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2022

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ILLUMINATING MANIPULATIVE DESIGN: FROM “DARK PATTERNS” TO INFORMATION ASYMMETRY AND THE REPRESSION OF FREE CHOICE UNDER THE UNFAIR COMMERCIAL PRACTICES DIRECTIVE

*Mark Leiser**

Dark patterns' are defined as 'tricks used in websites and apps that make you do things that you didn't mean to, like buying or signing up for something.' The term describes 'deceptive' and 'manipulative' techniques implemented when designing an app, website, or platform to change a user's behaviour in a way that would not have happened without the dark pattern. Yet much of the academic scholarship on the regulation of manipulative design has focused on privacy and data protection legislation. This article identifies seventeen common types of 'dark patterns'. It facilitates critical, legal, and regulatory dialogue by proposing a new taxonomy consistent with the relative provisions of the Unfair Commercial Practices Directive (UCPD). Critical analysis of three respected dark patterns taxonomies provides the basis of analysis of the protections provided to consumers by the UCPD. This approach focuses on the category of dark patterns we refer to as relying on 'Information Asymmetry' and an analysis of practices we identify as causing 'Free Choice Repression.' The article closes with policy recommendations to improve the regulation of dark patterns for commercial purposes.

Keywords: dark patterns, manipulative design, consumer protection, Unfair Commercial Practices Directive, regulation

1. Introduction

Lawmakers and regulators are increasingly expressing concerns about the rise and use of manipulative design techniques implemented into user interfaces across web pages, social media networks, apps, and platforms.¹ These techniques trick and deceive users into an action they would not have taken without the manipulative design. Collectively these are referred to as '*dark patterns*,' a term which interface designer Harry Brignull coined as 'tricks used in websites and applications that make users do things that they did not mean to, like buying or signing up for something.'² Mathur *et al.* define dark patterns as design choices

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¹ J. Luguri and L. Strahilevitz, 'Shining a Light on Dark Patterns' (2021) 13 *Journal of Legal Analysis* 43, 44.

² Harry Brignull, *Dark Patterns* (2010) at <https://www.darkpatterns.org/> (last visited 27 September 2021); See also A. Mathur, J. Mayer and M. Kshirsagar, 'What Makes a Dark Pattern... Dark? Design Attributes, Normative

that ‘benefit an online service by coercing, steering, and deceiving users into making decisions that they may not when fully informed and capable of selecting alternatives’ and are culpable for ‘causing financial loss, tricking users into sharing large amounts of personal data, or inducing compulsive and addictive behaviour.’³ Dark patterns make it difficult and expensive for users to express their actual preferences. Accordingly, both American and European regulators began not only raising their disapproval of⁴ but introducing legislation to prevent their use⁵ and have even brought enforcement proceedings against major technology platforms accused of using dark patterns and manipulative design.⁶

There are many user interface design features referred to as dark patterns, which amount to manipulative design. Leiser warns that using the term ‘dark patterns’ ‘risks amalgamating all forms of manipulative design under the scope of one regulatory regime’. The term may be misused to describe unfriendly interfaces or unfavourable design features.⁷ Unsurprisingly, the academic response to the rise of dark patterns is limited to developing various taxonomies, many of

Considerations, and Measurement Methods’ (Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, Article no. 360, 2021), 3 at <https://doi.org/10.1145/3411764.3445610> (last visited 27 September 2021).

³ A. Mathur, G. Acar, M. Friedman, E. Lucherini, J. Mayer, M. Chetty and A. Narayanan, ‘Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites’ (2019) 3 *Proceedings of the ACM on Human Computer Interaction* 81, 82.

⁴ For example, the Federal Trade Commission (FTC) hosted a workshop entitled ‘Bringing Dark Patterns to Light’ to explore dark patterns and their harm, and especially criticized several dark patterns instances in the opening remarks, including sneaking items, and confusing questions or procedures for cancellation; see ‘Bringing Dark Patterns to Light: An FTC Workshop’ FTC, 29 April 2021 at <https://www.ftc.gov/news-events/events-calendar/bringing-dark-patterns-light-ftc-workshop> (last visited 27 September 2021). A report by the Norwegian Consumer Council (NCC) also revealed concerns about the use of dark patterns by Facebook, Google and Microsoft; see ‘Deceived by Design’ NCC, 27 June 2018 at <https://fil.forbrukerradet.no/wp-content/uploads/2018/06/2018-06-27-deceived-by-design-final.pdf> (last visited 27 September 2021).

⁵ The California Consumer Privacy Act 2018 (CCPA) in the United States is believed to bring new opportunities to regulate unethical or unlawful designs which harm users’ privacy; see C. Gray, C. Santos, N. Bielova, M. Toth and D. Clifford, ‘Dark Patterns and the Legal Requirements of Consent Banners: An Interaction Criticism Perspective’ (Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, Article no. 172, 2021), 1 at <https://doi.org/10.1145/3411764.3445779> (last visited 27 September 2021). In April 2021, the European Commission proposes the Artificial Intelligence Act, which may help regulate the dark patterns in relation to AI and machine learning.

⁶ For example, Amazon was indicted by the Norwegian Consumer Council (NCC) for the use of the dark pattern to promote its Prime service; see ‘Complaint against Amazon Prime’ NCC, 14 January 2021 at <https://fil.forbrukerradet.no/wp-content/uploads/2021/01/complaint-against-amazon-prime.pdf> (last visited 27 September 2021).

⁷ M. Leiser, ‘Dark Patterns’: the Case for Regulatory Pluralism’ LawArXiv 16 July 2020, 1 at <https://doi.org/10.31228/osf.io/ea5n2> (last visited 27 September 2021).

which are variations of Brignull's original classification based on technical characteristics of dark patterns, their strategies, or intent to deceive.⁸ Other work from consumer and market law researchers has attempted to 'quantify the effectiveness of dark patterns in convincing online consumers to undertake actions that they would otherwise prefer not to.'⁹ Other work, citing non-compliance with the General Data Protection Regulation's transparency and fairness principle¹⁰ and the manipulation of users into granting consent to data processing,¹¹ has focused on the role of European data protection law in protecting data subjects from the rise of manipulative design.

However, consumer protection shields users from trickery and deception purposely integrated into user interfaces and system architectures. The Unfair Commercial Practice Directive (hereafter, UCPD)¹² regulates unfair business-to-consumer commercial practices and, therefore, is ripe for addressing the phenomena of dark patterns and manipulative design. As the UCPD and consumer

⁸ 12 types of dark patterns had been identified by Brignull in 2010, while in 2021, the number of identified dark pattern variants reached at least 27; see Luguri and Strahilevitz, n 1 above, 52; Mathur *et al* (2019), n 3 above, 84. Examples include the taxonomy proposed by Conti and Sobiesk, which contains several categories that have different names but essentially overlap with Brignull's original classification, (such as 'Confusion', which is the same as Brignull's 'Trick Questions'); see G. Conti and E. Sobiesk, 'Malicious Interface Design: Exploiting the User' (Proceedings of the 19th International Conference on World Wide Web 271, 2010), 272-273 at <https://doi.org/10.1145/1772690.1772719> (last visited 27 September 2021). By collapsing several of Brignull's patterns into one new category, Gray *et al* taxonomy condenses Brignull's original classification. 'Roach Motel' and 'Price Comparison Prevention' from Brignull are grouped into a new category called 'Obstruction', for instance); see C. Gray, Y Kou, B. Battles, J. Hoggatt, and A. Toombs, 'The Dark (Patterns) Side of UX Design' (Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems, Article no.534, 2018), at <https://doi.org/10.1145/3173574.3174108> (last visited 27 September 2021). Mathur *et al* established their taxonomy by collapsing and splitting both Brignull's categories and some new identified patterns like 'Testimonials' and 'High-demand Message'; see Mathur *et al* (2019), n 3 above. Some researchers directly adopt Brignull's classification in their studies, like Özdemir; see Ş. Özdemir, 'Digital nudges and dark patterns: The angels and the archfiends of digital communication' (2020) 35 Digital Scholarship in the Humanities 417.

⁹ Luguri and Strahilevitz, n 1 above, 45.

¹⁰ Personal data shall be processed lawfully, fairly and in a transparent manner in relation to the data subject ('lawfulness, fairness, transparency'), GDPR, Art 5(a).
¹¹ See for example, *ibid*. See also M. Nouwens, I. Liccardi, M. Veale, D. Karger and L. Kagal 'Dark Patterns after the GDPR: Scraping Consent Pop-ups and Demonstrating their Influence' (Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems, Article no. 194, 2020), at <https://doi.org/10.1145/3313831.3376321> (last visited 27 September 2021).

¹² Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market and amending Council Directive 84/450/EEC, Directives 97/7/EC, 98/27/EC and 2002/65/EC of the European Parliament and of the Council and Regulation (EC) No 2006/2004 of the European Parliament and of the Council ('Unfair Commercial Practices Directive').

law generally have the concept of fairness at its core, this article focuses on Articles 5, 6, 7, 8, and 9 and the Blacklist under Annex I UCPD to determine the extent the UCPD addresses manipulative design.

To facilitate critical dialogue on the effective regulation of dark patterns, we propose a new taxonomy consistent with the legislative structure of the Unfair Commercial Practices Directive. The following section identifies seventeen common 'dark patterns'. These correspond to the categories of the four-level hierarchical taxonomy posited in this article. A critical analysis of three dark patterns taxonomies and a new four-level hierarchical taxonomy follows. The subsequent section analyses the protections under the UCPD available to consumers. The critique of the UCPD focuses on the class of dark patterns we refer to as containing 'Information Asymmetry,' the regulation of practices we classify as 'Free Choice Repression' follows this section. In a consumer-trader context, the notion of Information Asymmetry refers to the fact that traders hold more information than consumers regarding the product. Hiding information, delay in providing information, or wrong information are all possible causes of information asymmetry. The article closes with policy recommendations for improving the regulation of dark patterns for commercial purposes.

2. Describing and Classifying Dark Patterns

A risk of the continued use of the term 'dark patterns' is the growing discordance between legal experts and the Human-computer interaction (HCI) community. HCI is a multidisciplinary field of study focusing on information technology design which allows interaction between human users and computers. (Mis)use of the term 'dark pattern' to attack a practice that appears manipulative is standard. This phenomenon hinders effective regulation

Current studies on dark patterns generally are deficient in discussion on legislative regulation.¹³ For example, there is a lack of significant legal research exploring dark patterns systematically from a consumer protection perspective. Upon review, we determine that consumer protection laws neither prohibit nor belong to the defined category of dark pattern. Furthermore, individuals cannot determine whether a particular practice constitutes a dark pattern and, most importantly, whether this practice is lawful. This current approach to classifying dark patterns might have a limited effect on facilitating critical legal and ethical dialogue on dark patterns.¹⁴ Many of the taxonomies proposed in previous studies are based on and expand Brignull's original classification. This approach is problematic as the variants of dark patterns grow at scale without any meaningful

¹³ 'While legal scholarship infrequently intersects with work from the HCI community ... literature from a legal perspective is vital to our understanding of what practices may be lawful or unlawful, and how these policies emerge and are then tested by the courts,' see Gray *et al* (2021), n 5 above, 4.

¹⁴ The current way of naming types of dark patterns is to highlight technical characteristics or strategies of such groups of dark pattern instances, such as 'Trick questions', 'Sneak into Basket' or 'Price comparison prevention', however, legislations usually aims to protect certain values (like privacy, free choice or autonomy), or to prohibit practices which violate certain protected values, rather than prohibiting specific technologies and methods.

recourse.¹⁵ Thus, Brignull-based taxonomies need consistent adjustment to cover all identified variants. Unfortunately, this has the consequence of an ever-expanding list of categories every time the HCI Community identify a new variant of dark patterns. The scale of variant classification continues to grow.¹⁶ Moreover, specific categories may overlap, hindering systematic and comprehensive legal discussions on dark patterns.¹⁷

Researchers have attempted to establish a systematic knowledge of dark patterns. Yet, understanding between the HCI community and the legal field is not uniform. Unsurprisingly, effective regulation based on insights from the HCI is absent.¹⁸ At the same time, computer scientists are the primary authors of the existing literature on dark patterns. This body of work misses any discussions on law and regulation thereof.¹⁹ This inconsistency of understanding hinders the regulation of dark patterns. Developing systematic regulations to address dark patterns requires creating a feasible taxonomy of dark patterns that effectively covers existing forms but is flexible enough to adapt in the future. Any taxonomy should facilitate, rather than hinder, conversations between the HCI community and the legal field. Accordingly, seventeen types of dark patterns alongside three classification methods are introduced in Sections 2.1 and 2.2, respectively. After investigating the advantages and disadvantages of these methods, Section 2.3 proposes a novel four-level hierarchical taxonomy.

2.1 Examples of Dark Patterns

This study explores seventeen common types of dark patterns. Although some dark patterns are deemed illegal, others remain problematic.

¹⁵ 'In many instances, it will be possible to produce a slight variant of a user interface that simply omits the possible dark pattern,' see Mathur *et al* (2021), n 2 above, 15.

¹⁶ For example, Geronimo *et al* adopted the taxonomy proposed by Gray *et al* in their research, but found that they had to extend and adapt it to their scenario as some dark pattern instances, such as watching an Ad to unlock certain features, were not explicitly included in the taxonomy by Gray *et al*; see L. Geronimo, L. Braz, E. Fregnan, F. Palomba and A. Bacchelli, 'UI Dark Patterns and Where to Find Them: A Study on Mobile Applications and User Perception' (Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems, article 473, 2020), 4 at <https://doi.org/10.1145/3313831.3376600> (last visited 27 September 2021).

¹⁷ Gray *et al* mention in their study that '[W]e identified an overlap of strategies and motivations that could not be articulated within the language set out by Brignull. In addition, the existing categories were not directly in parallel, with some types indicating more specific kinds of content (e.g., advertising, e-commerce) and other types indicating more general strategies (e.g., intentional misdirection, bait and switch);' see Gray *et al* (2018), n 8 above, 4.

¹⁸ Some patterns may not fall within the current scope of law enforcement as they 'fit less comfortably within the categories of deceptive or misleading trade practices', and 'there is lingering uncertainty as to how much the FTC's authority to restrict unfair trade practices will empower the agency to restrict that behavior;' see Luguri and Strahilevitz, n 1 above, 47.

