient.

Question 11

The last scenario proposed represents the registration interface of a website. Here
the user has the possibility to choose between different plans and subscribe to one
of them or proceed without any plan. The deceptive design in this interface is
represented by the difficulty in seeing the link to the possibility to proceed
without any plan - in light grey under the "*Subscribe*" button. The other Dark
Pattern is represented by the difficulty in understanding how to envision the other
plans.

Here evidently the excessive number of Dark Patterns annoyed users, as a matter
of fact, only the 3,1% of them are willing to subscribe.

ANALYSIS OF THE RESULTS

The questionnaire was aimed at demonstrating the maintained nudging efficiency of dark
patterns notwithstanding being clearly visible in the web interface.

What emerges from the survey, mainly answered by users between 19 and 29 years old,
is that users are fairly willing to pander to dark pattern nudge effect. As a matter of fact,
an average of 10% of respondents has demonstrated a positive attitude towards the
proposed deceptively designed interfaces. As demonstrated by the results obtained in the
survey, the proposed interfaces which received the majority of positive results are the
ones in which deceptive design strategies are more visible (cf. Annex 2: Dark Pattern
Survey Results Question 2, Question 5, Question 8, and Question 9). On the other hand,
interfaces proposed in Question 6 and Question 11, have received answers demonstrating
a less indulgent reaction to the dark pattern.

It is therefore possible to consider fulfilled the ultimate purpose of the survey.

For this reason and thanks to these results, it was possible to delineate the profile of the average user of e-commerce platforms (cf. User's Persona) and to draft ad hoc guidelines for the twofold purpose of drive consumer behaviour towards more sustainable choices and protecting his or her fundamental rights.

PROPOSAL OF GUIDELINES FOR THE APPLICATION OF DECEPTIVE DESIGN PRACTICES TO NUDGE CONSUMERS INTO MAKING MORE SUSTAINABLE CHOICE DURING THE SHOPPING EXPERIENCE

Considered that:

- Representing digital business an important means of commerce in the XXI century it was thought to be relevant to tackle this topic and draft a set of guidelines for the application of Dark Patterns to e-commerce platforms. These guidelines are not aimed at substituting the European Data Protection Board (EDPB)'s guidelines related to Dark Patterns in social media platforms. On the other hand, the present recommendations want to provide an integration to the aforementioned scenario including digital businesses in the threshold of possible application of Dark Patterns. Furthermore, these guidelines provide a focus on individual's freedom of choice while EDPB's guidelines are focused on data protection and privacy.

  As a matter of fact, the objective of the proposed directions is to set minimum standards of transparency and fairness for the application of deceptive designs (Dark Patterns) to digital businesses with the aim of nudging the consumer into taking more sustainable decisions during his or her user experience while still maintaining freedom of choice and free will.

- *Every user shall be informed about his or her rights and shall be aware of how to exercise them.*

1. Strong message

The message communicated shall have the same importance as the means used to deliver it. It is indeed of utmost importance to regulate the tones under which information is provided. As a matter of fact, an excessively strong language can be destabilizing for the user who might feel overwhelmed by the received information.

For this reason, the language used for communicating any kind of message on an e-commerce platform shall be carefully pondered and balanced to the context in which it is inserted and to which it is referred (i.e. no immoderate pressure shall be put on individuals, no unjustified catastrophic scenarios shall be designed, and no injudicious expectations shall be put on users).

2. <u>Fairness and Transparency</u>

Fairness and transparency are pivotal principles, as demonstrated by Article 5-12-13 of the GDPR in relation with the two principles. Any design that does not comply with these principles is considered not to be allowed even if being compliant with all the other requirements in matters of user and consumer protection.

In the controlled application of Dark Patterns to digital business platforms is not ignored the importance of individual's freewill and freedom of choice. In this respect correct practices and behaviours are suggested in order to grant the respect of customer freewill by ensuring fairness and transparency in the application of deceptive design to customer experience:

- to be considered fair, web interfaces design shall not influence the user in a way that is detrimental for his or her free will, discriminatory, unexpected and/or misleading.,

- clear information of the structure of the platform and of the main design techniques adopted for influencing the user shall be available and easily accessible;

- it is allowed for companies to protect sensitive information from third parties. Yet it shall be communicated to users in a clear and easily understandable form with the main design techniques adopted (i.e. cookies, invite to a newsletter). Information provided is not required to have a high level of detail. It is sufficient that any customer, whether willing to do so, is able to gather information and understand the functioning of the principal tools that he or she will encounter during the customer journey;

- information shall be provided in a clear, transparent, intelligible and easily accessible form. The main design techniques shall be reported in a specific section of the webpage, easily accessible from all the other pages of the website (i.e. in the website footer). At the same time, information shall be easily understandable from any kind of audience and user.

3. <u>Cookies</u>

According to Article 32 of the GDPR, related to the security of treatment of personal information, silence, pre-flagged boxes, or inactivity do not constitute consent.

GDPR's conditions for compliance of cookie banner are the following:

- Give balanced relevance to both the accept and deny scenario;
- Provide Detailed information about cookie use and destination;
- Alert the User if the website shares data with third parties;
- Provide users with a link to the website's Cookie policies and to the Cookie Settings interface.

Following the just mentioned premises, mandatory behaviours are developed for user experience designers:

- no box shall be pre-flagged
- cookie walls are forbidden
- it is possible to design cookie banners that can be closed by means of an "x" button as long as consequences of the close of the button are explicitly stated
- the copy through which the message is delivered in the context of the cookie shall be in a simple and brief language

A correct alternative to the cookie wall is the cookie banner, which gives the same prominence to the accept and refuse button.

4. <u>Default setting</u>

Users hardly change default settings. While in terms of privacy this practice might be extremely risky if, instead of limiting the collection of data necessary for

contracting procedures, data are collected for profiling and marketing purposes as well.

When applied to e-commerce, to push the user into more environmentally sustainable options, Dark Patterns have positive inference. Still, the user shall be clearly notified about the application of Dark Patterns in the interface so to allow him or her to freely and easily change their pre-selected option.
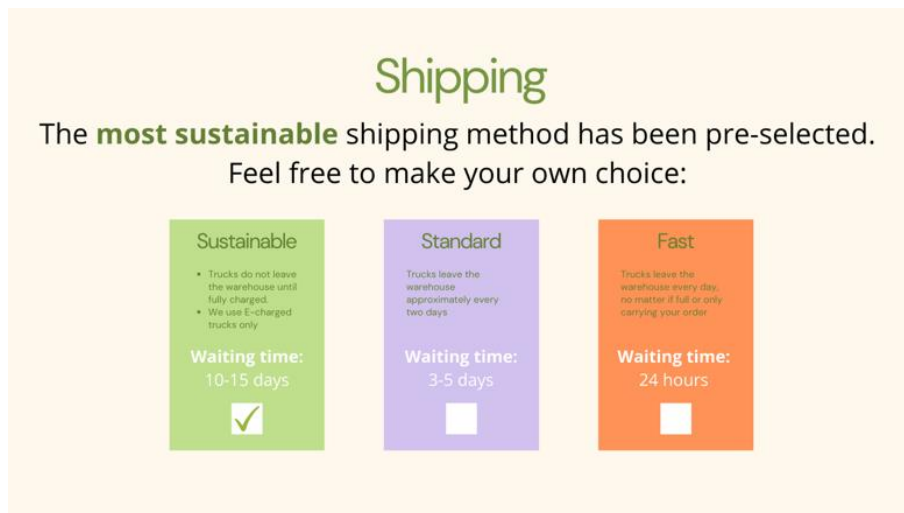

Figure 6. Example of pre-selected box dark pattern. Source: own elaboration

The image hereinabove shows the application of *default setting* Dark Pattern which leverages on the consumer laziness in changing default settings. Yet, good evidence has been made of the application of the Dark Pattern in the interface, making the user fully able to freely choose whether to change shipping methods by ticking another box.

Therefore, the applied Dark Pattern leverages on the user's inertia without impacting his or her freedom of choice and freewill.

5. <u>Framing</u>

Users' purposes can be turned in favour of the e-commerce manager or the company by stating which are the benefits of a certain choice and omitting drawbacks.

Framing techniques are allowed to be applied when the language and the tones used to communicate benefits generated by the performance of a certain action are balanced to the context in which they are framed.

Clear evidence of what the positive effects of the behaviour are and how the effects are generated.

It is not allowed for user experience designers to leverage on the negative effects generated by the non-fulfilment of an action.
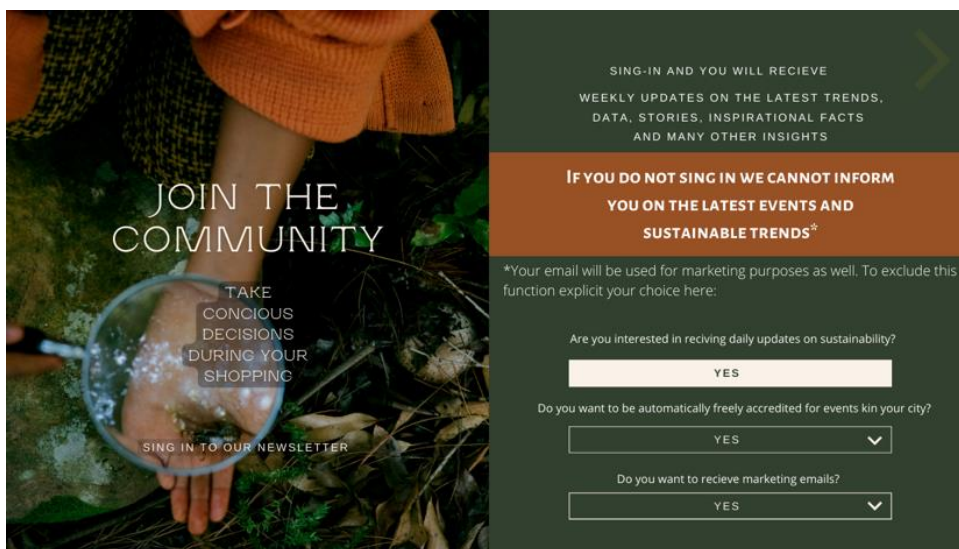

Figure 7. Example of framing dark pattern. Source: own elaboration

In the image above, representing a good practice example, is shown an interface in which more evidence is given to the positive aspects of signing in (in dark orange/brown). Still, under the box are reported the secondary uses of the email provided by the user and he or she is explicitly notified those settings can be changed in the same interface.

Framing Dark Pattern is slightly applied here, well balancing the willingness to show advantages of signing-in and the need to expose other impacts as well.

6. Awards and Penalties

The strategy is aimed at convincing users into making the choice considered to be the correct one. The *Award and Penalties* strategy is based on a pricing mechanism

following choices considered correct and a penalties mechanism following user's choices considered undesirable.

In the application of this design strategy, it is allowed for user experience (UX) to price well desired behaviours while it is considered unlawful to punish choices not being considered as correct. This fundamental distinction is made to highlight the importance of maintaining freedom of choice and freewill even while applying nudging mechanisms to customer experience.
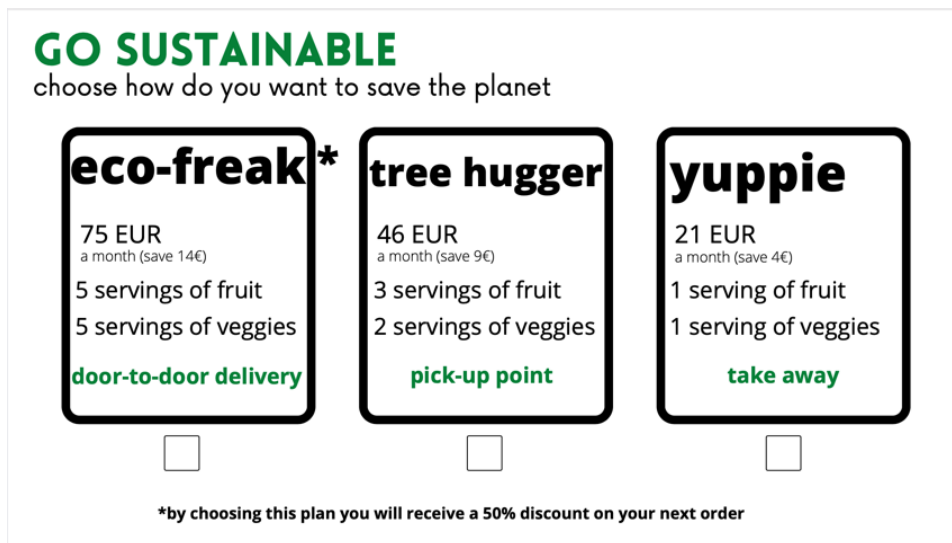
Figure 8. Awards and penalties example. Source: own elaboration

A good practice in the application of this design is represented by the interface. Here it is shown how the desirable behaviour is priced with a discount on the next purchase but the cheaper plan, more desirable for the user and less for the business, does not have any negative impact on the users' experience.

