

REGULATING GAMIFICATION



UNIVERSITY OF TORONTO
FACULTY OF LAW



Future of Law Lab
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Executive Summary

Informed by behavioural insights and powered by digital technology, gamification—the introduction of elements of play and gaming into otherwise everyday activities—can have powerful influences over the choices we make.

This influence can be wielded in positive ways, like helping people save for retirement or learn new skills. But some applications of gamification have proved controversial. For example, by gamifying investing, do online trading apps lead their users to trade too frequently? When ridesharing apps use gamification to influence when and where drivers work, does this mean these drivers ought to be considered employees rather than independent contractors?

Some say existing rules don't do enough to meet the challenges posed by gamification, and that new rules banning or limiting the use of specific kinds of gamification tactics are needed. Others say existing rules do too much: that applying old rules to new technologies risks stifling innovation, and novel businesses should instead be subject to a different set of rules better tailored to their needs.

This report argues that legal decision-makers don't need to reinvent the wheel to address challenges posed by gamification. Law already possesses tools that, if properly used, can work to ensure that businesses that use gamification and other digital engagement tactics to shape their clients' or workers' choices exercise this influence responsibly. Existing efforts in this direction, rather than reflecting inflexibility, demonstrate law's capacity to adapt to innovations that might otherwise work to frustrate the purposes behind legal rules.

After briefly explaining what gamification is, this report looks at four examples of gamification in action: in online trading, ridesharing and food delivery, employee productivity, and dating. These examples point towards an overarching challenge gamification poses to law: gamification can be used to exert a significant degree of effective control over people's choices, but not necessarily through the kinds of mechanisms law traditionally recognizes as taking away users' freedom of choice (i.e., coercion or deception).

As this report outlines, however, law already has tools decision-makers can and should use to meet this challenge. These tools let decision-makers recognize gamification's potential to shape people's choices, and step in when businesses use this potential in ways that frustrate the purposes behind legal obligations or cause harm:

1

Leverage flexibility in the law to respond to innovative tactics that would otherwise work to allow a business to evade a legal obligation— for example, a trading app that leads its users to trade stocks in a way that the app would not be allowed to directly recommend to them.

2

Duties of care, which can step in when gamification shapes choices in ways that don't necessarily engage with existing rules but lead to reasonably foreseeable harms, such as addiction or injury, and require the taking of reasonable steps to mitigate the risk that these kinds of harms will occur.

In addition, principles from anti-discrimination law could provide a foundation for addressing the potential discriminatory effects of the broader set of design choices embedded in apps and other technologies.

Innovation continually challenges law to keep pace with it. But adapting to new technologies doesn't always require new legal principles or regimes. Often, it requires only that we make proper use of what we already have—by interpreting legal standards flexibly rather than in narrow or technical ways, and recognizing connections between challenges posed by new innovations and earlier challenges already addressed in law.

What's Gamification?

Gamification refers to the introduction of elements of play and gaming into otherwise everyday activities, from stock trading, to dating, to ridesharing, often via an app on a user's smartphone.¹ Informed by behavioural insights and powered by digital technology, gamification can have powerful influences over users' behaviour.

Gamification can do a lot of good—it can encourage people to save for retirement, learn new skills, and plan for the future.² But some of its applications have proved controversial. Some say existing rules don't do enough to meet the challenges posed by these applications of gamification, and that a new framework of rules governing the design and implementation of gamification tactics is needed, including rules banning or limiting the use of some of these tactics.³ Others say these rules do too much: that applying old rules to new technologies risks stifling innovation. Perhaps most prominently, ridesharing apps have taken issue with the notion that their gig workers should be classified as traditional employees,⁴ even though (as outlined in this report) these apps use gamification and other tactics in ways that appear to lead these workers to act much like employees.

This report draws from some examples of gamification in action to try and identify what's behind this debate—what overarching challenge does gamification seem to pose to law, that could be driving these calls for reform? It then looks at whether meeting this challenge requires the development of new legal frameworks and principles, or just requires legal decision-makers to take advantage of tools that law already provides.