¹⁹ *ibid* 83.

- (1) One of Brignull's original dark patterns²⁰, *trick question*, is a query designed in a manner that obtains certain information at first glance. However, a closer reading reveals a different, insidious objective. They trick or drive users to undertake a particular action. By making opting out of a platform's services more burdensome than opting in or converting users' understanding of the consequences of their choice by confusing language, the use of Trick Questions risks creating an asymmetrical relationship.²¹ To achieve the effect of Trick Questions, traders use 'confusing wording, double negatives, or leading language to manipulate user interactions.'²² 'OK or Cancel' is an example of the trick question dark pattern. Shopping websites display a confirmation notification (e.g., 'Are you sure you want to cancel your order?') to prevent users from accidentally deleting their orders. However, as shown in Figure 1, confirming questions and their selections confuse. Users may think that the option of 'cancel' implies 'delete this order,' whereas the option means 'closes the notification and does not delete the order.' The registration page of 'Royalmail.co.uk' (Figure 2) is another example of a 'trick question.' The first question is an opt-out question, requesting users to tick how they *do not* wish to be contacted (post, telephone, email, SMS, and other electronic means). However, the same four selection boxes abruptly transform into an opt-in question, wherein ticking a box implies that the user is willing to communicate in this manner.

Approved on 15 March 2021, under the updated California Consumer Privacy Act (CCPA), Trick Questions are illegal.²³ The new regulations ban practices with "the substantial effect of subverting or impairing a consumer's choice to opt-out" and provide illustrative examples of prohibited practices, including using double-negatives like "Don't not Sell My Personal Information."²⁴

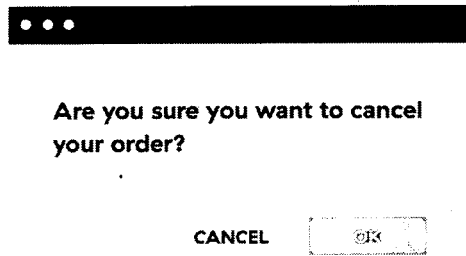


Figure 1: Example of 'Trick Question' (OK or Cancel).

²⁰ Brignull, n 2 above. See also Mathur *et al* (2019), n 3 above, 97.

²¹ See Mathur *et al* (2019), *ibid*.

²² Gray *et al* (2018), n 8 above, 8.

²³ State of California Department of Justice, at <https://oag.ca.gov/news/press-releases/attorney-general-becerra-announces-approval-additional-regulations-empower-data> (last visited 27 September 2021).

²⁴ California Consumer Privacy Act 2021, s 999.315 (h).

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Figure 2: Example of ‘Trick Question’ (Royalmail.co.uk)

- (2) Sneak into Basket: Across a user’s purchasing journey, the website adds additional products to the customers’ basket without their consent through²⁵, for example, an opt-out radio button or checkbox on a previous page.²⁶ The Sneak into Basket dark pattern ‘exploits the default effect cognitive bias in users’ to trick them to stick with the products it adds to the basket.²⁷ These amount to selling practices that send unsolicited goods and services to consumers in the expectation that the consumers would accept and pay for the received goods or services rather than return those. However, in the context of Sneak into Basket, consumers need to be more vigilant; they have to be aware of added-by-default products and take proactive action to remove them.²⁸ Mathur *et al.* describe Sneak into Basket dark patterns as “at least partially deceptive” if the nature of the added item is incorrectly represented and “information hiding” if the process of adding products is deliberately disguised. However, these would amount to “not covert” as “users can visibly see and realize that the website included additional products to their shopping carts.”²⁹ Although some reports or articles have briefly mentioned that Sneak into Basket has been deemed illegal³⁰, no case or official document can provide more details about legal compliance, like whether gifts added by default would also be considered illegal.

²⁵ Brignull, n 2 above. See also Mathur *et al* (2019), n 3 above, 94.

²⁶ *ibid.*

²⁷ Mathur *et al* (2019), n 3 above, 93.

²⁸ *ibid.*

²⁹ *ibid.*

³⁰ For example, Brignull mentioned that “[i]t (Sneak into Basket) is now illegal in the UK and various EU countries, thanks to the Consumer Rights Directive;” see Brignull, n 2 above. The Interaction Design Foundation also stated that “the European Commission illegalized this design pattern (Sneak into Basket) under the consumer rights directive;” see the Interaction Design Foundation at <https://www.interaction-design.org/literature/topics/sneaking-into-basket> (last visited 27 September 2021).

- (3) Roach Motel: Another one of Brignull's original typology of dark patterns³¹ is a design that facilitates users to get into specific scenarios (such as subscribing to a paid membership) while making it difficult to remove. Studies refer to these as 'hard to cancel' or 'obstruction'³². In January 2021, the Norwegian Consumer Council (NCC) indicted Amazon for using the dark pattern design to promote Amazon Prime, a paid digital subscription service. Amazon placed obstacles before consumers who wish to cancel their Prime membership: as cancelling a subscription involved complex and cumbersome steps such as complex navigation menus, skewed wording, confusing options, and repeated nudging, approximately one in four consumers experienced difficulty unsubscribing.³³ The Roach Motel dark pattern is often combined with Trick Questions and Sneak into Basket. The trader sneaks a subscription into users' shopping carts via a trick question on the checkout page. Users who fall into the trap will soon discover that the process of unsubscribing is extraordinarily troublesome and complicated.³⁴
- (4) A homage to Facebook CEO Mark Zuckerberg for their use of dark patterns to make users overshare their personal data, Privacy Zuckering, involves cleverly designed interfaces that trick users into sharing more information than they intend³⁵, e.g., a privacy reminder that permits users to only 'accept' or 'know more'; namely, the options of one-click to discard the problem or alter the settings following complex steps. Bösch *et al.* describe the practice as 'obscure' as average users would be unable to foresee the consequence of their decisions. Traders design interfaces to mislead users into making a particular decision that may entirely contradict their original intent.³⁶ It is understood as 'easy to register,' it has similar features to the 'Roach Motel's 'hard to cancel'. In 2019, Amazon's payment page was deemed 'misleading' by the UK's independent advertising regulator, the Advertising Standards Authority. Amazon purposely induced individuals to sign up for Prime unintentionally. An interface presented an Amazon Prime up-sell advertisement during the checkout process: a gold box stating 'Order Now with Prime' and a grey box stating 'Continue with FREE One-Day Delivery Pay later.' The presentation and wording induced consumers to consider these different options, although both resulted in users signing up for Prime.³⁷

³¹ Brignull, n 2 above.

³² Mathur *et al* (2019), n 3 above, 102

³³ 'Complaint against Amazon Prime' NCC, 14 January 2021 at <https://fil.forbrukerradet.no/wp-content/uploads/2021/01/complaint-against-amazon-prime.pdf> (last visited 27 September 2021).

³⁴ Brignull, n 2 above.

³⁵ *ibid.*

³⁶ C. Bösch, B. Erb, F. Kargl, H. Kopp and S Pfattheicher, 'Tales from the Dark Side: Privacy Dark Strategies and Privacy Dark Patterns' (2016) 4 *Proceedings on Privacy Enhancing Technologies* 237, 242.

³⁷ 'ASA Ruling on Amazon Europe Core Sarl' ASA, 30 October 2019 at <https://www.asa.org.uk/rulings/amazon-europe-core-sarl-G19-1021643.html> (last visited 27 September 2021).

- (5) **Price Comparison Prevention:** By hindering them from comparing the prices of an item with those of another, the interface design prevents users from making an informed decision.³⁸ For example, the trader displays two brands of apples adjacent to each other. One sold in units and the other in kilograms. A more recent example is ‘Grammarly,’ a tool for scanning common mistakes in typed texts. The premium offers page provides two paid upgrade packages (see Figure 3): premium and business. The features of each package are listed, whereas price (the critical deciding factor) is missing. Users cannot compare the price of packages without clicking the option ‘see a complete feature list.’ Corina Cara suggests that Price Comparison Prevention is one of those severe dark patterns unfair to users and needing official regulation; however, there are various ways to achieve the effect of Price Comparison Prevention. Providing vague or misleading prices (e.g., apples) or placing price information on other website layers (e.g., Grammarly); all variants of Price Comparison Prevention are unfair to consumers.

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- ✓ Admin panel
- ✓ Centralized billing
- ✓ Analytics dashboard
- ✓ Priority email support
- ✓ Account roles and permissions
- ✓ SAML SSO (for accounts with 50+ users)

See complete feature list

Figure 3: Example of ‘Price Comparison Prevention’ (Grammarly)

- (6) **Misdirection:** In one of Brignull’s original typologies of dark patterns, misdirection refers to designs that intentionally draw consumers’ attention to an aspect to distract their attention from another and thereby.³⁹ Brignull’s illustrations of misdirection are confined to practices that use either stylistic or visual tricks. On the other hand, Mathur *et al.* define misdirection as the practice of “us[ing] visuals, language, and emotion to steer users toward or away from making a particular choice.” Confirm Shaming, Trick Questions, Visual Interference and Pressured Selling are in the Misdirection category.⁴⁰

³⁸ Brignull, n 2 above.

³⁹ *ibid.*

⁴⁰ Mathur *et al.* (2019), n 3 above, 96.

‘Visual Interference’ is a commonly used method in this category. For example, certain websites may inflate certain information by making it more prominent than others or by greying out the decline button to create an illusion that it is unclickable. ‘OK or Cancel,’ classified as Trick Question or some instances in the Easy to Register category, may also be regarded as a type of practice of ‘misdirection.’ An example is that of Delta Air Lines (Delta). As shown in Figure 4, Delta presented two options on their checkout page. Both these lead to checkouts. These two options are presented in red and grey boxes, respectively. Under normal circumstances, the red box should represent a meaning converse to or different from the grey box, such as checkout versus cancelling an order. Not all dark pattern studies keep Brignull’s Misdirection in their taxonomies. For example, in the study of Gray *et al.*, the Misdirection of dark patterns was imported into the category of ‘Aesthetic Manipulation,’ which refers to any manipulation of the user interface.⁴¹



Figure 4: Example of ‘Misdirection’ (Delta Air Lines)

- (7) Hidden Costs: One of Brignull’s original typologies of dark patterns⁴², hidden costs describe when consumers reach the final step of the checkout process, certain new additional charges such as delivery fees or taxes abruptly appear. The Hidden Costs dark pattern exploits consumers ‘sunk cost fallacy cognitive bias’: they may hesitate to cancel the purchase because it implies the waste of the efforts invested in the shopping process.⁴³ Consider the example of Agoda, an accommodation or flight online booking website. As shown in Figure 5, on the Agoda website, the price displayed during the search stage is lower than the actual price that needs to be paid because the tax is added at the checkout stage. Gray *et al.* believe that ‘Hidden Costs’ share common features with ‘Sneak into Basket,’ ‘Bait and Switch’, and ‘Forced Continuity’. All are categorized as ‘Sneaking.’⁴⁴ However, Hidden Costs are less severe than other sneaking patterns: By

⁴¹ Gray *et al* (2018), n 8 above, 7.

⁴² Brignull, n 2 above.

⁴³ Mathur *et al* (2019), n 3 above, 93.

⁴⁴ Gray *et al* (2018), n 8 above, 6.

definition, Hidden Costs show the total price before consumers make their payments. Consumers may find this dark pattern annoying, but they are free to delete the entire order if they want; the harm to their autonomy is not as severe as other sneaking patterns such as Sneak into Basket.

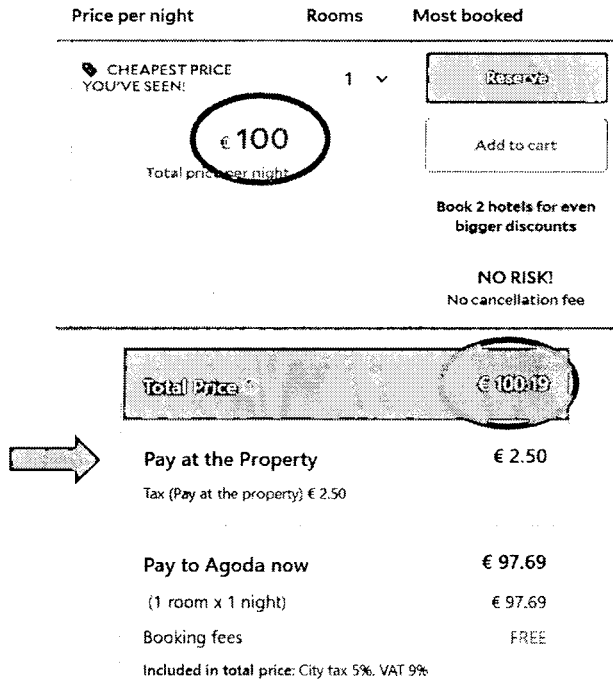


Figure 5: Example of 'Hidden Costs' (Agoda)

- (8) Friend Spam: Also one of Brignull's original typologies of dark patterns,⁴⁵ the product or service seeks the consumer's permission to access his email or social media accounts under the guise of using it to provide him with a desirable outcome (e.g., identifying friends for him). However, it then covertly sends a message in his name to all his contacts. LinkedIn, a social networking website with over 200 million users, is an example. It sought to expand its membership because three of its main revenue avenues are related to registered users. In 2014, regulators accused LinkedIn of harvesting the email addresses from the friend lists of its registered users and then sending the invitation email to these email addresses in the name of the registered users.⁴⁶ LinkedIn agreed to a settlement of USD 13 million for the dishonest practice the following year. Cara notes that Friend Spam is found under different names such as Growth to Spam, Fake Friend Request, Deceiving Lists, or Social Pyramid and regards Friend Spam as a severe dark pattern that needs official regulation. However, Mathur *et al.* skipped this pattern

⁴⁵ Brignull, n 2 above.