7. **Forced choice from the timeline**

Forced choice from the timeline does not give the customer time to analyse the choice he or she is making. Indeed, certain types of online purchase are usually made in a context of urgency and anxiety. The uncomfortable feeling can be caused by external environment factors or by design strategies to urge the customer to purchase.

In these circumstances businesses take advantage of the user's rush in concluding the purchase to make him or her accept terms that would probably not be given consent to if they had the time to read them properly.

Time is a necessary element to have the possibility to express freedom of choice and freewill. Not giving time to reason on the choice to be made, these types of designs shall not be applied.
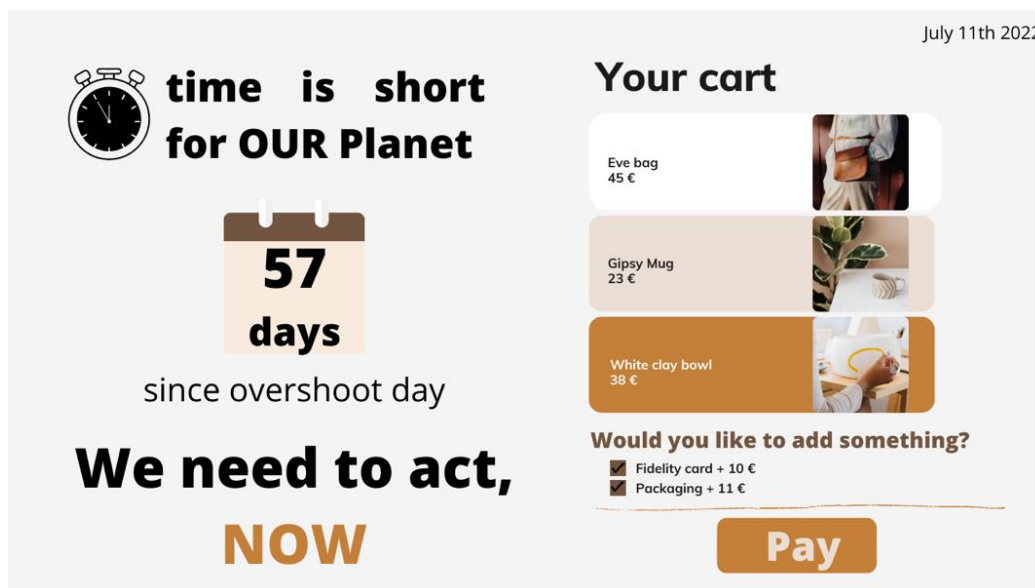
Figure 9. Example of forced choice from the timeline dark pattern. Source: own elaboration

This interface shows a perfect example of a Dark Pattern leveraging on the rush generated by climate change impacts on the customer to rush him or her into purchasing. The rush makes so that the customer does not realize that there are pre-flagged boxes adding expenses to the cart.

8.   Confirm shaming

Confirm shaming design technique works by shaming the customer into choosing an option that is desirable for the website, resulting in pushing users into making choices not necessary for them.

When the customer is put in front of the choice between the desirable action for the website and the convenient action for him or her, the options are not presented

in balanced terms: the desirable option is presented by using incentivising tones while the convenient option for the user is presented as immoral or not-caring.

This type of Dark Pattern does neither harm nor benefit the user, if the "shame" sentence is well balanced between the purpose desired and the respect for the user. Therefore, the use of this Dark Pattern is allowed as long as it is not offensive according to the user. Interface designers shall use copies that reinforce positive decision making instead (i.e. Maybe later).
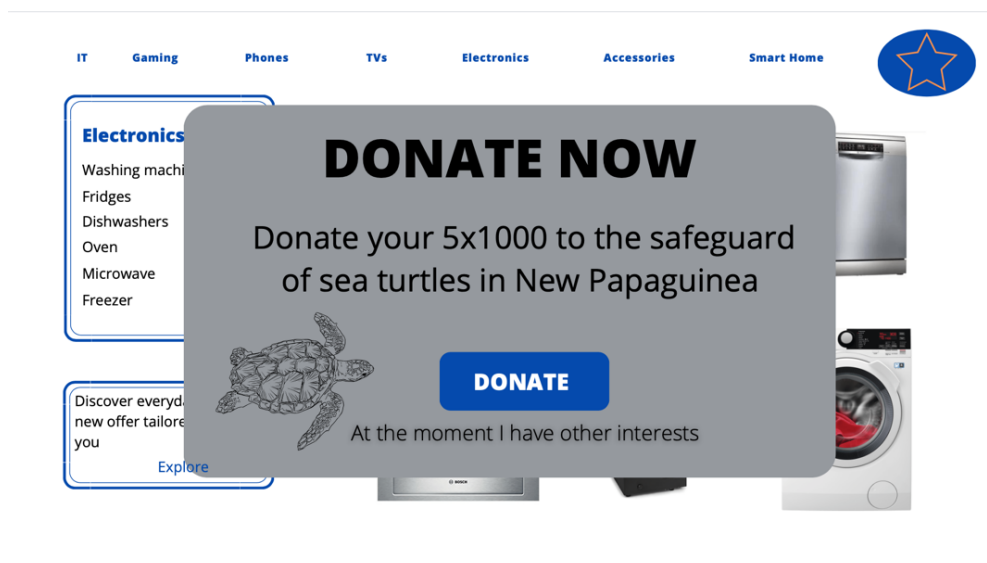
Figure 10. Example of confirm shaming dark pattern. Source: own elaboration

In this interface the user is put under the evidence that, at the moment, he or she does not have interest in a delicate topic such as endangered animals. This embarrasses him or her leveraging on their unconscious and raises the possibility of a donation. The case represented by this interface would be punishable since the message delivered is that the user is not touched by important topics, letting suppose that has more frivolous interests.

9. **Sneak into basket**

Sneak into basket Dark Patterns tricks people by adding additional items into customers' cart, often through the use of an opt-out button or checkbox on a prior page.

The application of this Dark Pattern for sustainable purposes is allowed only if it is possible for the customer to delete the item from the cart in the same interface (i.e. through a button or a flagged box).

In addition to that, the expense shall be clearly motivated, and the purpose stated next to the price exposed in the cart.

A good example of the application of this Dark Pattern without prejudicing users' freedom of choice is represented by the following image:

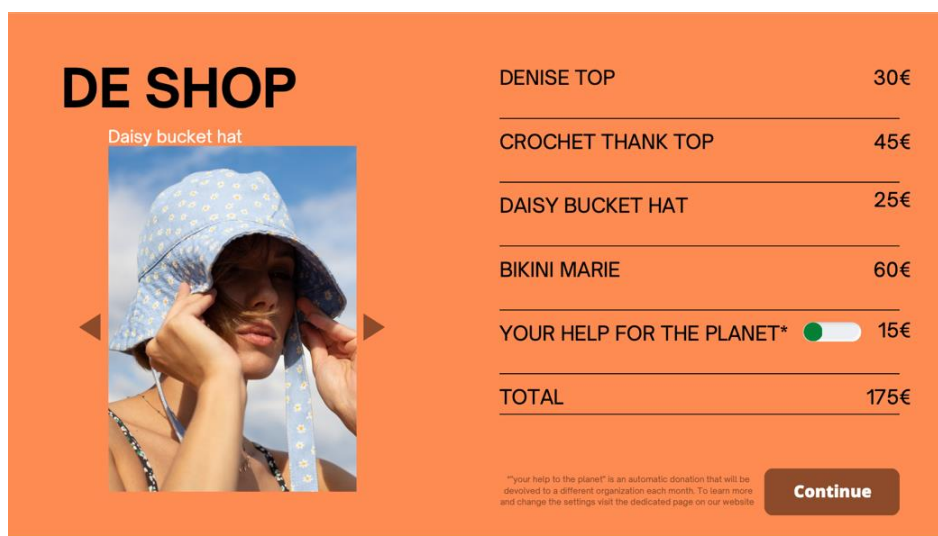Figure 11. Example of sneak into basket dark pattern. Source: own elaboration

10. **Misleading Subscription**

Web shops sneak subscriptions to newsletters to re-target consumers. The user is asked to provide personal data (i.e. name, surname, phone number, and email) in order to proceed with the purchase. Not allowing the user to skip the registration phase shall not be allowed.

Registration cookies shall have a limited time of presence in the interface, well shown by a timer incorporated in the design of the cookie and at the end of which the "x" button to proceed without submission shall appear.

The maximum limit of time for which the cookie banner can be present in the interface is 15 (fifteen) seconds.
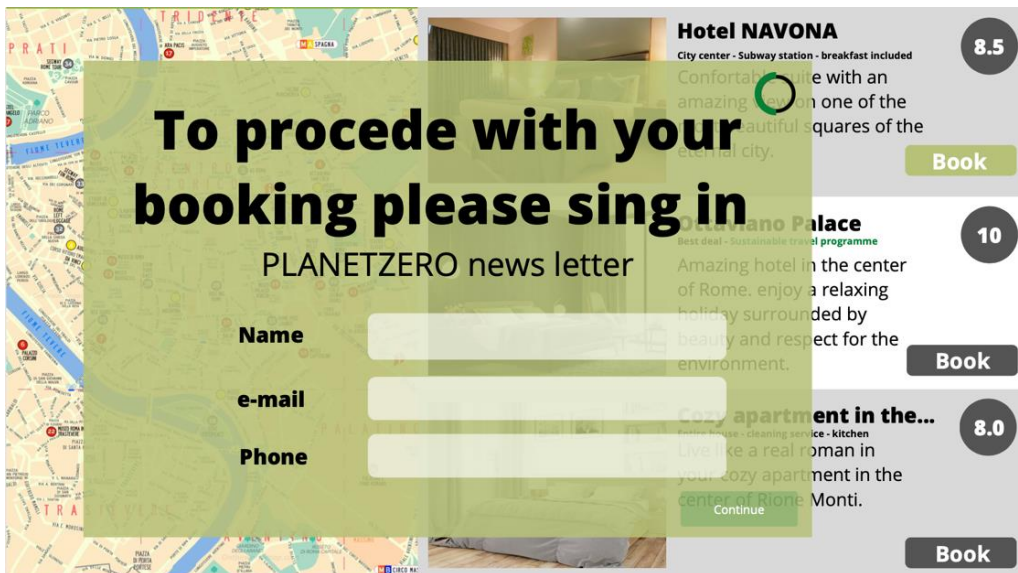
Figure 12. Example of misleading subscription dark pattern. Source: own elaboration

11. <u>Social influence</u>

The influence individuals have on one another is an extremely powerful instrument if used to condition their actions. For this reason, leveraging on social influence shall be done cautiously in order to avoid manipulative and discriminatory practices and to safeguard user's freedom. Here is some advice for the application of such a technique:

- confirm shaming: this practice shall be applied under severe attention. Is indeed of utmost importance to cautiously ponder the tones of the "shaming". What can be done as a better practice is to set a pricing programme for rewarding customers that choose the option considered moral by the society. The effects of this strategy can be maximized by showing the users a chart of his or her friends benefitting from the same service, classified according to the points they have gained from their choices. This strategy is called gamification

and is extremely efficient in stimulating actions from users without relying on guilty feelings but on gratification.

- "put your face": to stimulate the user's responsibility about his or her choices, users can be asked to complete the account with a profile picture so that actions feel more bound to the user's identity. This should generate in the user a feeling of reality, diminishing the detachment generated by digital customer experience.

- communities: to enhance the feeling of the individual to belong to the reference group (cf. Chapter 2) in the digital world as well, brands shall create communities in which it is possible to discuss selected themes and share personal experiences. This leverages on the human need to show off his gains and on the competitiveness of the other members of the group that will improve their behaviour to fit in.