¹ This report opts not to set clearer boundaries around its definition of *gamification* because *game* is itself tough to define, and in any event, the term seems to be commonly used as a shorthand for the broader concept of *digital engagement practices*. See James Fallows Tierney, "Investment Games" 72 *Duke Law Journal* [forthcoming in 2022/23], manuscript at 4 (footnote 14), [online](#). Much of what this report has to say about gamification is equally applicable to this broader category of practices.

² See International Organization of Securities Commissions (IOSCO) & Organisation for Economic Co-operation and Development, *The Application of Behavioural Insights to Financial Literacy and Investor Education Programmes and Initiatives* (2018) at 29, [online](#).

³ See e.g. Vicki L Bogan, "Game Stopped? Who Wins and Loses When Short Sellers, Social Media, and Retail Investors Collide—Part II" (Virtual Hearing Before the U.S. House Committee on Financial Services, 17 March 2021) at 6–7, [online](#). See also IOSCO, Retail Market Conduct Task Force Consultation Report (March 2022) at 15–18, [online](#) (consulting on whether bans on trading apps' use of specific kinds of gamification tactics are required).

⁴ See e.g. Dara Khosrowshahi, "I Am the C.E.O. of Uber. Gig Workers Deserve Better." *New York Times* (10 August 2020), [online](#).

Gamification in Action

The short case studies below look at four examples of gamification in action: in online trading apps, ridesharing and food delivery apps, employee productivity apps and other software, and dating apps.⁵ They identify examples of gamification tactics used in each of these contexts, the behaviours they encourage, the business interests they further, and the concerns that have been raised about their use.⁶

Online Trading

Gamification can help make investing feel less intimidating for novices. Among other things, it can help people set small financial goals and build on them over time, and provide an arena for novice investors to learn about investing and become more comfortable with it, giving them more confidence to pursue long-term financial goals.⁷

The trouble is that that's not the only thing gamification can be used for in the investing context. Trading apps generate revenue in part through user engagement: more frequent trading on the part of users tends to mean more revenue for the app (though trading apps operating in Canada have slightly different incentives in this regard than their counterparts in the United States).⁸ Gamification tactics that encourage more trading may generate more revenue for apps, but at least a generation's worth of finance scholarship suggests that the more frequently ordinary investors trade, the worse off they end up.⁹

⁵ This report uses *app* to refer collectively to the software comprising the app and the business behind the app.

⁶ Note that none of the examples below address the targeting of gamification tactics at children, which likely raises separate concerns from those raised by the targeting of these tactics at adults. See Kyle Langvardt, "Regulating Habit-Forming Technology" (2019) 88 *Fordham Law Review* 129 at 132, 153, [online](#).

⁷ Stephanie Walden & Daphne Foreman, "How Gamification Can Help You Meet Your Financial Goals" *Forbes Advisor* (16 April 2021), [online](#).

⁸ Under a system called *payment for order flow*, U.S. trading apps can earn commissions for sending client orders to specific investment firms for execution. This mechanism is not permitted in Canada, but Canadian apps like Wealthsimple Trade can (and do) charge foreign exchange fees on trades of U.S. stocks, giving them some opportunity to generate revenue from frequent trading by clients. See Nichola Saminather, "Canada Stock Market Rules Curb Platforms Linked to Churning U.S. Stocks" *Reuters* (9 February 2021), [online](#).

⁹ See e.g. Brad M Barber & Terrance Odean, "Trading Is Hazardous to Your Wealth: The Common Stock Investment Performance of Individual Investors" (2002) 55 *Journal of Finance* 773, [online](#); Brad M Barber et al, "Attention Induced Trading and Returns: Evidence from Robinhood Users" *Journal of Finance* [forthcoming], [online](#).