⁴⁶ *Perkins v LinkedIn Corp.*, 53 F. Supp. 3d 1222 (N.D. Cal. 2014).

in their study.⁴⁷ Gray *et al.* consider Brignull's Friend Spam as a form of Social Pyramid pattern (i.e., users can benefit from the platform by recruiting their friends to use this service).⁴⁸ Zagal *et al.* use 'Impersonation' to refer to Brignull's Friend Spam.⁴⁹

- (9) Bait and Switch: In Brignull's original dark patterns, users set out to undertake an action, whereas a different, undesirable event occurs.⁵⁰ Microsoft's design is an example of this. In 2015, the company launched its Windows 10 operating system. It frequently showed pop-up windows to remind its users to upgrade. However, Microsoft was observed using bait and switch dark patterns to misguide users to upgrade their computers: they convert the meaning of the 'X' button at the top right from its normal one of 'close' to the converse one of 'Yes, I wish to upgrade to Windows 10'. The upgrade starts directly after the user clicks the 'X' button of the pop-up window. Several websites have criticized Microsoft's approach.⁵¹ Gray *et al.* classified Bait and Switch under the 'Sneaking' category with three others from Brignull's dark patterns.⁵² Advertising that involves Bait and Switch, such as advertising a desirable item to get consumers into the store and then substituting something less desirable, would be considered illegal.⁵³
- (10) An advertisement disguised as another type of content or navigation mislead users into clicking it.⁵⁴ An example of hidden advertising comes from Softpedia, one of the world's largest free-to-use software download sites. As shown in Figure 6, users would be navigated to advertisements for paid items when they click the 'free download' button in the central part of the screen. The category of Disguised Advertisement seems redundant as it overlaps with Bait and Switch.

⁴⁷ Mathur *et al.* (2019), n 3 above.

⁴⁸ Gray *et al.* (2018), n 8 above, 8.

⁴⁹ J. Zagal, S. Björk and C. Lewis, 'Dark Patterns in the Design of Games' (Foundations of Digital Games 2013, 2013), 6 at <http://ri.diva-portal.org/smash/record.jsf?pid=diva2%3A1043332&dswid=-2222> (last visited 27 September 2021).

⁵⁰ Brignull, n 2 above.

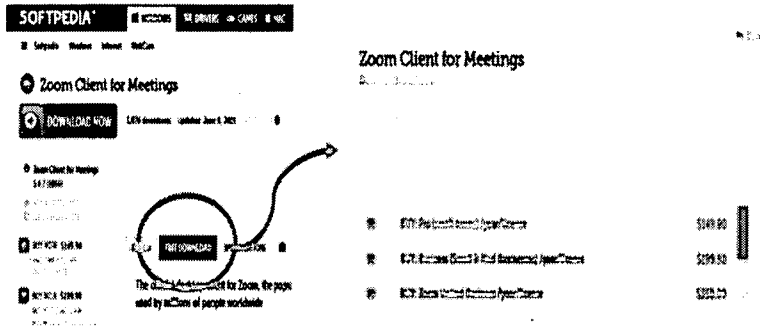
⁵¹ Such as Usetimes at <https://usertimes.io/2019/02/01/bait-and-switch/> (last visited 27 September 2021), UX2 at <https://darkpatterns.uxp2.com/pattern/windows-10-update/> (last visited 27 September 2021).

⁵² Gray *et al.* (2018), n 8 above, 6.

⁵³ Department of Consumer Protection in Connecticut State, at <https://portal.ct.gov/DCP/Common-Elements/Consumer-Facts-and-Contacts/Bait-and-Switch-Advertising> (last visited 27 September 2021).

⁵⁴ Brignull, n 2 above.

Figure 6: Example of Disguised Advertisement (Softpedia)



- (11) **Pressured Selling:** Pressured Selling is a new type of dark pattern identified by Mathur *et al.*, referring to practices that use default settings or high-pressure tactics to steer users to purchase more.⁵⁵ Common ways to achieve Pressured Selling to include using ‘Pop-up dialogues’ to urge consumers to buy more, ‘hot sellers’ or bundled products⁵⁶ or making ‘scarcity claims’ (e.g., ‘100 people are viewing this product’).⁵⁷ ‘Confirm shaming,’ one of the original dark patterns proposed by Brignull,⁵⁸ should also be considered as a sub-category of pressured selling, given that it also affects users’ purchasing decisions by imposing pressure on them. It ‘decorates’ rejected options. It aims to make users feel guilty for selecting the option to decline by wording the opportunity in a manner to shame them, e.g. ‘No thanks; I’m a fool who likes to pay full price’ or ‘You’re going to miss some great deals!’⁵⁹
- (12) **Forced Continuity:** One of Brignull’s original typologies of dark patterns, forced continuity, occurs after users complete a free trial or a one-time purchase. The service subtly starts getting charged from the user’s credit card without notification.⁶⁰ Forced Continuity might be applied with Disguised Advertisement and Bait and Switch, or even

⁵⁵ Mathur *et al* (2019), n 3 above, 99. See also S. Lahoti, ‘A New Study Reveals How Shopping Websites Use ‘Dark Patterns’ to Deceive You into Buying Things You May not Want’, 26 June 2019 at <https://hub.packtpub.com/a-new-study-reveals-how-shopping-websites-use-dark-patterns-to-deceive-you-into-buying-things-you-may-not-want/> (last visited 27 September 2021).

⁵⁶ See Mathur *et al* (2019), *ibid* 99.

⁵⁷ ‘Roundtable on Dark Commercial Patterns Online’ OECD, 19 February 2021, 5

at [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/CP\(2020\)23/FINAL&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DSTI/CP(2020)23/FINAL&docLanguage=En) (last visited 27 September 2021).

⁵⁸ Brignull, n 2 above.

⁵⁹ ‘UX Dark Patterns: Manipulinks and Confirmshaming’ UX Booth, 4 June 2019, at <https://www.uxbooth.com/articles/ux-dark-patterns-manipulinks-and-confirmshaming/> (last visited 27 September 2021)

⁶⁰ Brignull, n 2 above.

Roach Motel (making users find it difficult to cancel the paid membership).⁶¹ It is also known as ‘Hidden Subscription’ and is partially deceptive and information hiding.⁶² Cara believes that Forced Continuity is one of the severe dark patterns unfair to consumers.⁶³ One example is Scott Tucker and his payday lending scheme. Tucker controlled several companies that offered short-term payday loans.

Tucker navigated borrowers to a web page that disclosed the ‘Loan Note and Disclosure’ (Loan Note) document during the loan application process. Loan Note provided the essential terms of the loan as mandated by the Truth in Lending Act (TILA). In contrast, its written explanation was likely to mislead borrowers because it did not accurately disclose the loan’s terms. The top third of such loan notes contained the so-called TILA box, which appears to explain the terms of rate and payment and indicate the total of payments. The fine print states that the lender would renew the loan automatically unless the customer took affirmative steps to prevent the renewal. If consumers do not actively opt-out, they have to pay significantly more than the amount indicated in the TILA box. In 2012, the Federal Trade Commission (FTC) filed a suit and claimed that Tucker and his companies were engaging in unfair or deceptive acts or practices in or affecting commerce.⁶⁴ However, Tucker considers that the Loan Note is not misleading as it is ‘technically correct’.

In 2018, the Ninth Circuit ruled that technical accuracy was insufficient for the FTC Act’s consumer-friendly standard. The Court held that Tucker should be liable as the loan note tends to deceive’.⁶⁵ Another example is ‘ABCmouse’. In April 2021, the FTC ruled that Age of Learning, Inc. must refund over 200,000 individuals for its children’s learning program ‘ABCmouse’ to use the ‘Forced Continuity’ dark pattern. ABC Mouse renewed memberships until cancelled and charged for renewal when users joined.⁶⁶ Occasionally, forced continuity may be considered a subcategory of ‘Roach Motel.’ Before their final ruling, the FTC referred to ABC Mouse as a ‘Roach Motel’ and that ‘these digital traps can come in the form of forced continuity programs.’⁶⁷

- (13) Fake Countdown Timers: Countdown timers are dynamic indicators of deadlines. These count down until the deadline expires. However, the

⁶¹ *ibid.*

⁶² Mathur *et al* (2019), n 3 above, 93-94.

⁶³ Cara, n 41 above, 108.

⁶⁴ ‘FTC Charges Payday Lending Scheme with Piling Inflated Fees on Borrowers and Making Unlawful Threats when Collecting’ FTC, 2 April 2012 at <https://www.ftc.gov/news-events/press-releases/2012/04/ftc-charges-payday-lending-scheme-piling-inflated-fees-borrowers> (last visited 27 September 2021).

⁶⁵ *Federal Trade Commission*, 910 F.3d at 425.

⁶⁶ ‘ABCmouse Refunds’ FTC, July 2021 at <https://www.ftc.gov/enforcement/cases-proceedings/refunds/abcmouse-refunds> (last visited 27 September 2021).

⁶⁷ R. Chopra, ‘Statement of Commissioner Rohit Chopra Regarding the Business Opportunity Rule’ FTC, 14 June 2021 at https://www.ftc.gov/system/files/documents/public_statements/1579927/172_3086_abcmouse_-_rchopra_statement.pdf (last visited 27 September 2021).

sale deadline does not exist, and the countdown timer creates an urgency for sales.⁶⁸ Mathur *et al.* classify (fake) Countdown Timers into the Urgency category, which exploits the scarcity bias of users and creates the effect of ‘fear of missing out’.⁶⁹ In March 2019, the UK Advertising Standards Authority considered the use of fake countdown clocks in advertisements on the website of Prettylittlething.com to be misleading and, therefore, as having breached the advertising codes.⁷⁰

- (14) Limited-time Messages: It is another type of Urgency dark pattern proposed by Mathur *et al.*, similar to Fake Countdown Timers with the difference of ‘a static urgency message without an accompanying deadline’.⁷¹ Limited-time Messages are marginally more honest than Fake Countdown Timers: certain words that trigger urgency (such as ‘would sell out soon’) are not complete lies. An example is a statement conveying that a sale would end shortly, without mentioning the specific time. However, in July 2019, National Advertising Division (NAD), the US advertising industry’s self-regulatory body, decided that an offer clearly stating with a ‘limited time’ must indeed be so. They also held that Nectar Sleep LLC should discontinue their limited-time promotion (which states the following: ‘LIMITED OFFER: USD 125 Off + 2 Free Pillows’) as it was misleading to consumers. The offer in question was determined to be a regular offer, whereas the wording of the request falsely implied that the company sold the product at a higher price and that the pillows remained available for purchase.⁷²
- (15) Testimonials of Uncertain Origin: The website displays recommendations and compliments of other users for the products or services. However, the source or origin of these customer testimonials is not specified clearly.⁷³ Testimonials can be fraudulent: individuals can buy or generate testimonials for their website similarly to buy ‘likes’ for their Facebook pages. In 2012, the Advertising Standards Authority (ASA) ordered TripAdvisor, an online travel company, to rewrite a few of its marketing claims on its website (e.g. ‘more than 50 million honest travel reviews’). The ASA also held that the site must not claim or imply that all its reviews were from real travellers or were honest, genuine, or trusted.⁷⁴ Mathur *et al.* classify Testimonials of Uncertain Origin into their Social Proof dark pattern category, which

⁶⁸ UXP2 Dark Patterns (2017) at <https://darkpatterns.uxp2.com/pattern/spectacles-com-fake-countdown-timer/> (last visited 27 September 2021).

⁶⁹ Mathur *et al.* (2019), n 3 above, 94.

⁷⁰ ‘ASA Ruling on Prettylittlething.com Ltd t/a Prettylittlething.com’ ASA, 27 March 2019 at <https://www.asa.org.uk/rulings/prettylittlething-com-ltd-a19-496242.html> (last visited 27 September 2021).

⁷¹ Mathur *et al.* (2019), n 3 above, 95-96.

⁷² ‘BBB National Programs National Advertising Division Refers Nectar Sleep to FTC After Advertiser Fails to Comply with NAD Decision’ NAD, 10 December 2019 at <https://bbbprograms.org/media-center/newsroom/nad-refers-nectar-sleep-to-ftc> (last visited 27 September 2021).

⁷³ Mathur *et al.* (2019), n 3 above, 99.

⁷⁴ ‘ASA in the news’ ASA, 1 February 2012 at <https://www.asa.org.uk/news/asa-in-the-news.html> (last visited 27 September 2021).

involves practices that accelerate user decision-making by exploiting the bandwagon effect cognitive bias.⁷⁵

- (16) Scarcity: This dark pattern category identified by Mathur *et al.* refers to practices that increase a product's perceived value and desirability. It does this by providing false information of limited availability or high demand.⁷⁶ Certain shopping websites may show 'low stock' or 'high-demand' messages for certain popular products, which induces consumers to conclude that these products are about to be sold out.⁷⁷ As shown in Figure 7, Superette, a Dutch clothes shop, has used the tactic of scarcity on its website. 'Sold Out (Soon)' implies that the product inventory is lower than the purchase demand, whereas the 'Here's what everyone's been loving' may create the illusion of high demand and popularity. The Scarcity of dark patterns is also frequently used by game designers. However, it is unreasonable to claim digital game items are selling out. Some game designers still use texts like 'Hurry, only 47 magic daggers left in our inventory' to artificially create a sense of scarcity.⁷⁸

Figure 7: Example of Scarcity



- (17) Forced Action: Forced Action is a dark pattern proposed by Gray *et al.*, which requires users to complete certain actions to access specific functionality.⁷⁹ According to Gray *et al.*, Brignull's Friend Spam and Privacy Zuckering all belong to the category of Forced Action.⁸⁰ Mathur *et al.* retain this category in their taxonomy and identify 'Forced Enrolment' as one type of the Forced Action dark pattern which coerces users to create accounts and provide their personal information to access the services.⁸¹ As shown in Figure 8, once users enter the website

⁷⁵ Mathur *et al.* (2019), n 3 above, 98.

⁷⁶ *ibid.* 95.

⁷⁷ *ibid.* 99-101.

⁷⁸ Dark Pattern Games (2021) at <https://www.darkpattern.games/pattern/27/artificial-scarcity.html> (last visited 27 September 2021). See also n 49 above, 6.

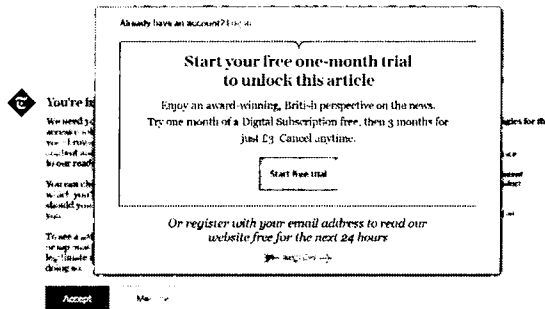
⁷⁹ Gray *et al.* (2018), n 8 above, 8.