- chatbots: chatbots can have the capacity to seem extremely human in their communication. They can be used to simulate the feeling of talking with another human being, generating that feeling of uncomfortable and subtle guilt when refusing an offer. **It is of utmost to clearly and explicitly declare that the user is not interfacing with a human being at the very beginning of the conversation.**

12. <u>Influencers</u>

Influencers have extremely high power in shaping users' purchase decisions. Companies scout influencers to represent them in matters of sustainability, green transition, and inclusivity. Through the years, influencers have gained such a wide user base that some precautionary measures are advised:

- if an influencer produces misleading advertisement for a company, he or she shall be personally accountable for false information

- representing, on behalf of the company, a certain lifestyle, the influencer shall demonstrate to adopt the above-mentioned lifestyle in his or her real life as well. Conformity and veracity of information and images posted shall be verified through a Sustainability Report about his or her life. an influencer can

be represented as a personal brand indeed and shall comply with sustainability standards of companies in first person.

CONCLUSIONS

In conclusion, this work has provided arguments to support and outline the application of deceptive design practices - known as Dark Patterns - to digital business in order to nudge the user into making more sustainable choices. Dark Patterns are features of interface design crafted to trick users into doing things they might not want to, but which benefit the business in question. These techniques base their roots in behavioural economic and neuroscience theories, aimed at studying the brain processes behind customers' actions and decisions. Deceptive design practices, supported by the aforementioned theoretical background, leverage on human brain laziness to manipulate individuals' choices.

Before the advent of the Internet, and subsequently of platforms, nudging techniques were applied in traditional shops. Marketing tricks are nowadays known by the vast majority of consumers, still their effects continue to influence shopping behaviour of individuals. It can be stated that Dark Patterns have been part of commerce strategies since the very beginning but the increase of competition, the acceleration of markets and the development of new technologies encouraged businesses to move digital and to put in place stratagems to gather and maintain as many purchasers as possible.

The techniques adopted by digital businesses to manipulate customers' purchase behaviour vary from the more evident (i.e. cookies) to imperceptible designs applied to the coding structure of the website (i.e. roach motel Dark Pattern). Being a topic still under development, no punctual legislation has been provided yet. The European Data Protection Board (EDPB), in March, provided for the first time guidelines for the application of Dark Patterns to social media platforms. The guidelines do not explicitly provide any form of coverage to other platforms to which deceptive design practices could be applied.

Digital business, representing an important means of commerce in the XXI century, was thought to be a relevant topic to be tackled and a set of guidelines for the application of Dark Patterns to e-commerce platforms was drafted. For the purpose of this work, a survey was developed and diffused aimed at analysing and targeting online platform average users. The survey was therefore analysed, and the results were used to lay the basis of the guidelines proposal. The guidelines provided in this work do not aim at substituting nor discredit EDPB's guidelines. On the other hand, the aim of these guidelines is to humbly propose an integration in the scope of application of Dark Patterns and hypnotize a possible positive turn for the adoption of these techniques.

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LIST OF ANNEXES

Annex 1: Dark Pattern Survey Template
Annex 2: Dark Patterns Survey Results

SUMMARY

This work is aimed at developing a draft proposal of guidelines to shepherd the application of Dark Patterns to influence customers in taking more sustainable decisions during their shopping experience.

The objective of this work is going to be achieved by demonstrating that, even if well shown and in good evidence, Dark Patterns are still able to persuade users into taking the choice they were created for.

For the purpose of this work a questionnaire has been diffused. The questionnaire has been shared through personal social media channels in order to collect answers from a selected target of users. The analysis is indeed directed to social media and online retail platforms users.

The survey has been created to support the development of the aforementioned guidelines for the application of Dark Patterns in digital businesses, still protecting customer privacy, independence and freedom of choice.

Thanks to marketing tricks and deceptive information, brands can make consumers perceive a higher value for a product making consumers feel their self-control lowered and are more stimulated to buy.

Several are the elements that brands can leverage to influence customers' behaviour: customer purchase, product type, task complexity.

Retailers have been tricking customers leading them into doing something for decades. Marketing tricks are nowadays easily identifiable during an everyday shopping experience. Some of the most common artifices are:

- Product placement

- Pricing games

- Packaging plays

- Sensorial marketing

- Compound machines

E-commerce, being a commercial way of making transactions online, is the direct evolution of traditional retail shops, which became necessary due to technological evolution and increase of competition in markets.

Three are the ways of manipulating customers using alteration and manipulation of information: information content, information presentation, and information generation.

Information content manipulation consists in alternating the content, in the case in scope of an e-commerce, information generation manipulation is the alteration of the design of how product is presented and, lastly, information generation is the dynamic production of information based on customers' preferences.

The possibility to somehow guide individuals' choices was in a first moment applied to government and politics to direct citizens' behaviour; once businesses realised the power of influencing users' choices, made of this practice their strengths.

Growth hacking is the direct ancestor of Dark Patterns; it is aimed at improving the growth of a company in the shortest time. As the economy matured, services turned their attention toward revenues more than towards growth and this is exactly when Dark Patterns were born.

Dark Patterns are the consequence of the combination of multiple behavioural economics and marketing practices that range from research on nudges, deceptive practices in physical retail and growth hacking; created using the knowledge of experts of human behaviour against humans themselves to influence their choices and decision-making process.

Human brain is notably lazy and evaluating different scenarios and options represents an energy expenditure directly proportional to the degree of novelty of the scenario. This is the reason behind the fact that, by nature, individuals always choose the easiest and by default option. Digital shops' designers know this propensity very well and hide tricks in actions that users do automatically. This practice is called nudge.

Nudge is "*any aspect of choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentive*".

Nudge is a consequence of behavioural economics; aimed at structuring a choice architecture to the benefit of whom nudge serves.

The combination of behavioural economics with neuroscience gives what is called consumer neuroscience, a branch of neuroscience that analyses which mechanisms guide consumers' behaviour and how they respond to defined stimulus. Neuroscience is the scientific analysis of the neuronal system and behavioural economics is an interdisciplinary branch of economics and psychology that studies the interaction between psychological, emotional, and cultural factors on economic behaviours and decisions.

Several trigger techniques, relying on cognitive biases have been developed by designers and engineers to create or maintain users' addiction to a certain product or service: Repetition of cycles, Variability of the reward, User habits, Fear of missing out.

Dark Patterns are structured to work leveraging on humans' cognitive biases, exploiting their weaknesses.

Nowadays there is still no univocal definition for dark commercial patterns, but they are generally defined as users interface used by some online businesses to lead consumers into making decisions that they would not have otherwise made.

Dark Patterns, as defined by their father Harry Bringull, are "the ways in which software can subtly trick users into doing things they didn't mean.

Brignull in his study has identified and defined 12 Dark Patterns:

1. Bait and switch

2. Confirm shaming

3. Disguised ads

4. Forced continuity

5. Friend spam

6. Hidden costs

7. Misdirection

8. Price comparison prevention

9. Privacy suckering

10. Roach motel

11. Sneak into basket

12.   Trick questions

Brignull's Dark Patterns analysis is not the only one. Indeed, deceptive design still does not have a unique definition.

Bösch et al, developed a study in which it is stated that Dark Patterns undermine privacy by focusing on the positive aspects of the user's choice and hiding in the dark every negative impact that sharing of data could have. In Bösch's study are identified 7 privacy Dark Patterns: Proactive not reactive, Privacy as the default setting, Privacy embedded into design, Full functionality, End-to-end security, Visibility and transparency and Respect for user privacy.

Gray et al published a work that revamps Brignull's original enumeration but turns them into 5 design strategies: Nagging, Obstruction, Sneaking Interface interference and Forced action.

In more recent times, the National Commission on Informatics and Liberty (CNIL) published the report in which is highlighted the impact of Dark Patterns on privacy. What emerges from the study is an analysis of 18 Dark Patterns clustered to highlight their impact on data protection. The report clusters the Dark Patterns following five design tactics: enjoy, lure, seduce, complicate and ban.

A roster of features applicable transversally to all Dark Patterns can be deduced. Indeed, all Dark Patterns impose unequal pressure on the choice at the users' disposal (Asymmetric) and incites users into selecting determinate decisions or results without showing explicitly the influencing mechanism to the user (Covert). Deceptive designs induce false beliefs in users through misleading statements and mistreatments (Deceptive) and obscures or delays the gathering of information

from the users (Information hiding) reducing therefore the choice presented to the user (Restrictive).

Dark Patterns influence users' decisions by modifying the set of choices available and attempt to influence users' behaviour by manipulating available information. Dark Patterns are indeed aimed at maximising companies' ability to extract revenues from users.

It is necessary to clarify the difference between Dark Patterns and persuasive marketing techniques, that rely on the hamper of consumers' decision-making architecture.

The main differences pivot around the statement that Dark Patterns change customers' choice architecture also by modifying choices and information at their disposal and that consumers' detriment caused by the application of Dark Patterns can generate losses to individual welfare as well as to collective welfare and autonomy.

The reasons behind the application of Dark Patterns to e-commerce can be recognized in a strong increase in competition and velocity of the market as well as new technologies allow the creation of new deceptive practices and in a digital environment with extremely low entry barriers where web pages are created to attract or distract the attention of the customers following the precise scheme.

Other schools of thought, breaking a spear in justification of the application of Dark Patterns, attribute their nature to the speed of creation of a website nowadays which does not leave enough time to pay attention to details of such a level.

Individuals are not only influenced by deceptive design techniques: a strong social influence impacts individuals' decision process.

Since the very beginning of society, individuals are subject to external factors during decision processes. Individuals are indeed subject to social influence which is an unconscious process through which beliefs and behaviours of people living in the same environment tend to resemble each other. The need for social acceptance leads individuals' behaviour to converge into implicit social norms that represent socially accepted beliefs about what can and what cannot be done in a specific social context.

The society we are living in can be represented as composed by three main figures: reference group, aspirational reference group and opinion leader. At the top of the pyramid there is the opinion leader. The opinion leader is the most influential member of the aspirational reference group. in the third layer of the pyramid are represented the members of the reference group to which the individual belongs or wants to join.

The closer the source of influence is to the individual, the easier it is to be turned into part of the reference group. In this context the figure of the opinion leader gained increased power, becoming a proper job: the influencer.

An influencer is a third party who exercises influence on the organisation he or she represents and its potential customers. An influencer has the power to shape purchase decisions, create impacts and set trends.

It is then possible to understand the power that these figures have in influencing individuals and the risk they represent if not transparent and fair in their expressions.

Digital services scenario has been continuously changing in the last 20 years. Online platforms have created significant advantages for consumers and for innovation. At the same time, platforms can be used as a means for the diffusion or sale of illegal contents and, given the systemic nature of some big platforms, there are several risks for users' rights and information flow.

The tremendous diffusion of the use of platforms in everyday life during the latest years stimulated lawmakers worldwide to develop normative frameworks to safeguard users.

But even if Dark Patterns have been highly tackled from literature since when deceptive design became a relevant topic for customer protection, still there is very scarce jurisprudence on the subject.

Given the tremendous acceleration of digitalization, the user of the future will be always more moved towards platforms, being increasingly exposed to phenomena such as Dark Patterns. as the frequency of deceptive design phenomena increases an increase in legal precedents forecasting that the regulatory basis in this respect will be more specific and detailed.

For the purpose of this work the United State legal framework and the European legal framework have been taken into consideration.

The two approaches are delineated by severe difference, mainly defined by the ratio behind the regulatory provision. In the United States the legal system relies on a principle-based approach. The legislator leaves to each State freedom to regulate Dark Patterns as is thought to be the best option. In Europe legislators adopt a rule-based approach based on a move towards a regulation providing details about what behaviour is considered admissible and what is not.

The theme of Dark Patterns is tackled from United States jurisprudence as built around three pillars: Disclose, Consent and Cancellation.

The main legal provisions adopted in the US are the California Consumer Privacy Act (CCPA) and the California Privacy Right Act (CPRA). In addition, legislature enforced numerous cases of sanctions applied by the Federal Trade Commission (FTC) for infringements of provisions related to Dark Patterns. Lastly, but not for importance, Dark Patterns in the United States are regulated by the DETORU Act aimed at curb manipulative Dark Patterns which prohibits large companies from relying on users' interface that intentionally harms users' autonomy.