The U.S. trading app Robinhood has attracted the most scrutiny for using gamification to encourage its users to trade frequently.¹⁰ It used confetti animations to celebrate users' trades. It also displayed a leaderboard listing the most-traded stocks among its users on each trading day, a tactic that perhaps helped feed the meme stock craze of 2020–21.¹¹ More broadly, gamification tactics that encourage engagement may give rise to addictive behaviours on the part of some users, which in the trading context is especially dangerous given the financial stakes involved.¹²

Canadian apps also encourage engagement, though perhaps not to the same extent. They too make leaderboards available to users; they also use email and push notifications to highlight significant movements in different asset prices, presumably to encourage users to engage and make trading decisions based on these movements—these notifications are also used to encourage stock traders to branch into investing in other asset classes like cryptoassets.

These kinds of tactics seem to work—in the first quarter of 2020, Robinhood clients traded 40 times as many shares as clients of a more traditional online brokerage service.¹³ And regulators are taking notice. For example, the Massachusetts state securities regulator has claimed that Robinhood's use of gamification in ways that encourage frequent trading represents an end-run around an obligation it and other investment firms owe to their retail clients: to recommend only trades that appear *suitable* for these clients.¹⁴

Robinhood would not have been allowed to flat out recommend that its users trade frequently or invest in meme stocks, because these kinds of trades generally would be unsuitable for its clients. But its gamification tactics, the regulator argued, achieved the same result—Robinhood influenced its users to make unsuitable trades, generating revenue for Robinhood to the detriment of its users.¹⁵ The U.S. Securities and Exchange

¹⁰ Robinhood also allows users to trade options. Canadian trading apps may also allow users to trade in cryptoassets.

¹¹ Annie Massa & Tracy Alloway, "Robinhood's Role in the 'Gamification' of Investing" *BloombergQuint* (19 December 2020), [online](#).

¹² Cyrus Farivar, "Gambling Addiction Experts See Familiar Aspects in Robinhood App" *NBC News* (30 January 2021), [online](#).

¹³ Nathaniel Popper, "Robinhood Has Lured Young Traders, Sometimes With Devastating Results" *New York Times* (8 July 2020), [online](#).

¹⁴ Administrative Complaint, *In the Matter of Robinhood Financial, LLC*, Docket No E-2020-0047 (Massachusetts, 16 December 2020) at 5, [online](#) ("This is no different from a broker-dealer agent handing a list of securities to a customer, pretending to be surprised when the customer purchases securities from that list, and then proclaiming that he made no recommendations to the customer.").

¹⁵ *Ibid* at 19–20.

Commission has expressed similar concerns, and has made reviewing trading apps' gamification and other digital engagement practices a key priority for 2022.¹⁶

Ridesharing and Food Delivery

Just as gamification can be applied to influence how a client interacts with an app, so too can it be used to influence gig workers who serve clients via an app, most prominently drivers and food delivery workers.

Ridesharing and food delivery apps generally take the position that their gig workers are independent contractors rather than employees. The legal distinction between employees and independent contractors is important—independent contractors can be “fired without notice or cost, not paid for unproductive waiting time, and denied other benefits, including pensions, workers’ compensation and paid holidays.”¹⁷ Classifying workers as independent contractors helps apps keep costs down and gives them more flexibility when managing their workforce.

The question of whether a worker is an employee or an independent contractor hinges in large part on the degree of control the hirer has over when, where, and how the worker performs their services.¹⁸ While gamification tactics likely don’t speak to the degree of *formal* control apps have over gig workers—they don’t give workers instructions, for example, on when to log in or out of the app—they do seem designed to give these apps a degree of *effective* control over these workers.