⁸⁰ *ibid.*

⁸¹ Mathur *et al.* (2019), n 3 above, 92.

of 'telegraph.co.uk,' a pop-up window that requires registration appears in the central part of the page and obscures the content of the website. There is no option to close this pop-up window, and users can browse the website content only after completing the registration. 'Pay to Skip' and 'Cookie Walls' are other subcategories of forced action. Consider YouTube as an example. Users can be free from being disturbed by advertisements while watching videos, only after subscribing to 'YouTube Premium.' 'Cookie Wall' uses the same strategy and may be understood as 'Accept to Access.' Certain websites require users to accept all cookies and trackers. Otherwise, they cannot continue to browse the site.

Figure 8: Example of Forced Action (telegraph.co.uk)



Consumer protection regulations do not address some dark patterns. The current regulation of dark patterns appears to be on a case-by-case basis rather than a comprehensive legislative framework that indicates which practices are banned. Consumer protection watchdogs intervene when they receive consumer complaints. A complete and systematic regulation requires an appropriate taxonomy that can effectively distinguish between different types of dark patterns, enabling legal intervention. However, the taxonomy shown above hinders comparisons among various kinds of dark patterns because the contexts, strategies, and outcomes are mixed.⁸²

The transformation of all the existing types of dark patterns into categories for developing a taxonomy results in a non-exhaustive and evergrowing list. As a subordination relationship exists between specific categories, they are not precisely parallel to each other. For example, categories of Limited-time Messages and False Countdown Timers indicate more particular techniques. In contrast, categories such as Misdirection are more general and cover a more comprehensive range of practices. Second, certain types of dark patterns are similar in characteristics. Although the application methods differ, fake Countdown Timers and Limited-time Messages create urgency. Other categories may overlap with each other. One practice considered Disguised Advertisement could also be categorized as Bait and Switch. Thus, apart from simply extending

⁸² Gray *et al* (2018), n 8 above, 3.

the list of dark patterns, it is essential to develop a practical taxonomy of techniques that further categorise dark patterns in a manner that connects to legal and regulatory frameworks.

2.2 Related Works on Categorisation of Dark Patterns

Academic literature offers several taxonomies for dark patterns. In 2010, Conti and Sobiesk's taxonomy categorised dark patterns into eleven groups: coercion, confusion, distraction, exploiting errors, forced work, interruption, manipulating navigation, obfuscation, restricting functionality, shock, and trick.⁸³ This taxonomy simplifies Brignull's original typology. First, although the taxonomy alleviates the problem of non-parallelism, the categories and their corresponding definitions still manage to confuse them. For example, fake alarm messages such as 'Your computer is at high risk! Obtaining the best antivirus protection soon' can be classified as both 'coercion' and 'shock.' 'Coercion' may also partially overlap with 'forced work,' particularly for practices such as 'Forced Enrolment.' Meanwhile, categories appear to have a classification basis different from others (Table 1). Confusion, distraction, and shock reflect expected effects on users, whereas most of the classes in this taxonomy (such as exploiting errors, forced work, interruption, or restricting functionality) appear to focus more on the characteristics of implemented practices.

Table 1: Summary of Conti and Sobiesk dark pattern taxonomy

Category	Description	Basis of Classification
Coercion	Intimidating or mandating the user's compliance, including mandatory form field entries or intimidating messages	Characteristics of the implemented practices
Confusion	Asking the user questions or providing information that they do not understand by using methods such as double, triple, or quadruple negatives	The expected effect on users
Distraction	Attracting the user's attention away from their current task by exploiting perception, particularly pre-attentive processing	The expected effect on users
Exploiting Errors	Exploiting user errors to facilitate the interface designer's goals, such as showing advertisement rather than assistance when users type incorrect URLs	Characteristics of the implemented practices

⁸³ G. Conti and E. Sobiesk, 'Malicious Interface Design: Exploiting the User' (Proceedings of the 19th International Conference on World Wide Web 271, 2010), 272-273 at <https://doi.org/10.1145/1772690.1772719> (last visited 27 September 2021).

Forced Work	Deliberately increasing work for the user, such as delaying the user's work effort (forced waiting) or hindering uninstallation (additional workload for specific options)	Characteristics of the implemented practices
Interruption	Interrupting the user's task flow, such as force viewing or using hyper-sensitive interface elements	Characteristics of the implemented practices
Manipulating Navigation	Information architectures and navigation mechanisms that guide the user towards the interface designer's goal, such as dead-end trails/Infinite trails or placing desired content deep in the navigation hierarchy	Characteristics of the implemented practices
Obfuscation	Hiding desired information and interface elements, including strategies such as low contrast colour scheme or masking user-warning messages	Characteristics of the implemented practices
Restricting Functionality	Limiting, hiding, or omitting controls that the user needs to accomplish a task	Characteristics of the implemented practices
Shock	Presenting disturbing content to the user	The expected effect on users
Trick	Misleading the user or other attempts at deception, such as spoofed content or interface elements (including installation of additional software without user's knowledge or consent, or false advertising)	Characteristics of the implemented practices

In 2018, Gray *et al.* developed another taxonomy categorising dark patterns based on 'strategies and potential designer motivations,' i.e., the intention behind applying dark patterns. It further clustered Birgnull's original dark patterns into five categories (see Table 2): nagging, obstruction, sneaking, interface interference, and forced action.⁸⁴ Compared with Conti and Sobiesk's, the taxonomy developed by Grey *et al.* appears to be more streamlined. It covers the original Birgnull categories while preventing the problems of the 'mixture of strategies and explicit contextual or content-centric examples.' Furthermore, it also contains the inconsistent classification observed in Conti and Sobiesk's taxonomy.

There may be a marginal degree of overlap and non-parallelism. This taxonomy reflects different technical characteristics and strategies of practices. However, this taxonomy does not observe the effect of dark pattern practices in each category, nor why they influence users' decisions (such as confounding users, imposing pressure on them, or deceiving them). A dark pattern scenario where a category involves multiple possible effects is also likely. For example, the category of 'obstruction' contains both presentations of misleading

⁸⁴ Gray *et al.* (2018), n 8 above.

information and compulsive designs, which have different legal implications under various provisions of the UCPD. Orienting taxonomies around tech have limited effect facilitating dialogue between legal experts and the HCI community.

Table 2: Summary of the dark pattern taxonomy of Gray *et al.*

Category	Description	Inclusion / examples
Nagging	Redirection of expected functionality that may persist over one or more interactions	A repeated intrusion during a regular interaction that obstructs or redirects the user’s focus, such as pop-up windows
Obstruction	Making a process more difficult than it needs to be, with the intent of dissuading specific action(s)	‘Roach Motel,’ ‘Price Comparison Prevention,’ and ‘Intermediate Currency’ (disconnecting users from the actual dollar value spent to cause the user to interact differently with the virtual currency)
Sneaking	Attempting to conceal, disguise, or delay the divulging of information that is relevant to the user	‘Forced Continuity,’ ‘Hidden Costs,’ ‘Sneak into Basket,’ and ‘Bait and Switch’
Interface Interference	Manipulation of the user interface that privileges specific actions over others, thereby confusing the user or limiting discoverability of significant action possibilities	Includes three subtypes: ‘Hidden Information,’ ‘Preselection’ (user choices that are preselected or obscured), and ‘Aesthetic Manipulation’ (manipulation of aesthetic characteristics for causing misunderstanding of hierarchy or content type, or an unrealistic sense of urgency; e.g. ‘Toying with Emotion,’ ‘False Hierarchy,’ ‘Disguised Advertisement,’ and ‘Trick Questions’)
Forced Action	Requiring the user to perform a specific action to access (or continue to access) certain functionality, which could be a needed step or an option that pretends to be beneficial to the user	‘Privacy Zuckering,’ ‘Gamification’ (certain functionality of a service can only be ‘earned’ by repeating specific action, such as repeatedly killing monsters to gain experience points to level up the user’s character), or ‘Social Pyramid’ (practices that require users to recruit other users to use the service, or ‘Friend Spam’)

Table 3: Cases of Amazon Prime in the taxonomy of Gray *et al.*

Dark pattern practices in the cases		Correspondance to Gray <i>et al.</i> taxonomy	
Type	Description	Category	Explanation
Roach Motel (Hard to Cancel)	Making it difficult to unsubscribe from Prime with complex steps including complex navigation menus, skewed wording, confusing	Obstruction	‘Roach Motel’ is a sub-category of ‘Obstruction
		Interface Interference	Complex navigation menus, skewed wording, confusing choices, and repeated nudging amount to ‘Aesthetic Manipulation,’ a

	choices, and repeated nudging		subcategory of 'Interface Interference.'
		Nagging	Repeated nudging.
Privacy Zuckering (Easy to Register)	Making people sign up for Prime unintentionally with a misleading presentation of options	Forced Action	'Privacy Zuckering' is a type of 'Forced Action.'
		Interface Interference	Misleading presentation of options amounts to 'Aesthetic Manipulation' within the Interface Interference category

After analyzing 53,000 product pages from 11,000 shopping websites, Mathur *et al.* identified 1818 instances, representing fifteen dark patterns from seven broader categories: sneaking, urgency, misdirection, social proof, scarcity, obstruction, and forced action.⁸⁵ Mathur *et al.*'s taxonomy is the first to explain how different dark patterns affect user decision-making systematically. As shown in Table 4, these effects consist of five dimensions: asymmetric, covert, hidden information, deceptive, and restrictive.⁸⁶ Notwithstanding these specific dimensions, the corresponding definitions are unclear, causing distortions.

According to Mathur *et al.*, 'Asymmetric' is defined as an interface design that imposes 'unequal weights or burdens on the available choices presented to the user.' Meanwhile, 'restrictive' refers to user interfaces that 'restrict the set of options available to users.'⁸⁷ These two dimensions appear to overlap with each other. The imposition of unequal weights or burdens on specific options can be considered a method to restrict the options available to users. The overlap problem also appears between 'covert' and 'deceptive'. 'Covert' refers to an interface design that hides the effect of particular options, whereas 'deceptive' is an interface design that induces consumers to trust false information through affirmative misstatements, misleading statements, or omissions.⁸⁸ Broadly, the concealment of the effect of specific options may be considered intentional omissions.

Category	Type	Dimensions of Effect
Sneaking	Sneak into Basket	Deceptive, Hides Information
	Hidden Costs	Deceptive, Hides Information
	Hidden Subscription	Deceptive, Hides Information
Urgency	Countdown Timer	Covert, Deceptive

⁸⁵ Mathur *et al.* (2019), n 3 above, 82 and 93-102.

⁸⁶ *ibid.*

⁸⁷ *ibid.*

⁸⁸ *ibid.*

	Limited-time Message	Covert, Hides Information
Misdirection	Confirm Shaming	Asymmetric
	Visual Interference	Asymmetric, Covert, Deceptive
	Trick Questions	Asymmetric, Covert
	Pressured Selling	Asymmetric, Covert
Social Proof	Activity Message	Covert, Deceptive
	Testimonials	Deceptive
Scarcity	Low-stock Message	Covert, Deceptive, Hides Information
	High-demand Message	Covert
Obstruction	Hard to Cancel	Hides Information, Restrictive
Forced action	Forced Enrolment	Asymmetric, Restrictive

2.3 A New Four-level Hierarchical Taxonomy of Dark Patterns

After investigating the taxonomies above, this article proposes a novel four-level hierarchical taxonomy that provides precise terminology to classify dark patterns more systematically (Figure 9). This taxonomy aims to help researchers and regulators better understand and compare the effects or underlying influence of various dynamic deformations of dark patterns. The taxonomy aligns with the UCPD (the most effective EU-level consumer protection legislation regulating dark patterns).

Daniel Susser *et al.* defined manipulation as follows: ‘to covertly subvert another person’s decision-making power with hidden influence.’⁸⁹ In the dark pattern scenario, the subversion of consumer decision-making capability manipulates individuals through their ‘unawareness of certain information and ‘impossibility of rational choice.’⁹⁰ Unfairness caused by dark patterns is manifested in two aspects: information asymmetry and free choice restriction. Thus, this research first divides all dark patterns into two categories at the second level. Bait and switch is an excellent example of infringing autonomy owing to its highly deceptive characteristics. In ‘bait and switch’ scenarios, consumers perform a particular task, whereas a different undesirable event occurs. The operating rules are altered deliberately to a form that induces consumers to forgo prudence. Given that consumers have no means of knowing the new working practices and the meaning and effects of each option, it is almost unfeasible to make decisions in line with their intentions.

⁸⁹ D. Susser, B. Roessler and H. Nissenbaum, Online Manipulation: Hidden Influences in a Digital World, 4 *Georgetown Law Technology Review* 1 (2019), at 3.

⁹⁰ P. Hacker, ‘Manipulation by Algorithms. Exploring the Triangle of Unfair Commercial Practice, Data Protection, and Privacy Law’ 2021 *European Law Journal* (Forthcoming), 3.

The following types of methods can evoke the unfairness of Information Asymmetry dark patterns to manipulate information transparency: (1) provide incorrect information, (2) withhold certain critical information, and (3) provide or present information in a misleading manner to deceive consumers.

The absence of information transparency would unfairly unbalance the relationship between consumers and sellers. There are varying degrees of severity of manipulation of information transparency. For example, in the 'Sneak into Basket' scenarios, consumers are unaware of the additional items in their shopping baskets. Therefore, they would be unable to respond to it. Information is entirely opaque in this scenario. Hence, the relationship between consumers and sellers is unbalanced. Thus, such practices are considered severe manipulation. Consumers' attention is locked into specific contents (such as a capitalised discount), resulting in the omission of other unapparent prompts (such as the text 'member-only'). In this scenario, the content provided is correct and sufficient (i.e., a discount is offered to members only).

In contrast, the presentation of information can set obstacles to consumers' comprehension of such information correctly. Some instances of this manipulation can also be considered severe. In 'price comparison prevention' scenarios, traders provide the correct and necessary information. However, users need to undertake additional effort to compare the prices of an item with another. Although the manipulative effect of 'price comparison prevention' and 'misdirection' is based on the presentation of information, consumers in the former scenarios are aware of the information ambiguity.