The General Data Protection Regulation (GDPR) is the main source for European Data Protection regulation which is based on the fact that users give their free and informed consent to companies. The theme of Dark Patterns has been tackled more recently by the European Data Protection Board (EDPB) guidelines on Dark Patterns. The Board published in March 2022. The document addresses the use of personal data collected through social media platforms. One more piece of legislation tackling the theme of Dark Patterns is the Digital Service Act (DSA), in

combination with the Digital Market Act (DMA), aimed at protecting the European digital space through a limitation of the market power of the big techs.

Both in Europe and in the United States the theme of Dark Pattern is tackled by the jurisprudence narrowing the scope of application to social network platforms and data protection. Still, a big issue in relation to this topic is represented by the defence of an individual's freedom of choice and freewill.

Being the border between licit and illicit extremely subtle, it is not possible to exclude deceptive design practices from online platforms.

For this reason, this work is aimed at providing guidelines for the safe and secure application of Dark Patterns within the perimeter of digital business platforms aimed at nudging the consumer into making more conscious and sustainable choices, still protecting freedom of choice and freewill.

Annex 1

Dark Pattern Survey Template

Dark pattern questionnaire

Hi! Would you mind filling in this small survey? It would be very helpful for my degree thesis.
You should answer impulsively to the question, so it is going to take you just a few minutes!

What is a dark pattern?

For the purpose of this survey you don't need to know exactly what a dark pattern is. Everything you need to know is that dark patterns are deceptive UX/UI interactions, designed to mislead or trick users to make them do something they don't want to do.
If you want to learn more about this topic I will be glad to share with you my work once completed.

Lets know each other

Here you have just a few questions to know you better

1. You are *

   Contrassegna solo un ovale.

   ( ) Man

   ( ) Woman

   ( ) Other

   ( ) Prefer not to say

2. Your age *

   Contrassegna solo un ovale.

   ( ) < 14 years old

   ( ) 14 - 18 years old

   ( ) 19 - 24 years old

   ( ) 25 - 29 years old

   ( ) 30-39 years old

   ( ) 40 - 49 years old

   ( ) 50 - 60 years old

   ( ) > 60 years old

3. Your educational/career path *

    Contrassegna solo un ovale.

    ⚪ Not schooled

    ⚪ Secondary school

    ⚪ Highschool

    ⚪ Bachelor degree

    ⚪ Master degree

    ⚪ Employed

    ⚪ Retired

4. Do you use any social media? *

    Contrassegna solo un ovale.

    ⚪ Yes

    ⚪ No

5. If yes, which ones?

    Seleziona tutte le voci applicabili.

    ☐ Instagram
    ☐ Facebook
    ☐ LinkedIn
    ☐ Twitter
    ☐ Tiktok
    ☐ Altro: _____

6. Do you buy from digital shops? *

    Contrassegna solo un ovale.

    ⚪ Yes

    ⚪ No

7. If yes, how often?

Contrassegna solo un ovale.

◯ Every day

◯ Twice a week

◯ Once a week

◯ Every 10 days

◯ Once a month

◯ More than once a month

◯ Less than once a month

8. Would you define your self as "easily influenceable"? *

Contrassegna solo un ovale.

◯ Yes

◯ No

Warm up	Choose between the two options the one containing a dark pattern

9. Which option contains a dark pattern? *

Contrassegna solo un ovale.
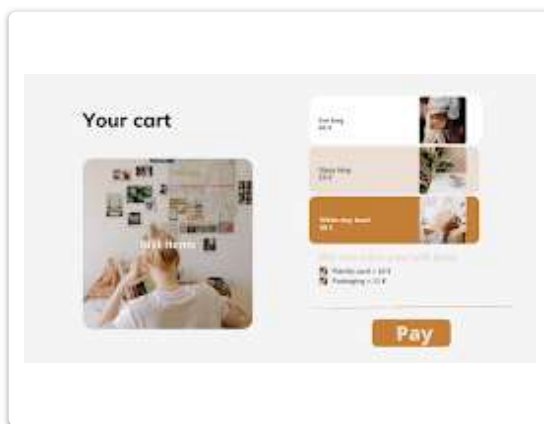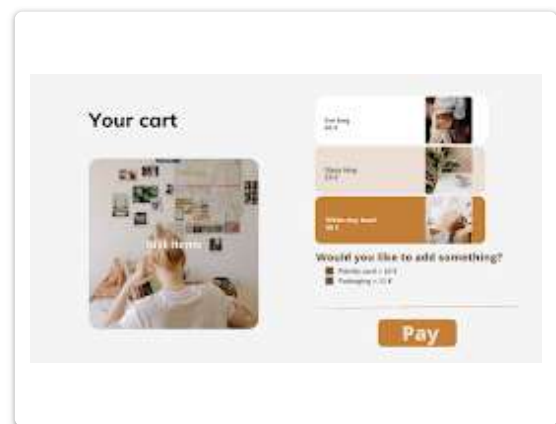
◯ Option 1   ◯ Option 2

10. Which option contains a dark pattern? *

Contrassegna solo un ovale.
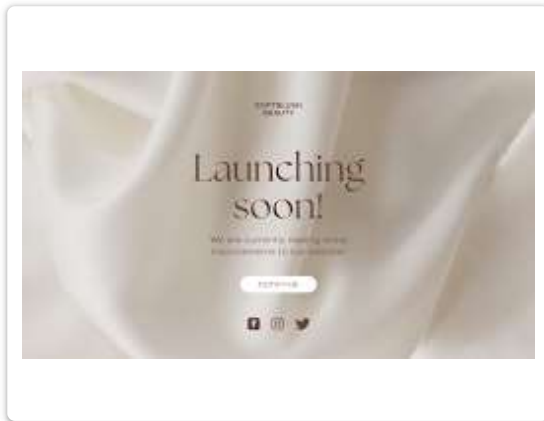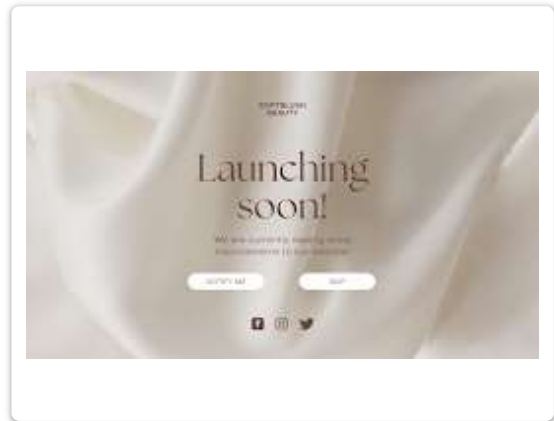
◯ Option 1   ◯ Option 2

11. Which option contains a dark pattern? *

Contrassegna solo un ovale.
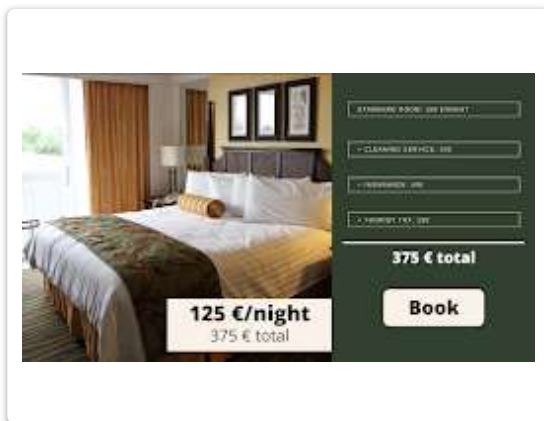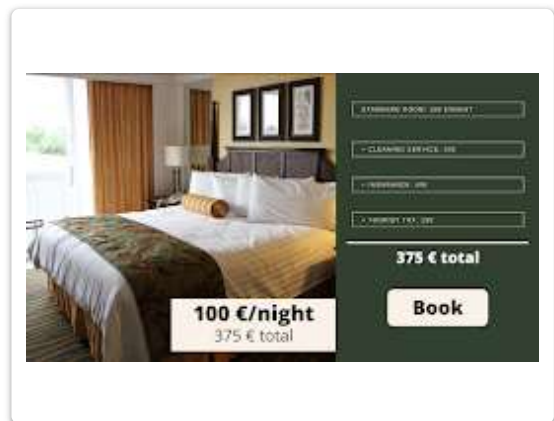
◯ Option 1   ◯ Option 2

12. Which option contains a dark pattern? *

Contrassegna solo un ovale.
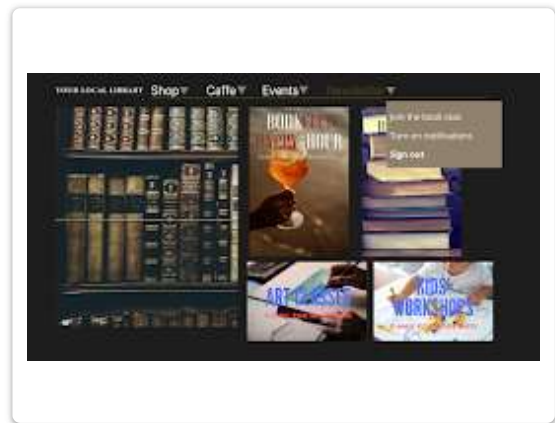
⬭ Option 1

⬭ Option 2

13. Which option contains a dark pattern? *

Contrassegna solo un ovale.
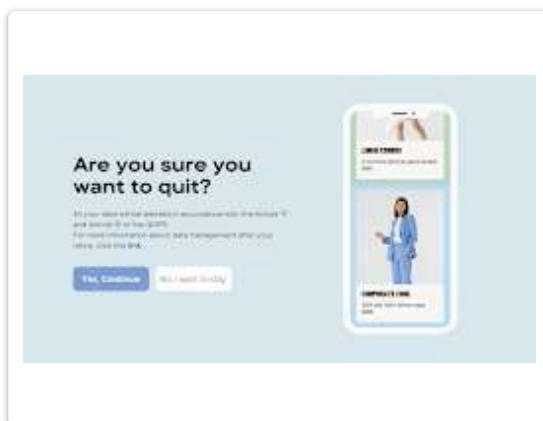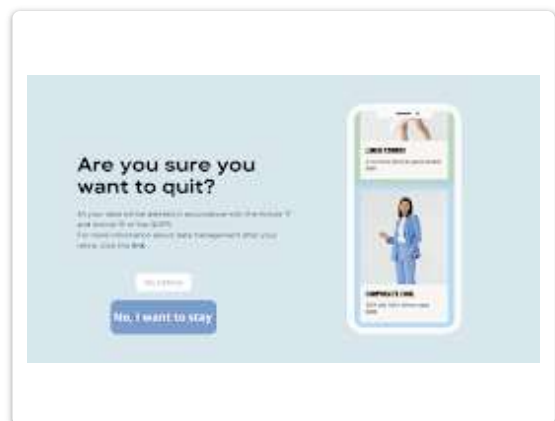
⬭ Option 1

⬭ Option 2

14. Which option contains a dark pattern? *

Contrassegna solo un ovale.

◯ Option 1   ◯ Option 2

Now it is your turn

Describe your reaction to the proposed scenarios

15. Question 1 *

Contrassegna solo un ovale.

◯ I close the pop-up without even read it

◯ I did not know this information, I will be more careful with my purchases in the future

◯ I ignore the information and go on with the purchase

◯ I think it is interesting but I do not have enough information to be convinced

16.   Question 2 *

Shipping

The **most sustainable** shipping method has been pre-selected.
Feel free to make your own choice:

Sustainable	Standard	Fast
• Trucks do not leave the warehouse until fully charged. • We use E-charged trucks only	Trucks leave the warehouse approximately every two days	Trucks leave the warehouse every day, no matter if full or only carrying your order
Waiting time: 10-15 days	**Waiting time:** 3-5 days	**Waiting time:** 24 hours
✓	☐	☐

Contrassegna solo un ovale.