Some tactics seem designed to nudge workers to stay on the job longer than they otherwise might. For example, much like a streaming service that queues up a new episode as soon as the current one is done, apps can automatically queue up a new ride or delivery as soon as the current one is completed.¹⁹ And when a gig worker tries to clock out of a shift, they may receive a push notification highlighting how close they are to an arbitrary goal that’s just out of their grasp—for example, if the worker has earned \$74 during their shift, the app might highlight that they’re only \$6 away from making \$80. By creating these goals, apps encourage gig workers to stay engaged for just a little while longer. And when these goals are achieved, a new, similarly arbitrary goal sets in (e.g., the goal changes from \$80 to \$90 or \$100), encouraging further engagement.²⁰

¹⁶ See U.S. Securities and Exchange Commission (SEC) Release Nos 34-92766; IA-5833 (August 27, 2021) at 31–32, 44–45, [online](#); SEC, Division of Examinations, *2022 Examination Priorities* at 16, [online](#). See also Katanga Johnson, “Will the Games Stop? SEC Mulls Crackdown on Trading Apps” *Reuters* (26 January 2022), [online](#).

¹⁷ Jim Stanford, “Gig Workers Aren’t Second Class Workers – But That’s How Ontario’s Recent Recommendations Treat Them” *Toronto Star* (18 December 2021), [online](#).

¹⁸ See Geoffrey England, *Individual Employment Law*, 2nd ed (Irwin Law, 2008) at 16–19.

¹⁹ Noam Scheiber, “How Uber Uses Psychological Tricks to Push Its Drivers’ Buttons” *New York Times* (2 April 2017), [online](#).

²⁰ *Ibid.*

Apps can also try to move gig workers to areas where it perceives a shortage by sending push notifications predicting high demand in that area and with it, higher revenue for the driver. In practice, these predictions often turn out not to be true.²¹

Gamification can also be used to standardize how gig workers serve clients. The most overt way apps do this is through ratings, coupled with advice on how to achieve good ratings.²² Apps also offer digital badges to encourage desired behaviours like good service or great conversation, or as a reward for completing a *quest* that involves completing a target number of rides or deliveries within a certain timeframe. While some of these badges may provide real-world bonuses like fuel discounts, many have no real value.²³

Gamification can improve apps' customer experience and, with it, an app's bottom line. But there are longstanding concerns about whether the wealth it generates is being distributed equitably between apps and their gig workers.²⁴ Courts and tribunals in several jurisdictions have concluded that the effective control apps exercise over their gig workers means these workers should be classified as employees, or should receive at least some of the rights that typically come with employee status—in doing so, however, they tend to place less emphasis on gamification's role in fostering this control relative to that of more direct mechanisms employed by these apps to influence workers.²⁵

In response to these decisions, apps have proposed creating a new, intermediate status for gig workers under which they would receive some, but not all, of the rights that come with employee status.²⁶ The Ontario government has proposed adopting a variation on this option, under which all gig workers would receive some of the rights associated with employee status, without precluding a court or tribunal from determining that some

²¹ Alex Rosenblat, "The Truth About How Uber's App Manages Drivers" *Harvard Business Review* (6 April 2016), [online](#); Alex Rosenblat & Luke Stark, "Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers" (2016) 10 *International Journal of Communication* 3758 at 3766, [online](#).

²² Scheiber, note 19 above.

²³ *Ibid.* See also Sarah Mason, "High Score, Low Pay: Why the Gig Economy Loves Gamification" *The Guardian* (20 November 2018), [online](#). Apps may offer financial incentives to entice gig workers to pursue a quest, but then not be assigned enough gigs to complete the quest. See Niels van Doorn & Julie Yujie Chen, "Odds Stacked Against Workers: Datafied Gamification on Chinese and American Food Delivery Platforms" (2021) 19:4 *Socio-Economic Review* 1345 at 1357–58, [online](#).

²⁴ See e.g. Elizabeth Warren, "Uber, Lyft and Others Must Have Rules or Workers Will Lose Out" *The Guardian* (20 May 2016), [online](#).

²⁵ See e.g. *Uber BV v Aslam*, [2021] UKSC 5, [online](#); *Matter of Lowry*, 138 NYS (3d) 238 (2020), [online](#); *People v Uber Technologies, Inc*, 56 Cal App 5th 266 (2020), [online](#); *Canadian Union of Postal Workers v Foodora Inc*, 2020 CanLII 16750 (ON LRB), [online](#).