In contrast, those in the latter scenarios may not be. In the former, even when consumers finally decide to purchase a particular product, their decision is based on the inconvenient presentation of price information. When consumers choose to buy a specific product in the latter scenarios, they may mistakenly conjecture that they would obtain a discount.

Based on the proposed taxonomy of this research, Information Asymmetry implies that vendors have more or better information than users, creating an imbalance of power in transactions. This study divides Information Asymmetry into two subcategories at the third level of the taxonomy based on manipulating information transparency: active leading actions and passive misleading missions. At the fourth level, 'active misleading actions' is further separated into two subcategories: (1) to provide false, confounding, deceiving, or exaggerated information actively to mislead consumers ('Misleading Information') and (2) to present information in a misleading manner ('Misleading Presentation'). Meanwhile, 'passive misleading omissions' are divided as follows: (1) fail to provide or omit necessary information ('Hiding Information') and (2) delay the provision of information ('Delaying Provision').

Compared with Information Asymmetry (which focuses on the correctness of information content and honesty presented), Free Choice Restriction addresses the dark pattern types concerning the internal architecture design. Free choice concerns the 'sense of agency,' namely, 'the perception that one is in control of their actions and the outcomes of these actions.' It is also related to 'processes

involved in selection such as fluency.⁹¹ From the marketing strategy perspective, restricting consumers' free choice implies influencing, modifying, and determining their consumption behaviours.⁹²

The third level of the taxonomy divides all dark pattern practices belonging to the Free Choice Repression category into two subcategories: 'Undesirable Imposition' and 'Undesirable Restriction.' The fourth level of the taxonomy divides Undesirable Imposition into two subcategories: (1) practices that impose burdens or pressure on users ('Pressure imposing') and (2) practices that induce consumers to accept or retain an undesirable entity such as a product sneaking into their shopping carts (Forced Acceptance). 'Undesirable Restriction' refers to any practices that place unfair restrictions or obstructions for users. The fourth level of the taxonomy creates two subcategories under Undesirable Restriction: (1) making certain functionalities unavailable or challenging to use for specific groups of users ('Restricting Specific Users') and (2) setting restrictions or obstacles on specific actions for all users. These include making access to the service or the options to unsubscribe more complicated than needs to be ('Restricting Specific Actions').

Manipulation manifested in the deprivation or restriction of freedom of choice also varies with the degree of severity. For example, the Forced Action dark pattern (which prevents consumers from accessing the service until they complete specific steps) involves a relatively high degree of deprivation of freedom of choice. The degree of denial of free will by Roach Motel dark patterns may be marginally lower because these practices hinder (rather than prevent) access to specific options (such as unsubscribing). Compared with Roach Motel, Privacy Zuckering has an even lower degree of free choice deprivation, notwithstanding that particular options (e.g., refusal to permit tracking cookies) are imposed with unequal weights and burdens (e.g., additional complex steps). Consumers would be allowed to enjoy their preferred options after they complete these steps.

To summarize, this taxonomy involves eight subcategories at the fourth level: misleading information, misleading presentation, hidden information, delayed provision, pressure imposition, forced acceptance, options restriction, and activity restriction. Table 5 confirms how the 17 identified dark patterns in the previous section do not overlap in this taxonomy.

⁹¹ Z. Barlas, W. Hockley, S. Obhi, 'The effects of freedom of choice in action selection on perceived mental effort and the sense of agency' (2017) 180 *Acta Psychologica* 122, 122-123.

⁹² M. Balau, 'Consumers' Freedom of Choice and Marketing' (2012) 31 *EuroEconomica* 74, 79.

Figure 9: Structure of the four-level hierarchical taxonomy

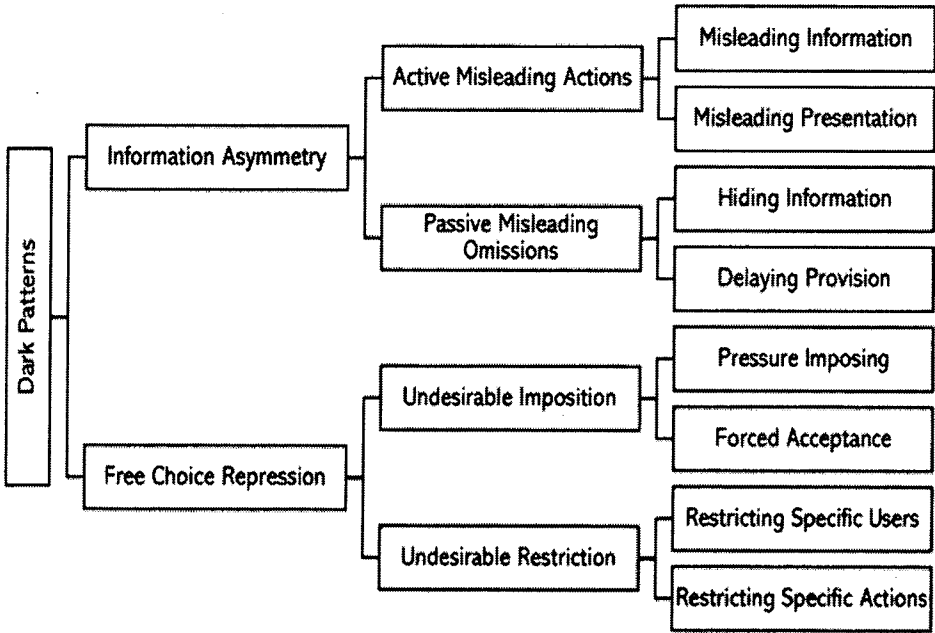


Table 5: Leiser & Yang’s four-level hierarchical taxonomy & corresponding types of dark patterns

Category			Type	Explanation
Information Asymmetry	Active Misleading Actions	Misleading Information	Testimonials of Uncertain Origin	Misleading users by providing them false, confounding, deceiving, or exaggerated information
			Scarcity	Misleading users by providing them false, confounding, deceiving, or exaggerated information
			Friend Spam	Misleading users by providing deceiving information
			Fake Countdown Timers	Misleading users by providing them fraudulent information
			Limited-time Messages	Misleading users by providing them deceiving or exaggerated information
	Misleading Presentation	Trick Questions	Misleading users through wording	
		Misdirection (Visual Interference)	Misleading users by using visual interference	

	Passive Misleading Omissions	Hiding Information	Price Comparison Prevention	Misleading users by withholding clear and comprehensible price information
		Delaying Provision	Hidden Costs	Delaying price information provisions
Free Choice Repression	Undesirable Imposition	Pressure Imposing	Pressured Selling (Repeated Popup Dialogs or Confirm Shaming)	Imposing pressure on users through repeated inquiries or wordings that make users experience guilt or shame
		Forced Acceptance	Sneak into Basket	Compelling consumers to accept the uninvited products by directly placing the products in their shopping carts
			Privacy Zuckering (Easy to Register)	Compelling consumers to accept the undesirable subscription by using tricks that thrust them towards subscriptions
			Forced Continuity (Hidden Subscription)	Compelling consumers to continue the subscription by renewing their membership subtly
			Bait and Switch	Compelling users to accept a particular arrangement by manipulatively navigating them away from their original objective regardless of their willingness
			Disguised Advertisement	Compelling users to view an advertisement by manipulatively navigating them away to a location that they did not expect to reach, regardless of their willingness
	Undesirable Restriction	Restricting Specific Users	Forced Action (Enrol to Access, Pay to Skip, and Accept to Access)	Restricting unpaid or unsubscribed users from options such as content access or skipping of advertisements
		Restricting Specific Actions	Roach Motel (Hard to Cancel)	Making specific actions such as unsubscribing more complicated than needs to be

3. Dark Patterns and the Unfair Commercial Practices Directive

Our proposed four-level hierarchical taxonomy adopts a very different approach from the Brignull-based taxonomies. Not only does our taxonomy avoid problems of overlapping, but it makes it easier to establish the connection between dark pattern practices and the relevant consumer protection regulations. The UCPD aims to harmonise the EU internal market, promoting a high level of consumer protection; it covers ‘unfair commercial practices harming consumers’ economic interest.’⁹³ Suppose a commercial actor uses dark patterns commercially. In that case, national authorities or courts may regard manipulating consumers into taking a transactional decision they would not have otherwise

⁹³ UCPD, Art 1.

taken as an unfair commercial practice and grant redress according to national rules. The UCPD not only applies to commercial practices during and after a commercial transaction but before⁹⁴ – where critics frequently observe dark patterns.

Article 5(1) indicates that commercial practices should be prohibited, with 5(2) to 5(5) summarizing the tests for determining whether a commercial approach should be considered unfair. For a practice to be considered unfair, it must amount to:

1. a practice which infringes the requirements of professional diligence and may materially distort the economic behaviour of the ‘average consumer’ of a product or service⁹⁵;
2. a practice which is likely to materially distort the economic behaviour of a ‘vulnerable consumer’⁹⁶;
3. a practice determined to be misleading or aggressive⁹⁷; and
4. a practice included in the blacklist of unfair commercial practices.⁹⁸

These provisions illustrate the relationship between Article 5 to Article 9 and Annex I UCPD. They form a ‘three-step test’ for determining whether a commercial practice is unfair: (1) whether the practice appears on Annex I. In all circumstances, the regulator will consider the practices unfair and prohibited without the need for a case-by-case assessment; (2) determine whether such practice is misleading or aggressive; and (3) check whether such practice infringes the requirements of professional diligence or the trader has targeted vulnerable consumers. If any of these tests are satisfied, the practice will be considered unfair. Accordingly, Articles 5 to 9 and Annex I are analysed in alignment with the classification structure of our four-level hierarchical taxonomy.

There are two subcategories at the second level of the taxonomy: ‘Information Asymmetry’ and ‘Free Choice Repression.’ The dark pattern practices belonging to the ‘Information Asymmetry’ category fall within the regulation of Articles 6, 7, and the Annex I Blacklist, discussed in Section 3.1. On the other hand, practices considered the ‘Free Choice Repression’ relate to Articles 5, 8, 9, and Annex I, discussed in Section 3.2.

3.1 ‘Information Asymmetry’ Dark Patterns under Articles 6, 7 and Annex I

The UCPD classifies misleading practices as ‘misleading actions’ or ‘misleading omissions,’ regulated by Article 6 and 7 UCPD, respectively. The categories at the third level correspond to the ‘Active Misleading Actions’ and ‘Passive Misleading Omissions’ categories. The taxonomy refers to ‘misleading actions’ and ‘misleading omissions’ as ‘active misleading’ and ‘passive misleading’—points 1 to 23 of Annex I detail misleading commercial practices, considered unfair in all circumstances.

⁹⁴ UCPD, Art 3(1).

⁹⁵ UCPD, Art 5(2).

⁹⁶ UCPD, Art 5(3).

⁹⁷ UCPD, Art 5(4).

⁹⁸ UCPD, Art 5(5).

3.1.1 Active Misleading Actions

Dark patterns classified in the 'Active Misleading Actions' category may be misleading under Article 6 UCPD. Article 6 regard actions as misleading when satisfying three requirements:

1. likely to deceive the average consumer;
2. likely to drive a consumer to undertake an unwanted transactional decision;
3. contain certain information considered 'material.'

Article 6(1) UCPD covers misleading actions 'in a general sense' and recognises that there are two types of 'active' misleading:

1. Contains false information and is therefore untruthful, or
2. Considering the overall presentation, the action is deceiving or is likely to deceive the average consumer, even if the information is factually correct.⁹⁹

In other words, to determine whether the practices are deceptive, the regulator will consider the content of the information provided and the presentation of information. Both 'can have a significant impact on how consumers respond.'¹⁰⁰ These two misleading actions correspond to the categories of 'Misleading Information' and 'Misleading Presentation' at the fourth level of the hierarchical taxonomy.

According to Article 6(1), if the information provided to consumers contains one or more of the following elements, it must be stated correctly and presented truthfully. Accordingly, incorrect information in advertisements, such as false claims about products being the best price in the market or practices providing unnecessarily complex information, would be considered misleading under the meaning of Article 6(1).¹⁰¹ A trader offering a significant discount on products without indicating unambiguously that the products are past their best before/end date or will expire in a few weeks may also constitute a misleading action under Article 6(1). The trader gives false information that a discount is for product items under its brand rather than for other items about to expire. Meanwhile, the regulator may regard so-called 'up to' claims as misleading if the traders fail to substantiate that it is possible for consumers 'to achieve the maximum results promised under normal circumstances.' Otherwise, regulators could interpret the practice as a misleading omission under Article 7.¹⁰²

⁹⁹ S. Katuoka, 'Misleading Actions vs. Misleading Omissions Under Unfair Commercial Practices Directive. National Approach in Context' (2016) 2 *International Comparative Jurisprudence* 18, 19-20; See also B. Keirsbilck, *The New European Law of Unfair Commercial Practices and Competition Law* (Oxford: Hart Publishing, 2011), 313.

¹⁰⁰ European Commission, 'Guidance on the Implementation/Application of Directive 2005/29/EC on Unfair Commercial Practices' (Commission Staff Working Document, SWD(2016) 163 final, 2016), 52 at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016SC0163> (last visited 27 September 2021).

¹⁰¹ *ibid* 53.

¹⁰² *ibid* 57.

Some traders may use the terms ‘gratis’, ‘free,’ or ‘without charge’ to attract consumers while still charging consumers in other ways. Point 20 of Annex I bans such practices; consumers’ expectations of a ‘free’ claim should be receiving something without exchanging money. Suppose a trader charges consumers for packaging, handling, or an administration fee. In this case, the trader cannot describe the offer as ‘free.’ as such, the additional cost involved in a ‘free’ offer can only be: (1) the minimum, unavoidable cost of responding to the commercial practice such as the cost of sending a text message; (2) the cost for delivery; or (3) the cost for collecting the offer.