( ) I keep the pre-selected shipping method

( ) I need more information to make a conscious decision

( ) I opt for the Standard shipping method

( ) I don't have time to wait, I choose the Fast shipping method

17. Question 3 *
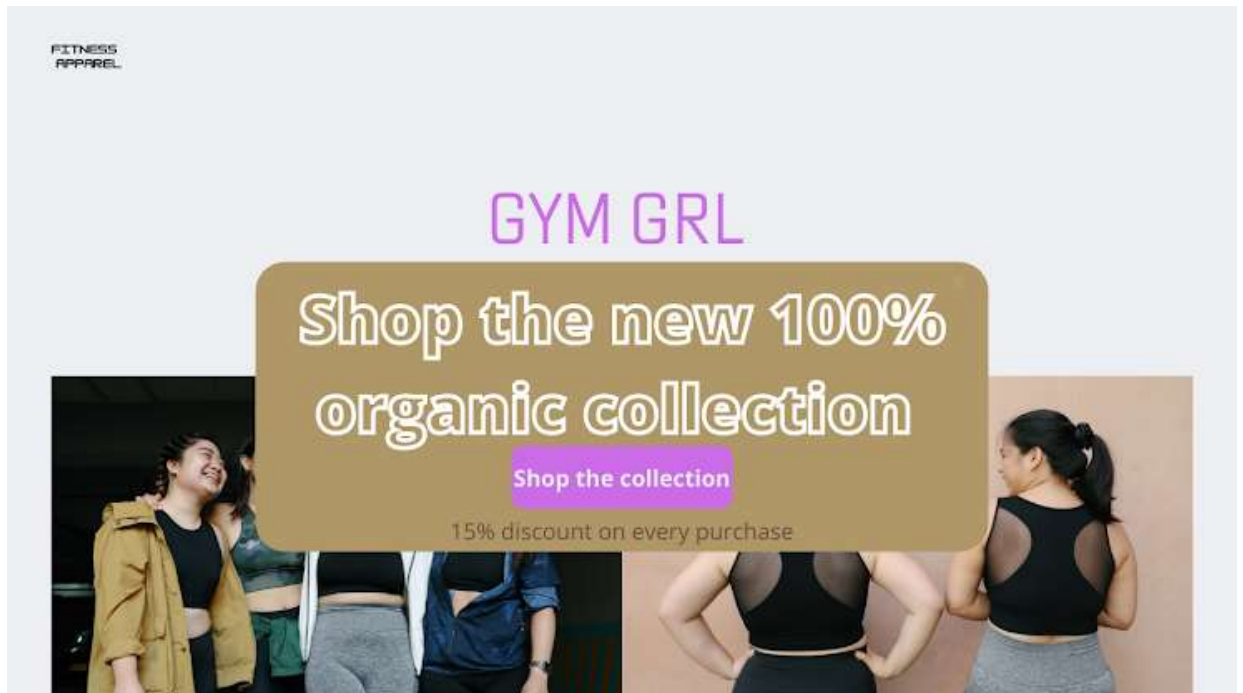
Contrassegna solo un ovale.

○ I do not see the "x" button to close the pop-up so I am forced to visit the page

○ I see the "x" button to close the pop-up, I click on it

○ I do not see the "x" button but the discount incentives me to visit the page

○ I do see the "x" button to close the pop-up but I am interested in buying sustainable fashion

18. Question 4 *
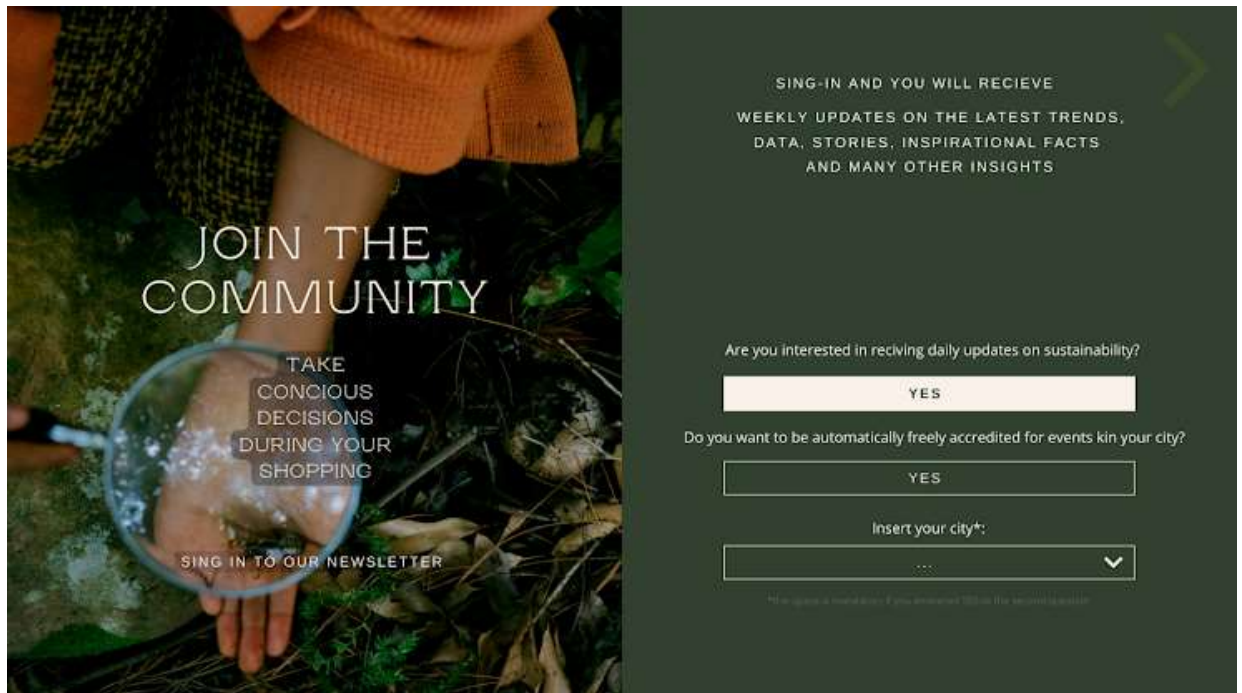
Contrassegna solo un ovale.

◯ I feel obliged to provide some kind of Information, I do not like it

◯ I do understand how to skip the sign-in phase

◯ I want to adhere only to one option but I do not know how to refuse one of the two

◯ I understand how to select only the option I am interested in, I will sing up to the news letter

◯ Opzione 5

19. Question 5 *
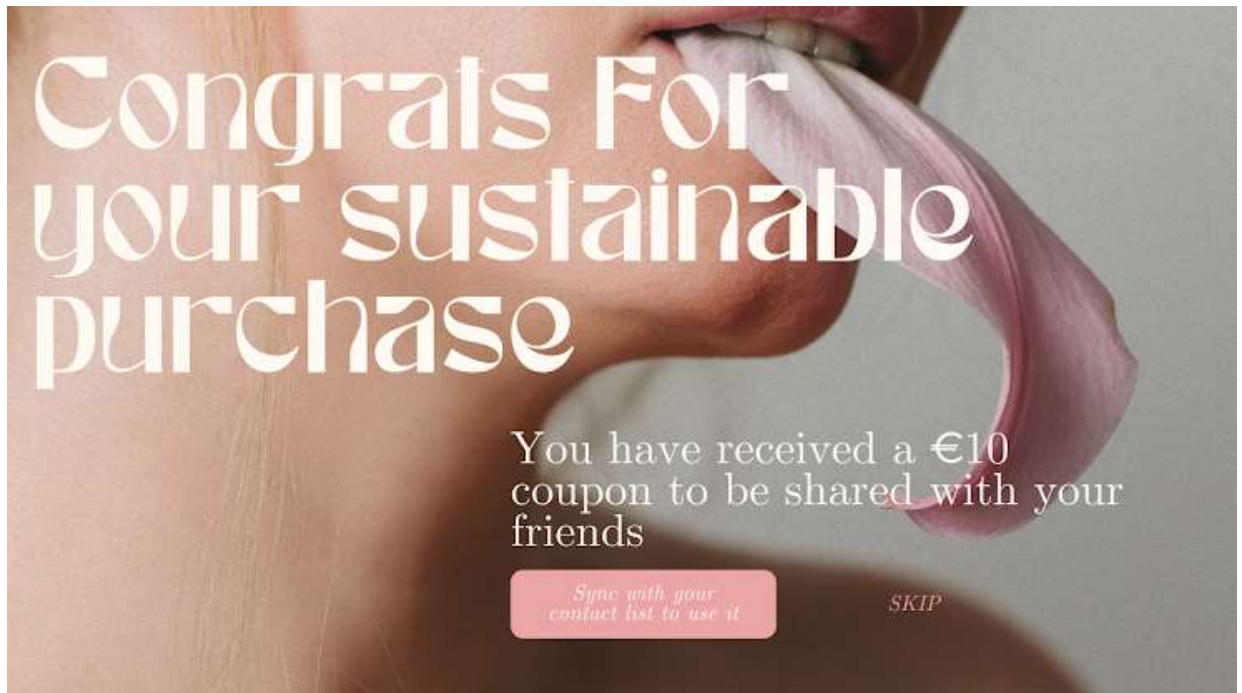
Contrassegna solo un ovale.

○ I will share the contact information of my friends who want to buy sustainable

○ I do not want to share information so I will not use the coupon

○ I need more information about data management before choosing

○ I would share my entire contact list: it is a present, it would be a pity not to use it

20.	Question 6 *

Contrassegna solo un ovale.

◯ I don't see anything wrong

◯ I see an element added to my cart, for sure it will be related to shipping costs

◯ I see an element added to my cart but I don't understand how to remove it so I will pay the entire amount

◯ I see an element added to my cart and I will change the settings to remove it from my bill

21. Question 7 *

Contrassegna solo un ovale.

◯ I am very annoyed by all these notifications, I will silence them/delete the application

◯ I don't pay attention to the notifications I receive

◯ I am very interested about this topic and the tips the app gives me

◯ I accept some notification but in this case they are too frequent

22. Question 8 *

Contrassegna solo un ovale.

○ I will fill the form and continue with my booking even if I don't think the two topics are related

○ I want to read the terms and conditions before submitting

○ I don't want to fill the form and share my data

○ I am very interested in sustainability, this is why I have chosen this website

23. Question 9 *
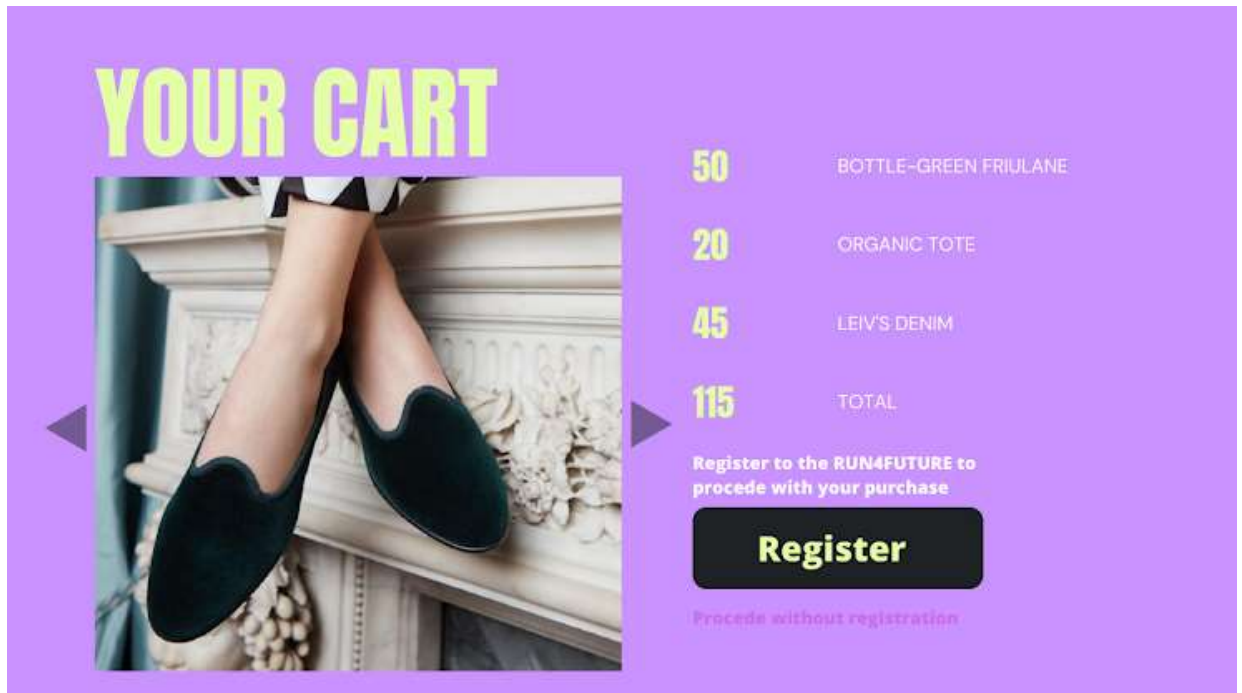
Contrassegna solo un ovale.

( ) I impulsively click on the "Register" button because it is hard to se the no-registration option