Article 6(2) references two specific active misleading actions: (1) confusing marketing and (2) non-compliance with Codes of Conduct. Confusing marketing means creating confusion with other products or brands by the information provided or the way information is presented. ‘Copycat packaging’ is an example of confusing marketing practices. Consumers could be confused by offering a product with packaging similar to an existing well-known brand in its general look or feel.¹⁰³ Article 6(2) also requires traders to comply with their obligations in a commercial relationship. Take the Netherlands as an example: the Dutch Advertising Code lays down the advertising rules. Its alcoholic beverage section states that the advertising for alcoholic beverages should not imply that the consumption of alcoholic beverages has a positive effect.¹⁰⁴

‘Testimonials of Uncertain Origin,’ ‘Scarcity,’ ‘Fake Countdown Timers,’ and ‘Limited-time Messages’ are common types of dark patterns belonging to the ‘Misleading Information’ category. The Netherlands Authority for Consumers and Markets (ACM) publishes guidelines providing further examples and explanations of these practices.¹⁰⁵ In general, a practice that contains false or deceiving reviews or statements or gives consumers a false impression would be considered misleading under Article 6 UCPD. As it creates a false impression for consumers, a website showing only positive reviews while hiding negative reviews would be regarded as misleading. ‘Activity messages’ such as ‘76 people are currently looking at this flight’ could be allowed if they are truthful and complete. The regulation considers fake followers, fake likes, or other fake ratings misleading, while it can be challenging to determine whether an actual consumer has left a testimonial. Thus, ACM believes that information on who can leave comments is considered essential and should be visible in a prominent location¹⁰⁶ to allow consumers to accept these comments as genuine.

3.1.2 Passive Misleading Omissions

Article 7 UCPD regulates dark patterns classified in the ‘Passive Misleading Omissions’ category. It considers the omission of certain important information misleading. Article 7 is closely related to the traders’ obligation of information transparency to the average consumer. Articles 7(1) and 7(2) obligations establish a general positive obligation on traders to provide all information the average

¹⁰³ *ibid* 59.

¹⁰⁴ It is the requirement of the Article 7 of the Advertising Code For Alcoholic Beverages 2014, which is involved in the Dutch Advertising Code (2017).

¹⁰⁵ ‘Protection of the Online Consumer: Boundaries of Online Persuasion’, ACM, 11 February 2020, 30-39 at <https://www.acm.nl/sites/default/files/documents/2020-02/acm-guidelines-on-the-protection-of-the-online-consumer.pdf> (last visited 27 September 2021).

¹⁰⁶ *ibid* 37.

consumer needs to make an informed transactional decision, namely ‘material information.’ According to Article 7(1), omitting material information that the average consumer needs to take an informed transactional decision should be regarded as misleading. Based on Article 7(2), hiding such material information or providing it in an unclear, unintelligible, ambiguous, or untimely manner and failing to identify the commercial intent of the commercial practice should also be regarded as a misleading omission. These provisions reflect the beliefs that ‘hidden information can render an omission as misleading as information that is omitted altogether.’¹⁰⁷

According to Article 7(4), in cases of purchase inviting, the product's primary characteristics and the price, which includes all additional charges such as taxes, delivery fee, and so on, are considered material information. In cases whereby the user cannot reasonably calculate any extra costs in advance, the trader should state any additional payable charges. Such provision prevents the practice of completely hiding information.

However, the UCPD does not currently address ‘Hidden Costs’ dark patterns, which delay the provision of the full price at the checkout stage. consumer protection watchdog at the national level. Full prices which involve any additional fees belong to material information. At the same time, it is not clear whether ‘delayed provision of information,’ namely showing full prices only at the last step, should be considered in the context of ‘providing in an unclear, unintelligible, ambiguous or untimely manner’ and thereby considered as misleading omission. Although said delayed provision is annoying, compared with practices such as ‘Bait and Switch,’ the ‘Hidden Costs’ dark patterns may be considered a relatively low violation of autonomy. Although the ‘sunk cost fallacy cognitive bias’ in Hidden Costs dark patterns may influence consumers, they can still cancel the entire order and refuse manipulation.

The trader must state material information if it is not apparent from the context. However, it is currently unclear whether a specific way is required to present material information. In the case of *Konsumentombudsmannen v Ving Sverige AB*, Ving, a travel agency, placed a commercial advertisement in a newspaper offering trips to New York between September and December 2008. The ad stated, ‘New York from SEK 7 820’ in bold letters, hotel information and room prices, application time and the wording ‘Limited number of places’ in smaller letters, and the Ving phone number at the very bottom left side of the advertisement.¹⁰⁸ The *Konsumentombudsmannen* brought an action against Ving because the ad contained ‘insufficient or no information on the main characteristics of the trip, *inter alia* the price,’ which constituted a misleading omission.¹⁰⁹

Is it sufficient for a trader to limit their disclosure of specific characteristics of a product? For a trader to refer to its website for additional information? The Court held that it is only sufficient when the referring website contains essential information (main characteristics, price, and other terms) on the product.¹¹⁰ In short, the court held that it is acceptable to display parts of the material

¹⁰⁷ Katuoka, n 99 above, 22.

¹⁰⁸ Case C-122/10 *Konsumentombudsmannen v Ving Sverige AB* ECLI:EU:C:2011:299 at [15-16].

¹⁰⁹ *ibid* at [17].

¹¹⁰ *ibid* at [6] and [59].

information on a referring website, which is separate from the main display area. Based on this, the Price Comparison Prevention patterns used by 'Grammarly,' namely showing the prices of each package in the referred or drop-down page, will not amount to a misleading omission.

Meanwhile, a trader offering life insurance products failed to state that the beneficiaries would only receive limited insurance benefits if an insured person died within the first 24 months of the contract for non-accidental reasons. The Commission regarded this as having omitted material information average consumers need.¹¹¹ Hidden marketing and failure to identify commercial intent should amount to a misleading omission if it is likely to cause the average consumer to take a transactional decision they would otherwise not have taken. Thus, inviting consumers to participate in a free event, but hiding that the event's primary purpose is to promote a product to consumers, can be regarded as a misleading omission. In general, consumers may thereby have more comprehensive protection against some 'cunning' practices. However, the UCPD does not provide further clarity of what amounts to 'material information.' Thus, causing some uncertainties in application when member states apply and implement the misleading omissions general clause.¹¹²

Article 7(1) should be read together with Article 7(3); the former mentions that the 'limitations of the communication medium' should be considered (together with all features and circumstances), with the latter providing further explanation. When deciding whether the trader omitted information, the regulator considers the limitations of space or time imposed by the communication medium and whether the trader thought about measures to make the information available to consumers by other means. The wording of the two criteria in Article 7(3) implies applying the principle of proportionality when undertaking an assessment. The Supreme Court of Finland determined a mobile phone subscription advertisement was misleading. Although it highlighted the specific price benefits, the offer's restrictions and conditions were only presented in small print and only appeared for a short time.¹¹³ The Court did not base their decision on objective facts such as font size and the length of time the advertisement presented material information. Still, the Court considered the disproportionate effort of giving attractive information at the expense of a 'sharp warning'. In other words, the Court regarded this practice as misleading because the information on price advantage overwhelmingly dominated the whole advertisement.

Some traders only show additional information for a few seconds in small print. A skincare brand launched an advertising video of facial product promotion on a social media platform. This video highlights the price benefits but only shows the offer's restrictions and conditions (for example, only members can enjoy the discount) for a few seconds at the end of the video. Suppose the trader takes no other measures to ensure that such information is available to consumers (such as a text below the video containing a reminder of discount eligibility). In that case, this constitutes an instance of a misleading practice. Although there are limitations in time and space when using social media as a communication medium, such restrictions cannot prevent the trader from providing or more clearly indicating such important information.

¹¹¹ European Commission, n 100 above, 63.

¹¹² *Katuoka*, n 99 above, 22.

¹¹³ European Commission, n 100 above, 67.

3.1.3 Summary

Table 6 summarizes the corresponding UCPD provisions and case-law for the four categories in the fourth level of the taxonomy under ‘Information Asymmetry.’ In general, most dark pattern practices involved in the categories of ‘Misleading Information’ and ‘Misleading Presentation’ are related to providing false or deceiving information, providing exaggerated, unfounded, or confused information to consumers, or presenting material information in a deceiving and confusing way. These practices fall within the scope of Articles 6(1) and 6(2) UCPD. Annex I regulates specific misleading practices, like Point 20.

However, practices in the ‘Hiding Information’ and ‘Delaying Provision’ categories may not always fall within the scope of UCPD regulations. Article 7 regulates practices that completely hide material information. Article 7(4) has listed the material information that traders cannot hide. Based on Article 7(2), providing such data in an unclear, unintelligible, ambiguous, or untimely manner should also be considered a misleading omission. However, according to the judgment in *Konsumentombudsmannen v Ving Sverige AB* providing information on another webpage, the common strategy of the ‘Price Comparison Prevention’ dark pattern may not amount to a misleading omission. Meanwhile, there is no case law guiding whether the regulator would consider the ‘Hidden Costs’ dark pattern, which exploits consumers’ sunk cost fallacy cognitive bias as providing information in an unclear, unintelligible, ambiguous or untimely manner.

Table 6: Regulating Dark Patterns (Information Asymmetry)

Category		Types of Dark Patterns Involved	Relevant UCPD Provision	Scope of Regulation
Active Misleading Actions	Misleading Information	Testimonials of Uncertain Origin, Scarcity, Friend Spam, Fake Countdown Timers, and Limited-time Messages	Article 6(1) UCPD	False or deceiving information which provides a false impression to consumers
			Point 20 of Annex I	Using the terms ‘gratis’, ‘free’ or ‘without charge’ but charging in other ways
			Article 6(2) UCPD	Exaggerated or unfounded information which is non-compliant with Codes of Conduct, such as alcoholic beverages having a positive effect
	The information creates confusion with other products or brands			
Misleading	Trick Questions,	Article 6(1) UCPD	The presentation deceives the average consumer or gives them a false impression	

	Presentat ion	Misdirecti on (Visual Interferen ce)	Article 6(2) UCPD	The presentation creates confusion with other products or brands
Passive Misleading Omissions	Hiding Informati on	Price Compari son Preventio n: Providing informatio n on another webpage	Article 7 UCPD	Hiding information completely
				Highlighting specific price benefits but presenting restrictions and conditions of the offer in small print and only for a short time
				Presenting information in referred or drop-down pages may not be considered misleading <i>(Konsumentombudsmannen v Ving Sverige AB)</i>
	Delaying Provision	Hidden Costs: Providing total price at the final step	Article 7(2) Article 7(4) UCPD	Not clear if a delayed provision of the complete price information until the final checkout step violates the regulations (No case-law whether under Article 7 providing information in an unclear, unintelligible, ambiguous, or untimely manner is unfair)

3.2 The ‘Free Choice Repression’ Dark Patterns under Articles 5, 8, 9 and Annex I

Our taxonomy separates dark patterns in the ‘Free Choice Repression’ category into ‘Undesirable Imposition’ and ‘Undesirable Restriction’. Some may be considered aggressive under Articles 8 and 9 UCPD, some are deemed unfair under Article 5, some may fall within the prohibition of Annex I (Points 24 to 31), while others still fall outside the UCPD’s regulative scope.

3.2.1 Undesirable Imposition

The ‘Undesirable Imposition’ category involves two subcategories: ‘Pressure Imposing’ and ‘Forced Acceptance’. ‘Pressure Imposing’ refers to any practices which impose an unfair amount of pressure on consumers to achieve certain commercial purposes. ‘Repeated Popup Dialogs’ and ‘Confirm Shaming’ are two common types of dark patterns classified in this category.

Articles 8 and 9 UCPD could regulate ‘Confirm Shaming’ or similar types of dark patterns in the ‘Pressure Imposing’ category if (1) the trader uses threatening or abusive language to manipulate consumers or (2) exploit a specific misfortune or circumstance to influence consumers’ judgements. According to Article 8, a practice should be regarded as aggressive if it uses harassment, coercion (including physical force), or undue influence. It may significantly impair the average consumer’s freedom of choice or conduct and distort their economic behaviour. Article 9 lists the criteria that should be considered when determining whether a commercial practise uses harassment, coercion, or undue influence: (a) timing, location, nature, or persistence of such practice; (b) using threatening or

abusive language or behaviour; (c) the exploitation of any specific misfortune or circumstance of such gravity as to impair the consumer's judgement; (d) any onerous or disproportionate non-contractual barriers which are imposed on the exercise of rights under the contract, such as rights to terminate a contract or to switch to another product or another trader; and (e) any legal threat.

Harassment refers to "persecuting, annoying, upsetting, inconveniencing or urging consumers" and traditionally involves elements such as "serious intimidation or situation hostile or humiliating."¹¹⁴ Under Article 9, using threatening or abusive language is harassment and should be regarded as aggressive. However, in reality, many 'Pressure Imposing' dark patterns, including 'Confirm Shaming,' are not inclined to use extreme, direct insulting, or threatening words (such as "You are an idiot if you miss it"). Instead, they often use seemingly harmless and neutral language, such as asking a worried mother whether she wants to let her child become uncompetitive. Article 9(c) may play an essential role in regulating dark patterns which use 'undue influence' such as said exploitation of consumers' emotional weakness.

Not all trader exploitation will impair a consumer's judgment. To determine if a selling practice is aggressive under Articles 8 and 9 UCPD, the practice must impose unfair limitations on *average consumers'* freedom of choice or conduct concerning the product or service.¹¹⁵ For rational adults, it may not be easy for the free choice repression caused by 'Pressure Imposing' dark patterns to be considered severe. They are more akin to commercial persuasion and do not bind consumers if there are no other substantive architectural restrictions, given that the trader neither provides false or misleading information nor conceals necessary information.

'Undue influence' can be exerted, not only by words but by exploiting a position of power over the consumer to apply pressure. In the case of *Prezes Urzędu Ochrony Konkurencji i Konsumentów v Orange Polska S.A.*,¹¹⁶ Orange Polska is a company that offers contracts to consumers for the supply of telecommunications services. Customers can amend the terms and conditions of their contracts via the online shop or by telephone.¹¹⁷ Consumers had to decide on the contract during the amendment process when a courier of Orange Polska brought the contract to visit them. It makes some consumers feel uncomfortable to take their time to review the contract before signing it as the courier is waiting for them.¹¹⁸ In this case, the Court tackled the following question: Does making the consumer take the final transactional decision in the presence of a courier constitute an aggressive commercial practice (1) in all cases, (2) through the exertion of undue influence where not all the standard-form contracts were sent to the consumer individually beforehand, or (3) through the exertion of undue influence where the trader or its courier adopt unfair conduct limiting the consumer's freedom of choice.¹¹⁹ The court held that the commercial practices at

¹¹⁴ E. Pons, 'Addressing aggressive commercial practices: Some critical aspects of its regime in the Unfair Commercial Practices Directive' (2020) 6 *Finance, Markets and Valuation* 27, 29.

¹¹⁵ European Commission, n 100 above, 77.

¹¹⁶ Case C-628/17 *Prezes Urzędu Ochrony Konkurencji i Konsumentów v Orange Polska S.A.* ECLI:EU:C:2019:480.

¹¹⁷ *ibid* at [11].

¹¹⁸ *ibid* at [14].

¹¹⁹ *ibid* at [19].

issue could not be considered aggressive in all circumstances unless they correspond to Points 24 to 31 of Annex I.¹²⁰ According to the court, undue influence is not necessarily impermissible (such as the use of physical force); any practices which are likely to significantly impair the average consumer's freedom of choice or conduct may be considered an undue influence.¹²¹ The consumer has not received all the standard-form contracts individually beforehand cannot be regarded as an aggressive practice, given that the standard-form contracts are available on the trader's website.¹²² However, certain additional norms adopted by the trader or its courier in this context, such as insisting on the need to sign the contract or amendment, may constitute an aggressive practice as it serves to make a consumer "feel uncomfortable and thus to confuse his thinking in relation to the transactional decision to be taken."¹²³

The 'Pressure Imposing' dark patterns also involve practices like 'Repeated Popup Dialogs.' Point 26 UCPD can regulate such practices. Point 26 considers 'persistent and unwanted' pestering by distance marketing tools, including telephone, fax, e-mail, or other remote media, unfair. Sending a communication does not constitute 'persistent and unwanted solicitations' within the meaning of Point 26.¹²⁴ The criterion is assessed by how individuals view the communications. The number of people the trader contacts is irrelevant. This criterion focuses on how many contacts an individual consumer has received. Point 26 protects individuals against 'serious' pestering and can regulate dark pattern practices like 'Repeated Popup Dialogs.'

Articles 8 and 9 can regulate dark patterns falling within 'Forced Acceptance,' the second subcategory under 'Undesirable Imposition.' 'Forced Acceptance' refers to practices that force consumers to accept anything they don't want, including forced purchases (such as 'Sneak into Basket' and 'Bait and Switch'), forced continuity (such as 'Easy to Register' and 'Hidden Subscription'), and forced viewing of advertisements (such as 'Disguised Advertisement'). Pre-ticked boxes, pre-activated paid plans, and automatic renewals are standard practices of the 'Forced Acceptance' dark patterns. Many are likely to be considered aggressive, given that they deprive consumers of free choice. The blacklist at Annex I prohibits some of these in all circumstances.

In *Autorità Garante della Concorrenza e del Mercato v Wind Tre SpA and Vodafone Italia SpA*, two companies marketed SIM cards containing pre-loaded and pre-activated functionalities (such as internet browsing services and voicemail services). The company did not inform users in advance of changes to the functionality.¹²⁵ The reference asked the Court to determine whether the practice amounted to an 'aggressive commercial practice' under Articles 8 and 9 of Directive 2005/29 or 'inertia selling'¹²⁶. Point 21 of Annex I defines inertia selling as demanding immediate or deferred payment when the customer never asked for the product.¹²⁷ The court emphasized that "a service to be solicited the

¹²⁰ *ibid* at [25].

¹²¹ *ibid* at [33]-[34].

¹²² *ibid* at [39]-[40].

¹²³ *ibid* at [46]-[47].

¹²⁴ European Commission, n 100 above, 90.

¹²⁵ Joined Cases C-54/17 and C-55/17, *Autorità Garante della Concorrenza e del Mercato v Wind Tre SpA and Vodafone Italia SpA* ECLI:EU:C:2018:710 at [23].

¹²⁶ *ibid* at [38].

¹²⁷ *ibid* at [41].

consumer must have made a free choice,” and in particular, the information provided to the consumer must be clear and adequate; otherwise, it may be considered aggressive commercial practice.¹²⁸ The court held that the price “must be considered information necessary to enable the consumer to make such a fully informed decision.” In this case, the consumer was neither informed of the charge nor even that the functionalities were pre-loaded and pre-activated on the SIM card they bought; the customer lacked free choice.¹²⁹ In technical fields, such as electronic communications by mobile telephony, there is a significant imbalance of information and expertise between the parties, and the consumer is weaker. Thus, it is not necessary to examine the practice in the light of Articles 8 and 9.¹³⁰

Although the court did not, in the end, consider the questioned practice as an aggressive commercial practice under Article 8 UCPD, the court’s argument does give a further interpretation of the connection between ‘impairment of free choice’ and aggressive commercial practices. ‘Forced Acceptance’ dark patterns related to ‘charging without any informing’ are more likely to fall under the UCPD. Current EU consumer protection laws forbid unsolicited products that require payment. Unsolicited gifts or free trials remain a grey area. Meanwhile, the new perspective of ‘average consumers’ in the judgment brings new possibilities: in highly specialized fields, the regulator should consider consumers in a weak position, meaning a reduction in the duty of care requirements for the ‘average’ consumer’s, while the trader’s obligation to information transparency could be relatively higher and may involve consideration of the level of information.

Practices in the ‘Forced Acceptance’ category may violate Article 5(2).¹³¹ This provision amounts to a safety net that provides a general prohibition when the special prohibitions of the UCPD do not apply to certain commercial practices. An unfair practice within the meaning of Article 5(2) should fulfil both conditions: (1) infringement of professional diligence and (2) possible material distortion of the economic behaviour of the average consumers. Professional diligence refers to the standard of particular skill and care reasonably expected towards consumers; it may be commensurate with “honest market practice and/or the general principle of good faith.” It gives a self-standing criterion and can be considered the last chance to adjudge a method as unfair when the practice is neither misleading nor aggressive nor covered by the blacklist of unfair commercial practices.¹³²

Customary and normative criteria make up the foundations of the requirement of professional diligence. Public authorities of the member states should assess the questioned practices case by case or conduct against this legal standard.¹³³ Codes of Conduct or specific mandatory requirements in certain sectors assume evidence for the necessity of professional diligence.¹³⁴ Regarding the second condition of Article 5(2), the discussion can be divided into ‘(possible) material

¹²⁸ *ibid* at [45].

¹²⁹ *ibid* at [47]-[48].

¹³⁰ *ibid* at [53]-[55].

¹³¹ European Commission, n 100 above, 50.

¹³² UCPD, Art 2(h).

¹³³ C. Pavillon, ‘The Interplay Between the Unfair Commercial Practices Directive and Codes of Conduct’ (2012), 5 *Erasmus Law Review* 267, 269.

¹³⁴ E. Tai, ‘Professional diligence as a standard in European private law’ (Tilburg Law School, Tilburg Private Law Working Paper Series no. 1, 2015), 2 at <http://dx.doi.org/10.2139/ssrn.2565877> (last visited 27 September 2021).

distortion of the economic behaviour' and 'average consumers.' Commercial practices which 'materially distort the economic behaviour of consumers' should "appreciably impair the consumer's ability to make an informed decision, thereby causing the consumer to take a transactional decision that he would not have taken otherwise."¹³⁵

Case law provides a broad interpretation of the scope of the concept of 'transactional decision,' as does the wording of Article 2(k) itself. In *Trento Sviluppo and Centrale Adriatica v Autorità Garante della Concorrenza e del Mercato*, Centrale Adriatica launched a special promotion in several COOP Italia supermarkets.¹³⁶ The Autorità Garante della Concorrenza e del Mercato (AGCM) initiated proceedings against Trento Sviluppo (operator of the COOP) and Centrale Adriatica for unfair commercial practices after a consumer complained that "when he went to the supermarket in Trento during the validity period of the promotion, the IT product in question was not available." The COOP used an advertising leaflet indicating 'Reductions of up to 50% and many other special offers. The promotion was for a limited duration, with a laptop computer among the promotional products advertised on the leaflet.

This case finally came to the Court of Justice of the European Union (CJEU). The Court had to decide whether "the acts preparatory to the purchase of a product, such as a consumer's trip to the shop or the act of entering the shop", fell within the meaning of 'transactional decisions'.¹³⁷ In this case, the CJEU interpreted the concept of transactional decision as covering "not only the decision whether or not to purchase a product but also the decision directly related to that decision, in particular the decision to enter the shop" with the support of the wording of Articles 2(k) and 3(1) UCPD.¹³⁸ The CJEU even further mentioned that "any decision directly related to the decision whether or not to purchase a product is covered by the concept of 'transactional decision.'"¹³⁹

This case may have several implications. First, a broad interpretation of the concept of transactional decisions provides better protection in dark pattern scenarios; clicking and browsing the web or interacting with the interface should all be within the scope of a 'transactional decision' under the UCPD. Second, it is a typical case of promising or showing something that is intended merely as 'bait'; such practices may be comparable to the types of dark patterns such as 'Bait and Switch' or 'Disguised Advertisement.' 'Bait and Switch' refers to practices that manipulatively navigate consumers away from their original intention regardless of their will. Point 6 of Annex I prohibits the following practices in cases of making an invitation to purchase: (1) refusing to show the advertised item; (2) refusing to take orders for it or deliver it within a reasonable time; and (3) demonstrating a defective sample of the item. Point 6 covers cases where a user paid for the item shown on the purchase invitation but received a flawed one or one different from the description. However, if a 'Bait and Switch' practice does not happen in a purchase-inviting context, Point 6 does not apply.

¹³⁵ UCPD, Art 2(e).

¹³⁶ Case C-281/12 *Trento Sviluppo and Centrale Adriatica v Autorità Garante della Concorrenza e del Mercato* ECLI:EU:C:2013:859 at [11]-[15].

¹³⁷ *ibid* at [35].

¹³⁸ *ibid* at [36]-[37].

¹³⁹ *ibid* at [38].

‘Disguised Advertisement’ practices may be related to Points 11 and 22 UCPD. Point 11 is about the lack of disclosure of paid advertising, while Point 22 focuses on hiding the commercial intent. There are two types of Disguised Advertisement. The first is a ‘traditional Disguised Advertisement’. This refers to sponsored or paid content showing on, for example, news platforms, presented as editorial material rather than advertisements.¹⁴⁰ Point 22 covers such practices as they falsely create the impression that the trader is not acting for purposes relating to his trade. Consumers who do not perceive such tricks may be less alert and more easily persuaded by advertisements. Point 11 can apply too if the questioned contents cannot be distinguishable from other genuine non-commercial contents. The second type is ‘Technology-based Disguised Advertisement.’ They are disguised as other content or navigation, such as a download button, to trick people into clicking. Compared with the traditional Disguised Advertisement, this new form of Disguised Advertisement hides the purpose and changes the appearance; it can be a link or a download button. Thus, Point 22 seems more appropriate for covering these practices, given that Point 11 only applies to ‘editorial content’. In the context of dark patterns, Disguised Advertisement normally refers to a class of technology-based Disguised Advertisements rather than traditional Disguised Advertisements.

3.2.2 Undesirable Restriction

‘Undesirable Restriction’ involves two subcategories: ‘Restricting Specific Users’ and ‘Restricting Specific Actions.’ ‘Restricting Specific Users’ dark patterns might amount to unfair under Article 5(3) UCPD if they are likely to distort the economic behaviour of particularly vulnerable consumers materially. ‘Restricting Specific Actions’ dark patterns fall under Articles 8 and 9 UCPD if under 9(d) ‘the trader imposes any onerous or disproportionate non-contractual barriers on the exercise of rights under the contract, such as the right to terminate an agreement or to switch to another product or another trader.

‘Dynamic pricing’ (personalised pricing) or ‘price discrimination can be considered dark pattern strategies in the category of ‘Restricting Specific Users’. The former, such as personalised pricing based on a consumer’s loyalty, is acceptable under Article 7(4) UCPD “if they duly inform consumers about the prices or how they are calculated.” The anti-discrimination principle requires a ban on pricing policies based on the customer’s purchasing power/wealth.¹⁴¹ ‘Dynamic pricing’ would be considered lawful only when traders satisfy obligations to inform. Amazon sold DVDs to members and regular customers at different prices. When caught, they refunded the difference to buyers who had purchased at the higher price.¹⁴²

Nevertheless, some dark patterns that do not affect rational and prudent consumers may have a more powerful impact on vulnerable consumers such as children, people with mental disorders, or vulnerable teenagers who feel worthless and insecure. Being easily persuaded is one reason traders target vulnerable

¹⁴⁰ I. Nebenzahl and E. Jaff, ‘Ethical Dimensions of Advertising Executions’ (1998) 17 *Journal of Business Ethics* 805, 805.

¹⁴¹ European Commission, n 100 above, 134-135.

¹⁴² ‘Personalised Pricing in the Digital Era – Note by the European Union’ OECD, 28 November 2018 at [https://one.oecd.org/document/DAF/COMP/WD\(2018\)128/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2018)128/en/pdf) (last visited 27 September 2021).

consumers. In 2017, Facebook allowed advertisers to target vulnerable teenagers needing a confidence boost. The emotional states of young people include ‘worthless,’ ‘insecure,’ ‘defeated,’ ‘anxious,’ ‘silly,’ ‘useless,’ ‘stupid,’ ‘overwhelmed,’ ‘stressed,’ and ‘a failure,’ were secretly used for commercial persuasion.¹⁴³

Practices that target vulnerable consumers would fall within the scope of Article 5(3) UCPD which aims to regulate practices that may materially distort the economic behaviour of vulnerable consumers. ‘Materially distorting economic behaviour’ implies a real economic and behavioural distortion risk. It does not necessarily have to be related to actual losses by individual consumers, while the regulation may not cover practices such as only making people feel depressed.¹⁴⁴ A practice that aims to make people upset drives them to purchase may be regarded as a material distortion of economic behaviour, regardless of whether anyone has bought the product because of the advertisement.