( ) I can easily understand that I can opt for no-registration

( ) I want to participate in a good action for the planet

( ) I see more than one dark pattern in this interface
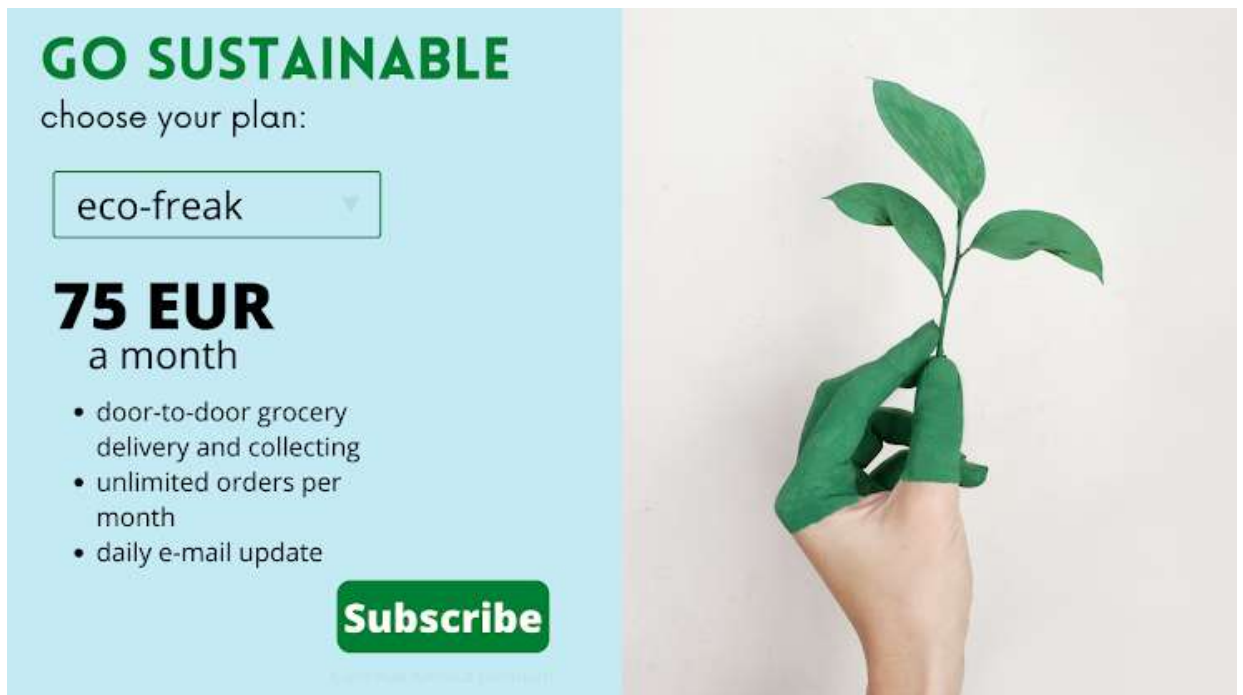
24. Question 10 *

Contrassegna solo un ovale.

   ⬭ I do not see the link between the two topics

   ⬭ I need more information about the destination of my donation. I do not exclude a donation

   ⬭ I don't want to be asked for money by a pop-up

   ⬭ I am pleased to donate some money to help the planet

25. Question 11 *

Contrassegna solo un ovale.

- ( ) I would like to envision the other plans as well before subscribing
- ( ) I would like to continue without the premium version but I don't understand how
- ( ) I am happy to subscribe
- ( ) I understand how to avoid subscribing so I will continue without the premium version

Thank you for your time!

26. If you know about anything interesting about this topic or want to share your experience, please do it here!

_____

_____

_____

_____

_____

Annex 2

Dark Pattern Survey Answers

Informazioni cronologiche	You are	Your age	Your educational/career path	Do you use any social media?	If yes, which ones?	Do you buy from digital shops?	If yes, how often?	Would you define your self as "easily influenceable"?	Which option contains a dark pattern?	Which option contains a dark pattern?	Which option contains a dark pattern?	Which option contains a dark pattern?	Which option contains a dark pattern?	Which option contains a dark pattern?	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	If you know about anything interesting about this topic or want to share your experience, please do it here!
4/13/2022 8:01:34	Woman	19 - 24 years old	Master degree	Yes	Instagram, LinkedIn	Yes	More than once a month	Yes	Option 1	Option 2	Option 2	Option 2	Option 1		I close the pop-up without even read it	I need more information to take a conscious decision	I do not see the "x" button to close the pop-up so I am forced to visit the page	I feel obliged to provide some kind of Information, I do not like it	I would share my entire contact list: it is a present, it would be a pity not to use it							
4/15/2022 17:42:56	Woman	19 - 24 years old	Working	Yes	Instagram, Facebook, LinkedIn, Twitter, Tiktok	Yes	Every 10 days		Option 1	Option 1	Option 2	Option 1	Option 2		I did not know this information, I will be more careful in my purchases in the future	I keep the pre-selected shipping method	I do see the "x" button to close the pop-up but I am interested in buying sustainable fashion	I do understand how to skip sign-in	I will share my friends who want to buy sustainable	I see an element added to my cart so I will have to remove it so I will pay the entire amount	I am very annoyed by all these notifications, I will silence them/delete the application				
5/1/2022 20:13:14	Woman	19 - 24 years old	Master degree	Yes	Instagram, Facebook, LinkedIn, Twitter, Tiktok	Yes	Every 10 days	Yes	Option 1	Option 1	Option 2	Option 1	Option 1	Option 1	I close the pop-up without even read it	I keep the pre-selected shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I feel obliged to provide some kind of Information, I do not like it	I will share the contact of my friends who want to buy sustainable	I don't see anything wrong	I am very annoyed by all these notifications, I will silence them/delete the application	I will fill the form and continue with my booking even if I don't think the two topics are related	I impulsively click on the "Register" button because it is hard to se the no-registration option	I need more information about the destination of my donation	I would like to continue without premium but I don't understand how
5/2/2022 15:29:13	Man	30-39 years old	Employed	Yes	Facebook, LinkedIn	Yes	Every 10 days	No	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I think it is interesting but I do not have enough information to be convinced	I don't have time to wait, I choose Fast shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to continue without premium but I don't understand how
5/2/2022 15:30:45	Man	30-39 years old	Employed	Yes	Instagram, LinkedIn, Twitter	Yes	Twice a week	No	Option 2	Option 1	Option 2	Option 2	Option 2	Option 1	I ignore the information and go on with the purchase	I don't have time to wait, I choose Fast shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I understand how to select only the option I am interested in	I need more information about data management before choosing	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing
5/2/2022 15:34:59	Man	30-39 years old	Master degree	Yes	LinkedIn, Twitter, YouTube	Yes	Every 10 days	No	Option 2	Option 2	Option 2	Option 1	Option 1	Option 1	I think it is interesting but I do not have enough information to be convinced	I need more information to take a conscious decision	I do not see the "x" button to close the pop-up so I am forced to visit the page	I feel obliged to provide some kind of Information, I do not like it	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing
5/2/2022 15:56:39	Man	30-39 years old	Master degree	Yes	Facebook	Yes	Twice a week	No	Option 1	Option 1	Option 2	Option 2	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I see the "x" button to close the pop-up, I click on it	I feel obliged to provide some kind of Information, I do not like it	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I want to read the terms and conditions before submitting	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version
5/2/2022 17:06:44	Man	25 - 29 years old	Master degree	Yes	Instagram, Facebook, LinkedIn	Yes	Every 10 days	Yes	Option 2	Option 1	Option 1	Option 1	Option 2	Option 1	I close the pop-up without even read it	I opt for the Standard shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I want to adhere only to one option but I do not know how to refuse one of the two	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I don't pay attention to the notifications I receive	I want to read the terms and conditions before submitting	I can easily understand that I can opt for no-registration	I need more information about the destination of my donation	I would like to continue without premium but I don't understand how
5/2/2022 17:35:50	Man	25 - 29 years old	Employed	Yes	Instagram, Facebook, Twitter	Yes	Once a month	No	Option 2	Option 2	Option 1	Option 1	Option 2	Option 1	I did not know this information, I will be more careful with my purchases in the future	I keep the pre-selected shipping method	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version
5/2/2022 18:43:12	Woman	25 - 29 years old	Employed	Yes	Instagram, Facebook, Twitter	Yes	Every 10 days	No	Option 2	Option 2	Option 2	Option 2	Option 2	Option 2	I ignore the information and go on with the purchase	I opt for the Standard shipping method	I see the "x" button to close the pop-up, I click on it	I understand how to select only the option I am interested in	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version
5/2/2022 19:29:50	Man	30-39 years old	Master degree	Yes	Instagram, Facebook, LinkedIn, Twitter, Tiktok	Yes	Once a month	No	Option 2	Option 1	Option 2	Option 2	Option 2	Option 1	I close the pop-up without even read it	I opt for the Standard shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I feel obliged to provide some kind of Information, I do not like it	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to continue without premium but I don't understand how
5/2/2022 20:27:10	Man	19 - 24 years old	Master degree	Yes	Instagram	Yes	More than once a month	No	Option 1	Option 1	Option 2	Option 2	Option 2	Option 1	I ignore the information and go on with the purchase	I need more information to take a conscious decision	I do not see the "x" button to close the pop-up so I am forced to visit the page	I want to adhere only to one option but I do not know how to refuse one of the two	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart but I don't understand how to remove it so I will pay the entire amount	I am very interested about this topic and the tips the app gives me	I will fill the form and continue with my booking even if I don't think the two topics are related	I impulsively click on the "Register" button because it is hard to se the no-registration option	I am pleased to donate some money to help the planet	I would like to continue without premium but I don't understand how
5/2/2022 20:32:44	Woman	19 - 24 years old	Master degree	Yes	Instagram, LinkedIn	Yes	Once a month	No	Option 2	Option 1	Option 2	Option 2	Option 2	Option 1	I think it is interesting but I do not have enough information to be convinced	I keep the pre-selected shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I feel obliged to provide some kind of Information, I do not like it	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart, for sure it will be related to shipping costs	I am very interested about this topic and the tips the app gives me	I want to read the terms and conditions before submitting	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing
5/2/2022 20:33:02	Man	19 - 24 years old	Master degree	Yes	Instagram, Facebook, LinkedIn, Twitter, Tiktok, Reddit	Yes	Twice a week	No	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I do not see the "x" button to close the pop-up so I am forced to visit the page	I understand how to select only the option I am interested in	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I do not see the link between the two topics	I would like to vision the other plans as well before subscribing
5/2/2022 20:33:50	Woman	19 - 24 years old	Master degree	Yes	Instagram, Facebook, LinkedIn, Twitter	Yes	Once a month	No	Option 2	Option 2	Option 2	Option 2	Option 2	Option 1	I ignore the information and go on with the purchase	I opt for the Standard shipping method	I see the "x" button to close the pop-up, I click on it	I want to adhere only to one option but I do not know how to refuse one of the two	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I need more information about the destination of my donation	I understand how to avoid subscribing so I will continue without premium version