Meanwhile, Point 28 in Annex I prohibits advertisements that directly encourage children to buy the product or persuade their parents to buy it. However, it is not easy to distinguish marketing directed at children from marketing directed at other consumers in many situations. For example, children and teenagers were the major consumer groups in the animation and video game industries. Still, now this market has gradually turned to financially capable adults. The description ‘a direct exhortation to children may also need further clarification. Children are more vulnerable than adults; they are more easily affected by misleading or aggressive commercial practices and less capable of self-protection. However, in our modern society, the threshold for children to enter the online world is not very high; with a smart device and internet access, they can quickly enter this dangerous world to connect with anyone. Furthermore, it is unreasonable to deprive children of access to the Internet in the name of protection; thus, a reasonable approach to increasing protection levels for children is to increase the obligation of traders in this regard.

3.2.3 Summary

Table 7 summarizes the corresponding UCPD provision or case-law for these four categories in the fourth level of the hierarchical taxonomy under the category of ‘Free Choice Repression’: ‘Pressure Imposing,’ ‘Forced Acceptance,’ ‘Undesirable Imposition’ and ‘Undesirable Restriction.’ In general, dark patterns that fall within these categories have aggressive characteristics. Compared with the regulation on ‘Information Asymmetry,’ the law on the ‘Free Choice Repression’ dark patterns seems relatively fragmented. Some identified rules have a narrow scope and may only refer to certain specific practices rather than a general regulative capacity.

Not all ‘Pressure Imposing’ dark patterns would be considered aggressive. Only severe dark patterns such as constant entanglement, serious insults,

¹⁴³ See S. Machkovech, ‘Report: Facebook helped advertisers target teens who feel “worthless”’ 1 May 2017 at <https://arstechnica.com/informationtechnology/2017/05/facebook-helped-advertisers-target-teens-who-feel-worthless/> (last visited 27 September 2021).

¹⁴⁴ J. Trzaskowski, ‘Lawful Distortion of Consumers’ Economic Behaviour — Collateral Damage Under the Unfair Commercial Practices Directive’ (2016) 27 EBLR 1, 2.

exploiting misfortune, or circumstances of such gravity as to impair the consumer's judgement, should be considered unfair. 'Forced Acceptance' dark patterns, pre-ticked boxes, pre-activated paid plans, and automatic renewals are likely to be considered aggressive or even prohibited by the Annex I blacklist, as well as practices that aim to charge consumers without informing them. 'Bait and Switch' in a purchase-inviting context or hiding advertising intent would be considered aggressive. However, unsolicited 'free' gifts may not be considered aggressive under the UCPD. Some 'Restricting Specific Users' dark patterns could be regulated by Article 5(3) if such practices are likely to materially distort the economic behaviour of vulnerable consumers. Point 28 of Annex I will apply when a dark pattern urges children to buy a product or persuade their parents to buy it. Finally, Articles 8 and 9(d) UCPD regulates 'Restricting Specific Actions' dark patterns that impose onerous or disproportionate non-contractual barriers on exercising rights under the contract.

Table 7: Regulating Dark Patterns (Free Choice Repression)

Category		Types of Dark Patterns Involved	Relevant UCPD Provisions	Scope of Regulation
Undesirable Imposition	Pressure Imposing	Repeated Pop-up Dialogs	Point 26 of Annex I UCPD	'Persistent and unwanted' pestering; not including only sending a communication
		Any unidentified dark pattern types which use 'undue influence' to significantly impair the average consumer's freedom of choice or conduct	Points 24 to 31 of Annex I.	Commercial practices at issue could not be considered aggressive in all circumstances unless they correspond to Points 24 to 31 of Annex I. <i>(Prezes Urzędu Ochrony Konkurencji i Konsumentów v Orange Polska S.A.)</i>
		Confirm Shaming	Articles 8 and 9(b) UCPD	Threatening or abusive language
	Articles 8 and 9(c) UCPD		Exploiting specific misfortune or circumstances of such gravity as to impair the consumer's judgement	
Forced Acceptance	Easy to Register, Forced	Articles 8 and 9 or Point 21 of Annex I UCPD	Pre-ticked boxes, pre-activated paid plans, automatic renewals	

		Continuity (Hidden Subscription) Sneak into Basket		Charging without any informing; may be considered aggressive actions or 'inertia selling.' (the case of <i>Autorità Garante della Concorrenza e del Mercato v Wind Tre SpA and Vodafone Italia SpA</i>)
				May not include unsolicited free gifts
		Bait & Switch	Point 6 of Annex I UCPD	'Bait and Switch' in a purchase-inviting context; promising or showing something that is just bait (the case of <i>Trento Sviluppo and Centrale Adriatica v Autorità Garante della Concorrenza e del Mercato</i>)
		Disguised Advertisement	Point 22 of Annex I UCPD	Advertisements that hide their commercial intent
		Any unidentified dark patterns which contradict obligations of professional diligence	Article 5(2) UCPD	Practices which do not rise to the standard of honest market practices and/or the general principle of good faith.
Undesirable Restrictions	Restricting Specific Users	Forced Action (Enrol to Access, Pay to Skip and Accept to Access)	Point 28 of Annex I UCPD	Practices that target children by urging them to buy the product or to persuade their parents to buy for them
			Article 5(3)	Materially distort the economic behaviour of vulnerable consumers
		Any unidentified dark patterns which offer different price to specific users	Article 7(4)(c) UCPD and anti-discrimination principle	Personalised pricing based on a consumer's loyalty, is acceptable if consumers have been duly informed the prices or how the prices are calculated, while pricing policies based on the customer's purchasing power/wealth are banned

				under the anti-discrimination principle.
Restricting Specific Actions	Roach Motel (Hard to Cancel)	Articles 8 and 9(d) UCPD		Imposing onerous or disproportionate non-contractual barriers on the exercise of rights under the contract

4. Conclusion: Policy Recommendations

Section 3’s analysis reveals that, although the UCPD has its shortcomings, the Directive protects against dark patterns. Nevertheless, there is an unfortunate lack of clarity as to whether some types of practices, such as only showing tax-inclusive prices at the very final step of the customer transaction process, would amount to an unfair commercial practice. The legal regime UCPD relies on enforcement through Courts and administrative authorities. Regulation via ‘hard law’ is desirable, but domestic law also inherits any uncertainty and incompleteness within the UCPD’s framework. On the other hand, ‘soft law’ measures such as Code of Conducts or Guidelines are usually voluntarily accepted industry rules. Codes could therefore improve alignment with national consumer protection laws.

Further still, allowing Member States to use supplements to address any uncertainty or incompleteness within the scope of the UCPD can provide more precise and more up-to-date instructions to industry. Therefore, soft laws should be considered as important as hard for regulating dark patterns. In terms of establishing a proper and comprehensive regulation, greater awareness of dark patterns, and the importance of Codes of Conduct, the balance of this section posits three recommendations for policymakers.

4.1 Establishing Codes for ‘Dark Patterns’ Rather Than for ‘General Unfair Commercial Practices’

Regulators should establish a Code of Conduct for the online commercial industry to regulate the use of dark patterns. Such a Code of Conduct should focus on ‘dark patterns’ rather than ‘general unfair commercial practices.’ Although EU Member States transposed the UCPD into their national code, not all have established Codes of Conduct containing provisions that regulate the use of dark patterns in online commerce.¹⁴⁵ Having a specific Code of Conduct applicable to ‘dark patterns’ would amount to a more effective way of providing the necessary specificity than just a general Code of Conduct for ‘all commercial practices.’ The former can provide more specific regulation of the use, eliminating the uncertainty and grey areas often caused by legal interpretation and transposition. At present, some have established national-level codes for online commerce, including The Netherlands (‘The Code of Conduct of the Electronic Commerce Platform Netherlands’) and the UK (‘The E-Commerce Regulations 2002’). However, these are essentially only levels of generalization similar to that found in the UCPD, leaving ‘direct’ instructions and restrictions on dark patterns impossible without further legal analysis. They also have the same regulatory coverage problem as the UCPD; for example, the UK’s ‘E-Commerce Regulations 2002’

¹⁴⁵ Pavillon, n 133 above, 272.

focuses on transparency of trading information rather than covering the current wide range of tricks used in online commerce.

When establishing a Code of Conduct that can regulate dark patterns in online commerce, the regulatory target should be clearly defined first, using the commonly accepted term by both the HCI community and online commerce. Meanwhile, when determining the regulatory scope, given that there will always be new types, regulators should avoid an exhaustive list of dark patterns. As they can then cover various types of dark patterns, even those not yet identified, a proper process requires the setting of broad categories. The four-level hierarchical taxonomy proposed in Section 3 could help establish a viable and workable regulatory framework.

4.2 Establishing a Clearer Boundary Between Allowable and Non-allowable Commercial Practices

Some scholars seem to have zero tolerance for any manipulation of consumers and even consider commercial persuasion, in itself, as a dark pattern. For example, Calo states that “digital market manipulation is a problem, if at all because it constitutes a form of persuasion that is dangerous to consumers or society.”¹⁴⁶ Nadler and McGuigan also hold that “persuasive communication can manipulate consumer attitudes and behaviours.”¹⁴⁷

However, we do not support a ban on all manipulative commercial practices. First, not all dark patterns create unfairness between traders and consumers. For example, proper differential treatment between paid members and free users as a persuasive strategy should not be considered an unfair practice.

Second, the comprehensive prohibition of all sorts of manipulative persuasion in commerce may not be a realistic option. Regulators must consider the operating costs of service providers in the same lens as consumers’ rights and benefits. Imposing a wide range of restrictions on commercial practices could cause a chilling effect and result in high social and commercial costs. The potential impacts, such as hindering the functioning of the social economy and repressing the development and creativity of related industries, could be long-term and difficult to reverse.

Nevertheless, dark patterns that ‘severely’ manipulate consumer behaviour still should be questioned and, where appropriate, blacklisted. These practices should be enunciated in a Code of Conduct that provides clear instructions, explanations, and examples of commercial practices within a defined scope. It should articulate what would violate consumer protection law and what would amount to acceptable consumer persuasion practices without rising to unfair consumer manipulation. Thus, regulators should identify “a more realistic factually operationalizable threshold” of various dark patterns.¹⁴⁸ This threshold should involve multiple factors, such as the characteristics and effects of dark patterns and the severity of any infringements on personal rights while aligning with the UCPD.

¹⁴⁶ R. Calo, ‘Digital Market Manipulation’ (2014) 82 GWLR 995, 1020.

¹⁴⁷ A. Nadler and L. McGuigan, ‘An Impulse to Exploit: The Behavioral Turn in Data Driven Marketing’ (2018) 35 *Critical Studies in Media Communication* 151, 161.

¹⁴⁸ Hacker, n 90 above, 4.

4.3 Supplementing for Uncertainty and Incompleteness of the Regulation Designed by the UCPD

The analysis in Section 3 shows that the Directive cannot cover all forms of dark patterns. Thus, certain Supplements should be made available to make up for the uncertainty and incompleteness of the UCPD. In this respect, The Netherlands Authority for Consumers and Markets (ACM) has developed a better alternative. The ACM publishes a guideline called ‘Protection of the Online Consumer: Boundaries of Online Persuasion’.¹⁴⁹ This guideline is “based on existing guidance issued by the European Commission, national and European case law and opinions issued by self-regulatory bodies.”¹⁵⁰ This Guidelines goes further than the UCPD – requiring the consideration of two criteria: first, given that the stacking and combination of different dark persuasion techniques may cause more damage, regulators should take into consideration whether there is a combination of persuasion mechanisms in any customer journey¹⁵¹; and second, to what extent are the practices data-driven, given that “[t]he more data and knowledge a business has on a consumer, the more likely it is to be able to exert significant influence on that consumer.”¹⁵²

The consideration of data-driven manipulation leads to a critical forecast — dark patterns may evolve by conjoining with artificial intelligence, already a powerful, unregulated tool in predicting individuals’ interests, habits, preferences, lifestyles, etc.¹⁵³ Dark patterns may evolve to conceal their manipulation intentions with delicate subtlety. In recent years, there has been an increased call for an “explainable, transparent and controllable” system, and private companies are usually unwilling to disclose details about their inner workings. They claim intelligent algorithms are an inherent part of their business models.¹⁵⁴ Some companies, therefore, already exploit dark patterns to peruse their obligations for system explanation, transparency, and control.¹⁵⁵ For example, repeated nudging may be disguised as explanations to promote information transparency. Such strategies may lay in a grey area while they make consumers numb to any recognition of other applied dark patterns practices.

In the same way that Article 26 GDPR imposes data protection obligations onto app designers, any new regulation of dark patterns should impose consumer protection duties onto the designer community. Traditional regulation of commercial practices often focuses on the relationship between traders and consumers. Tradition further explains why a specific Code of Conduct for dark patterns would be more efficient than a general Code of Conduct. Regulators

¹⁴⁹ ACM, n 105 above.

¹⁵⁰ *ibid* 9.

¹⁵¹ *ibid* 21.

¹⁵² *ibid* 21.

¹⁵³ ‘How are machine learning and artificial intelligence affecting dark patterns’ has been one of FTC’s latest focused research topics regarding dark patterns; see L. Fair, ‘Asking for your insights into digital dark patterns’ FTC, 9 April 2021, at <https://www.ftc.gov/news-events/blogs/business-blog/2021/04/asking-your-insights-digital-dark-patterns> (last visited 27 September 2021).

¹⁵⁴ M. Chromik, M. Eiband, S. Völkel and D. Buschek, ‘Dark Patterns of Explainability, Transparency, and User Control For Intelligent Systems’ (IUI Workshops, 2019), 1 at <http://ceur-ws.org/Vol-2327/IUI19WS-ExSS2019-7.pdf> (last visited 27 September 2021).

¹⁵⁵ *ibid*.

should impose 'fairness-by-design'. The concept involves designers while extending consumer protection duties onto the design community. Such an extension to system design may not be relevant to the UCPD's objectives, but it would be essential for effective regulation for using dark patterns. These additional regulatory measures may result in broader coverage and higher standards than presently provided for by the UCPD. Accordingly, the Directive should have a Supplement that could positively impact industry self-regulation. New interpretations of the law alongside further development of technology generate unique effects and create different power relationships between stakeholders. Thus, under the principle that 'prevention is better than remedy,' for establishing clear and comprehensive regulation, Supplements should be encouraged to end the current uncertainty and incompleteness found in the application of the UCPD to dark patterns.