Timestamp	Gender	Age	Occupation	Q1	Social media	Q2	Frequency	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Notes
5/2/2022 20:34:02	Woman	25 - 29 years old	Employed	Yes	Instagram, Facebook, LinkedIn	Yes	More than once a month	No	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I think it is interesting but I do not have enough information to be convinced	I need more information to take a conscious decision	I do see the "x" button to close the pop-up but I am interested in buying sustainable fashion	I feel obliged to provide some kind of Information, I do not like it	I will share the contact of my friends who want to buy sustainable	I don't see anything wrong	I accept some notification but in this case they are too frequent	I want to read the terms and conditions before submitting	I impulsively click on the "Register" button because it is hard to se the no-registration option	I need more information about the destination of my donation	I would like to vision the other plans as well before subscribing	
5/2/2022 20:34:43	Man	25 - 29 years old	Master degree	Yes	Instagram, LinkedIn, Twitter	Yes	Twice a week	Yes	Option 2	Option 2	Option 1	Option 2	Option 2	Option 1	I ignore the information and go on with the purchase	I need more information to take a conscious decision	I see the "x" button to close the pop-up, I click on it	I feel obliged to provide some kind of Information, I do not like it	I will share the contact of my friends who want to buy sustainable	I am very annoyed by all these notifications, I will change the settings to remove it from my bill	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I do not see the link between the two topics	I would like to vision the other plans as well before subscribing	
5/2/2022 20:41:21	Woman	19 - 24 years old	Bachelor degree	Yes	Instagram, Tiktok	Yes	Less than once a month	No	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I did not know this information, I will be more careful with my purchases in the future	I keep the pre-selected shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I want to adhere only to one option but I do not know how to refuse one of the two	I do not want to share information so I will not use the coupon	I see an element added to my cart, for sure it will be related to shipping costs	I accept some notification but in this case they are too frequent	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I need more information about the destination of my donation	I would like to vision the other plans as well before subscribing	
5/2/2022 20:45:40	Woman	25 - 29 years old	Master degree	Yes	Instagram, Facebook, LinkedIn	Yes	Once a month	No	Option 2	Option 2	Option 1	Option 2	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I do not see the "x" button to close the pop-up so I am forced to visit the page	I feel obliged to provide some kind of Information, I do not like it	I would share my entire contact list: it is a present, it would be a pity not to use it	I see an element added to my cart and I will change the settings to remove it from my bill	I accept some notification but in this case they are too frequent	I will fill the form and continue with my booking even if I don't think the two topics are related	I impulsively click on the "Register" button because it is hard to se the no-registration option	I don't want to be asked for money by a pop-up	I would like to continue without premium but I don't understand how	
5/2/2022 20:47:16	Man	19 - 24 years old	Bachelor degree	Yes	Instagram, LinkedIn, Reddit	Yes	Once a month	No	Option 2	Option 2	Option 2	Option 2	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I accept some notification but in this case they are too frequent	I will fill the form and continue with my booking even if I don't think the two topics are related	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing	Good survey!
5/2/2022 21:02:44	Woman	19 - 24 years old	Master degree	Yes	Instagram, Facebook, LinkedIn	Yes	More than once a month	No	Option 2	Option 2	Option 2	Option 1	Option 2	Option 1	I ignore the information and go on with the purchase	I keep the pre-selected shipping method	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I will share the contact of my friends who want to buy sustainable	I don't see anything wrong	I accept some notification but in this case they are too frequent	I can easily understand that I can opt for no-registration	I am pleased to donate some money to help the planet	I understand how to avoid subscribing so I will continue without premium version	
5/2/2022 21:13:41	Woman	19 - 24 years old	Bachelor degree	Yes	Instagram, Facebook, LinkedIn	Yes	Less than once a month	No	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I opt for the Standard shipping method	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	
5/2/2022 21:17:21	Man	19 - 24 years old	Master degree	Yes	Instagram, LinkedIn, Tiktok	No			Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I ignore the information and go on with the purchase	I opt for the Standard shipping method	I do not see the "x" button but the discount incentives me to visit the page	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I need more information about the destination of my donation	I understand how to avoid subscribing so I will continue without premium version	Some spelling mistakes in the survey
5/2/2022 21:20:55	Woman	25 - 29 years old	Master degree	Yes	Instagram, LinkedIn	Yes	Less than once a month	No	Option 2	Option 2	Option 2	Option 2	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I see the "x" button to close the pop-up, I click on it	I understand how to select only the option I am interested in	I do not want to share information so I will not use the coupon	I am very annoyed by all these notifications, I will change the settings to remove it from my bill	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	
5/2/2022 21:42:12	Man	25 - 29 years old	Master degree	Yes	Instagram, Facebook, LinkedIn	Yes	Less than once a month	No	Option 2	Option 2	Option 2	Option 2	Option 1	Option 1	I close the pop-up without even read it	I keep the pre-selected shipping method	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	
5/2/2022 21:55:48	Woman	30-39 years old	Employed	Yes	Instagram, Facebook, LinkedIn	Yes	Every 10 days	No	Option 2	Option 2	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I opt for the Standard shipping method	I see the "x" button to close the pop-up, I click on it	I feel obliged to provide some kind of Information, I do not like it	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	
5/2/2022 22:00:40	Man	19 - 24 years old	Master degree	Yes	Instagram, LinkedIn	Yes	Less than once a month	No	Option 1	Option 2	Option 2	Option 1	Option 2	Option 2	I ignore the information and go on with the purchase	I don't have time to wait, I choose Fast shipping method	I do see the "x" button to close the pop-up but I am interested in buying sustainable fashion	I understand how to select only the option I am interested in	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I impulsively click on the "Register" button because it is hard to se the no-registration option	I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing	
5/2/2022 22:52:05	Man	25 - 29 years old	Employed	Yes	Instagram, Facebook, LinkedIn, Twitter, Tiktok	Yes	Once a month	No	Option 2	Option 2	Option 2	Option 1	Option 2	Option 1	I ignore the information and go on with the purchase	I keep the pre-selected shipping method	I see the "x" button to close the pop-up, I click on it	I feel obliged to provide some kind of Information, I do not like it	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart but I don't understand how to remove it so I will pay the entire amount	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I need more information about the destination of my donation	I would like to vision the other plans as well before subscribing	
5/2/2022 23:04:00	Woman	19 - 24 years old	Bachelor degree	Yes	Instagram, Facebook, LinkedIn	No		No	Option 1	Option 1	Option 1	Option 2	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I do not see the "x" button but the discount incentives me to visit the page	I understand how to select only the option I am interested in	I would share my entire contact list: it is a present, it would be a pity not to use it	I don't see anything wrong	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I would like to continue without premium but I don't understand how	
5/2/2022 23:26:26	Woman	19 - 24 years old	Highschool	Yes	Instagram, Facebook, Twitter	Yes	Less than once a month	Yes	Option 1	Option 1	Option 2	Option 1	Option 2	Option 1	I did not know this information, I will be more careful with my purchases in the future	I keep the pre-selected shipping method	I do not see the "x" button to close the pop-up so I am forced to refuse one of the two	I want to adhere only to one option but I do not know how to refuse one of the two	I will share the contact of my friends who want to buy sustainable	I don't see anything wrong	I am very annoyed by all these notifications, I will silence them/delete the application	I want to read the terms and conditions before submitting	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I am happy to subscribe	
5/3/2022 0:37:46	Woman	19 - 24 years old	Employed	Yes	Instagram, Facebook, LinkedIn	Yes	Every 10 days	Yes	Option 2	Option 1	Option 2	Option 1	Option 2	Option 2	I close the pop-up without even read it	I keep the pre-selected shipping method	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart, for sure it will be related to shipping costs	I don't pay attention to the notifications I receive	I want to read the terms and conditions before submitting	I can easily understand that I can opt for no-registration	I need more information about the destination of my donation	I would like to continue without premium but I don't understand how	

Timestamp	Gender	Age	Education	Q5	Social media	Q7	Frequency	Q9	Opt1	Opt2	Opt3	Opt4	Opt5	Opt6	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	Comment
5/3/2022 0:57:57	Woman	25 - 29 years old	Bachelor degree	Yes	Instagram	Yes	Less than once a month	No	Option 2	Option 2	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I keep the pre-selected shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form in this interface	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	
5/3/2022 10:24:42	Man	30-39 years old	Bachelor degree	Yes	Instagram, Facebook, LinkedIn	Yes	Less than once a month	No	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I think it is interesting but I do not have enough information to be convinced	I need more information to take a conscious decision	I do not see the "x" button to close the pop-up so I am forced to visit the page	I understand how to select only the option I am interested in	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I want to read the terms and conditions before submitting	I see more than one dark pattern in this interface	I need more information about the destination of my donation	I understand how to avoid subscribing so I will continue without premium version	
5/3/2022 11:23:08	Man	19 - 24 years old	Bachelor degree	Yes	Instagram, Facebook, LinkedIn, Tiktok	Yes	Every 10 days	No	Option 1	Option 1	Option 2	Option 2	Option 2	Option 1	I think it is interesting but I do not have enough information to be convinced	I don't have time to wait, I choose Fast shipping method	I do not see the "x" button but the discount incentives me to visit the page	I feel obliged to provide some kind of Information, I do not like it	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart and I will change the settings to remove it from my bill	I accept some notification but in this case they are too frequent	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I need more information about the destination of my donation	I would like to vision the other plans as well before subscribing	
5/3/2022 16:55:44	Man	19 - 24 years old	Bachelor degree	Yes	Instagram, Facebook, Twitter, Tiktok	Yes	Once a month	No	Option 1	Option 1	Option 1	Option 1	Option 2	Option 1	I did not know this information, I will be more careful with my purchases in the future	I opt for the Standard shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I feel obliged to provide some kind of Information, I do not like it	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart and I will change the settings to remove it from my bill	I don't pay attention to the notifications I receive	I want to read the terms and conditions before submitting	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I am happy to subscribe	
5/3/2022 19:56:28	Man	30-39 years old	Employed	Yes	Instagram, Facebook, Twitter	Yes	Twice a week	Yes	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I don't have time to wait, I choose Fast shipping method	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	Interesting work! There's a nice book by Johanna Drucker - Graphesis - Visual Forms of Knowledge Production, you might like...
5/3/2022 23:22:42	Man	30-39 years old	Bachelor degree	Yes	Instagram, Facebook, LinkedIn	Yes	Once a week	No	Option 2	Option 1	Option 2	Option 1	Option 1	Option 1	I did not know this information, I will be more careful with my purchases in the future	I need more information to take a conscious decision	I see the "x" button to close the pop-up, I click on it	I want to adhere only to one option but I do not know how to refuse one of the two	I do not want to share information so I will not use the coupon	I see an element added to my cart, for sure it will be related to shipping costs	I am very interested about this topic and the tips the app gives me	I want to read the terms and conditions before submitting	I want to participate to a good action for the planet	I need more information about the destination of my donation	I would like to vision the other plans as well before subscribing	
5/5/2022 22:34:41	Woman	19 - 24 years old	Master degree	Yes	Instagram	Yes	More than once a month	Yes	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I do not see the "x" button but the discount incentives me to visit the page	I want to adhere only to one option but I do not know how to refuse one of the two	I need more information about data management before choosing	I see an element added to my cart and I will change the settings to remove it from my bill	I am very interested about this topic and the tips the app gives me	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I need more information about the destination of my donation	I would like to continue without premium but I don't understand how	
5/5/2022 22:35:04	Woman	19 - 24 years old	Highschool	Yes	Instagram, Facebook	Yes	Less than once a month	No	Option 2	Option 2	Option 2	Option 1	Option 1	Option 1	I ignore the information and go on with the purchase	I opt for the Standard shipping method	I do not see the "x" button but the discount incentives me to visit the page	I want to adhere only to one option but I do not know how to refuse one of the two	I need more information about data management before choosing	I see an element added to my cart and I will change the settings to remove it from my bill	I accept some notification but in this case they are too frequent	I am very interested in sustainability, this is why I have chosen this website	I see more than one dark pattern in this interface	I am pleased to donate some money to help the planet	I understand how to avoid subscribing so I will continue without premium version	
5/5/2022 22:37:39	Woman	30-39 years old	Employed	Yes	Instagram, Facebook, LinkedIn	Yes	Once a month	No	Option 2	Option 2	Option 2	Option 1	Option 2	Option 1	I did not know this information, I will be more careful with my purchases in the future	I need more information to take a conscious decision	I see the "x" button to close the pop-up, I click on it	I understand how to select only the option I am interested in	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I want to read the terms and conditions before submitting	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	
5/5/2022 22:38:44	Woman	19 - 24 years old	Master degree	Yes	Instagram, Facebook, LinkedIn	Yes	Once a month	No	Option 2	Option 2	Option 2	Option 2	Option 2	Option 1	I close the pop-up without even read it	I opt for the Standard shipping method	I do not see the "x" button but the discount incentives me to visit the page	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I will fill the form and continue with my booking even if I don't think the two topics are related	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing	Hi Chiara! Your work seems very interesting! Good luck with the thesis! :)
5/5/2022 22:39:05	Man	25 - 29 years old	Employed	Yes	Instagram, Facebook, LinkedIn	Yes	Once a month	Yes	Option 1	Option 2	Option 2	Option 2	Option 1	Option 1	I close the pop-up without even read it	I don't have time to wait, I choose Fast shipping method	I do not see the "x" button but the discount incentives me to visit the page	I feel obliged to provide some kind of Information, I do not like it	I would share my entire contact list: it is a present, it would be a pity not to use it	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I need more information about the destination of my donation	I would like to continue without premium but I don't understand how	
5/5/2022 22:42:19	Woman	25 - 29 years old	Employed	Yes	Instagram, LinkedIn	No		No	Option 1	Option 1	Option 2	Option 2	Option 2	Option 1	I ignore the information and go on with the purchase	I need more information to take a conscious decision	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing	
5/5/2022 22:45:49	Woman	19 - 24 years old	Employed	Yes	Instagram, Facebook, LinkedIn, Tiktok	Yes	More than once a month	No	Option 2	Option 2	Option 1	Option 1	Option 2	Option 1	I close the pop-up without even read it	I don't have time to wait, I choose Fast shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	
5/5/2022 23:11:00	Man	25 - 29 years old	Employed	Yes	Instagram, Facebook, LinkedIn, Twitter	Yes	Every 10 days	Yes	Option 1	Option 1	Option 2	Option 1	Option 2	Option 1	I think it is interesting but I do not have enough information to be convinced	I need more information to take a conscious decision	I do not see the "x" button to close the pop-up so I am forced to visit the page	I understand how to select only the option I am interested in	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart and I will change the settings to remove it from my bill	I accept some notification but in this case they are too frequent	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	
5/5/2022 23:37:23	Woman	19 - 24 years old	Bachelor degree	Yes	Instagram, Facebook	No		No	Option 2	Option 2	Option 2	Option 1	Option 2	Option 2	I close the pop-up without even read it	I opt for the Standard shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I do not see the link between the two topics	I would like to vision the other plans as well before subscribing	
5/5/2022 23:39:50	Woman	19 - 24 years old	Bachelor degree	Yes	Instagram, Facebook, LinkedIn	Yes	Once a week	No	Option 2	Option 2	Option 2	Option 1	Option 2	Option 2	I close the pop-up without even read it	I opt for the Standard shipping method	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I accept some notification but in this case they are too frequent	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I don't want to be asked for money by a pop-up	I understand how to avoid subscribing so I will continue without premium version	

Timestamp	Gender	Age	Education	Q1	Social media	Q2	Frequency	Q3	Opt A	Opt B	Opt C	Opt D	Opt E	Opt F	Pop-up	Shipping	X-button	Sign-in	Share	Cart	Notifications	Form	Register	Dark pattern	Money	Plans
5/6/2022 0:05:26	Woman	19 - 24 years old	Master degree	Yes	Instagram, Facebook, Twitter, Tiktok	Yes	Once a month	Yes	Option 1	Option 2	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I keep the pre-selected shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I will fill the form and continue with my booking even if I don't think the two topics are related		I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing
5/6/2022 0:22:38	Woman	25 - 29 years old	Employed	Yes	Instagram, Facebook, LinkedIn, Twitter, Tiktok	Yes	Once a week	No	Option 1	Option 2	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I keep the pre-selected shipping method	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very interested in sustainability, this is why I have chosen this website		I can easily understand that I can opt for no-registration		I don't want to be asked for money by a pop-up	I would like to continue without premium but I don't understand how
5/6/2022 10:04:05	Woman	19 - 24 years old	Secondary school	Yes	Instagram, Facebook, Twitter	Yes	More than once a month	No	Option 2	Option 1	Option 1	Option 2	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I impulsively click on the "Register" button because it is hard to se the no-registration option	I do not see the link between the two topics		I would like to continue without premium but I don't understand how
5/10/2022 9:14:51	Man	> 60 years old	Master degree	Yes	LinkedIn, Twitter	Yes	More than once a month	No	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I think it is interesting but I do not have enough information to be convinced	I opt for the Standard shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I feel obliged to provide some kind of Information, I do not like it	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I want to read the terms and conditions before submitting		I would like to continue without premium but I don't understand how
5/10/2022 9:15:03	Man	> 60 years old	Master degree	Yes	Instagram, Facebook, LinkedIn, Twitter	Yes	Once a week	No	Option 2	Option 1	Option 1	Option 2	Option 2	Option 1	I close the pop-up without even read it	I opt for the Standard shipping method	I see the "x" button to close the pop-up, I click on it	I understand how to select only the option I am interested in	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration			I understand how to avoid subscribing so I will continue without premium version
5/10/2022 11:51:52	Man	50 - 60 years old	Highschool	Yes	LinkedIn	Yes	Once a month	No	Option 1	Option 2	Option 2	Option 1	Option 1	Option 1	I ignore the information and go on with the purchase	I opt for the Standard shipping method	I do not see the "x" button but the discount incentives me to visit the page	I feel obliged to provide some kind of Information, I do not like it	I need more information about data management before choosing	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data		I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to continue without premium but I don't understand how
5/15/2022 11:43:41	Man	25 - 29 years old	Employed	Yes	Instagram, Facebook, LinkedIn	Yes	Every 10 days	No	Option 1	Option 1	Option 2	Option 1	Option 1	Option 1	I close the pop-up without even read it	I opt for the Standard shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I need more information about data management before choosing	I see an element added to my cart but I don't understand how to remove it so I will pay the entire amount	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data		I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to continue without premium but I don't understand how
5/15/2022 12:06:59	Man	19 - 24 years old	Master degree	Yes	Instagram, LinkedIn, Twitter	Yes	Every 10 days	No	Option 1	Option 1	Option 2	Option 2	Option 2	Option 1	I close the pop-up without even read it	I opt for the Standard shipping method	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data		I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing
5/15/2022 12:18:47	Man	19 - 24 years old	Bachelor degree	Yes	Instagram, Facebook, LinkedIn, Twitter, Tiktok	Yes	Twice a week	No	Option 2	Option 2	Option 2	Option 2	Option 2	Option 1	I close the pop-up without even read it	I opt for the Standard shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data		I see more than one dark pattern in this interface	I don't want to be asked for money by a pop-up	I would like to continue without premium but I don't understand how
5/15/2022 16:31:14	Woman	25 - 29 years old	Master degree	Yes	Instagram, LinkedIn	Yes	Once a month	Yes	Option 1	Option 2	Option 1	Option 1	Option 1	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I do not see the "x" button but the discount incentives me to visit the page	I do understand how to skip the sign-in phase	I need more information about data management before choosing	I see an element added to my cart, for sure it will be related to shipping costs	I don't pay attention to the notifications I receive	I will fill the form and continue with my booking even if I don't think the two topics are related	I impulsively click on the "Register" button because it is hard to se the no-registration option	I do not see the link between the two topics		I would like to vision the other plans as well before subscribing
5/15/2022 21:53:34	Woman	19 - 24 years old	Employed	Yes	Instagram, LinkedIn, Tiktok	Yes	Once a month	Yes	Option 1	Option 1	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I keep the pre-selected shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration	I do not see the link between the two topics		I would like to vision the other plans as well before subscribing
5/15/2022 22:00:38	Man	19 - 24 years old	Master degree	Yes	Instagram, LinkedIn	No		No	Option 1	Option 1	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I would share my entire contact list: it is a present, it would be a pity not to use it	I see an element added to my cart, for sure it will be related to shipping costs	I accept some notification but in this case they are too frequent		I can easily understand that I can opt for no-registration	I do not see the link between the two topics		I would like to continue without premium but I don't understand how
5/27/2022 11:23:43	Woman	25 - 29 years old	Master degree	Yes	Instagram, Facebook, LinkedIn, Tiktok	Yes	Less than once a month	No	Option 1	Option 1	Option 2	Option 2	Option 2	Option 1	I did not know this information, I will be more careful with my purchases in the future	I opt for the Standard shipping method	I do not see the "x" button but the discount incentives me to visit the page	I do understand how to skip the sign-in phase	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I accept some notification but in this case they are too frequent	I will fill the form and continue with my booking even if I don't think the two topics are related				I would like to vision the other plans as well before subscribing
5/27/2022 11:27:53	Woman	19 - 24 years old	Master degree	Yes	Instagram, LinkedIn	Yes	Once a month	Yes	Option 1	Option 2	Option 2	Option 2	Option 2	Option 2	I close the pop-up without even read it	I keep the pre-selected shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I do understand how to skip the sign-in phase	I need more information about data management before choosing	I see an element added to my cart and I will change the settings to remove it from my bill	I am very annoyed by all these notifications, I will silence them/delete the application	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration			I would like to vision the other plans as well before subscribing
5/27/2022 11:33:51	Woman	19 - 24 years old	Bachelor degree	Yes	Instagram, Facebook, LinkedIn, Twitter, Tiktok	Yes	Once a month	Yes	Option 1	Option 1	Option 1	Option 2	Option 2	Option 1	I ignore the information and go on with the purchase	I need more information to take a conscious decision	I see the "x" button to close the pop-up, I click on it	I understand how to select only the option I am interested in	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart and I will change the settings to remove it from my bill	I don't pay attention to the notifications I receive	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration		I don't want to be asked for money by a pop-up	I would like to vision the other plans as well before subscribing
5/27/2022 11:38:40	Woman	19 - 24 years old	Bachelor degree	Yes	Instagram, Facebook	Yes	Every 10 days	No	Option 2	Option 1	Option 2	Option 2	Option 2	Option 1	I think it is interesting but I do not have enough information to be convinced	I keep the pre-selected shipping method	I do not see the "x" button to close the pop-up so I am forced to visit the page	I understand how to select only the option I am interested in	I do not want to share information so I will not use the coupon	I see an element added to my cart and I will change the settings to remove it from my bill	I accept some notification but in this case they are too frequent	I don't want to fill the form and share my data	I can easily understand that I can opt for no-registration			I would like to vision the other plans as well before subscribing

Timestamp	Gender	Age	Education	Q	Social media	Q	Frequency	Q	Q	Q	Q	Q	Q	Q	Col A	Col B	Col C	Col D	Col E	Col F	Col G	Col H	Col I	Col J	Col K	Col L
5/27/2022 12:48:49	Woman	19 - 24 years old	Master degree	Yes	Instagram, Facebook, LinkedIn	No		No	Option 2	Option 2	Option 2	Option 2	Option 2	Option 2	I think it is interesting but I do not have enough information to be convinced	I opt for the Standard shipping method	I do not see the "x" button but the discount incentives me to visit the page	I do understand how to skip the sign-in phase	I would share my entire contact list: it is a present, it would be a pity not to use it	I see an element added to my cart but I don't understand how to remove it so I will pay the entire amount	I am very annoyed by all these notifications, I will silence them/delete the application	I want to read the terms and conditions before submitting	I see more than one dark pattern in this interface	I do not see the link between the two topics	I understand how to avoid subscribing so I will continue without premium version	
5/27/2022 13:37:17	Woman	25 - 29 years old	Employed	Yes	Instagram, Facebook, LinkedIn	Yes	Every 10 days	Yes	Option 1	Option 2	Option 2	Option 1	Option 2	Option 1	I did not know this information, I will be more careful with my purchases in the future	I need more information to take a conscious decision	I do not see the "x" button but the discount incentives me to visit the page	I understand how to select only the option I am interested in	I would share my entire contact list: it is a present, it would be a pity not to use it	I see an element added to my cart but I don't understand how to remove it so I will pay the entire amount	I am very interested about this topic and the tips the app gives me	I will fill the form and continue with my booking even if I don't think the two topics are related	I want to participate to a good action for the planet	I am pleased to donate some money to help the planet	I would like to continue without premium but I don't understand how	
5/27/2022 15:31:46	Man	19 - 24 years old	Secondary school	Yes	Instagram, Facebook, Twitter	Yes	Less than once a month	No	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	I close the pop-up without even read it	I need more information to take a conscious decision	I see the "x" button to close the pop-up, I click on it	I do understand how to skip the sign-in phase	I will share the contact of my friends who want to buy sustainable	I see an element added to my cart and I will change the settings to remove it from my bill	I accept some notification but in this case they are too frequent	I don't want to fill the form and share my data	I see more than one dark pattern in this interface	I need more information about the destination of my donation	I would like to continue without premium but I don't understand how	