²⁶ See e.g. Khosrowshahi, note 4 above. For a critique of this kind of approach, and suggestions for alternatives, see respectively Valerio De Stefano, "The Rise of the 'Just-in-Time Workforce': On-Demand Work, Crowdwork, and Labor Protection in the 'Gig-Economy'" (2016) 37 *Comparative Labor Law & Policy Journal* 471 at 494–99, [online](#); and Tammy Katsabian & Guy Davidov, "Flexibility, Choice and Labour Law: The Challenge of On-Demand Platforms" *University of Toronto Law Journal* [forthcoming in 2023], manuscript at 15–16, 28–34, [online](#).

or all of these workers should be classified as employees and receive all the rights that come with this status as a result.²⁷

Employee Productivity

Gamification also has applications in more traditional workplaces. For example, employers have used gamification tactics to make otherwise tedious or repetitive tasks more engaging, promising to improve both productivity and the employee experience.²⁸ Gamification can also be used to make employee training programs more engaging, such that employees complete them faster.²⁹ But to the extent these tactics work to pressure employees to increase productivity, no matter the cost, they could have perverse effects, some of which may affect legally protected interests.

Disneyland's use of an electronic tracking system to monitor laundry workers' productivity is a widely reported example of gamification gone wrong.³⁰ Although electronic monitoring was not new to the hospitality industry, Disneyland's use of gamification through scoreboards was unusual. The scoreboards, displayed on large monitors, included a list of employees ranked by efficiency, measuring the number of tasks completed by each employee. Efficiency was measured against a target rate set by management. The efficiency rates appeared in green when an employee approached 100% of the target pace, in yellow when an employee was working below target, or in red when an employee's productivity level fell well below target. Management also installed laundry machines that flashed red or yellow whenever an employee's input fell below the target pace.

It was reported that following implementation of this system, the workplace's "formerly collegial environment degenerated into a race. The laundry workers competed with each other, and got upset when coworkers couldn't keep up."³¹ Some of the changes observed raise potential legal questions. For example, it was reported that employees were skipping bathroom breaks to avoid falling below target, raising the question of whether the way gamification had been implemented was effectively pressuring employees to not take mandated breaks.³² Employees also reported an increase in workplace injuries, a risk that arguably was foreseeable, given that studies linking intense monitoring of employee productivity to physical and psychological harm are

²⁷ See Ontario, News Release, "Ontario Establishing General Minimum Wage for Digital Platform Workers" (28 February 2022), [online](#).

²⁸ See Tae Wan Kim & Kevin Werbach, "More Than Just a Game: Ethical Issues in Gamification" (2016) 18 *Ethics & Information Technology* 157 at 158–59, [online](#).

²⁹ *Ibid* at 158.

³⁰ The description below draws from Steve Lopez, "Disneyland Workers Answer to 'Electronic Whip'" *Los Angeles Times* (19 October 2011), [online](#).

³¹ Vincent Gabrielle, "Gamified Life" *Aeon* (10 October 2018), [online](#).

³² See Stephanie Rabiner, "Is Disneyland's 'Electronic Whip' Illegal?" *FindLaw* (21 October 2011), [online](#).

decades old.³³ This raises the question of whether this implementation of gamification is compatible with the obligation employers owe to take reasonable precautions to avoid workplace injuries.³⁴

This question seems especially salient given that not only does this risk appear foreseeable, it also seems fairly easy to mitigate. For example, another employer that uses gamification tools to increase productivity says it lets employees choose whether to participate, and whether to share productivity outcomes with others; it also commits not to monitor employees' progress as measured by its gamification tools.³⁵ By removing the scrutiny that comes with mandatory, real-time monitoring by managers and peers, this implementation of gamification may do more to capture the benefits associated with gamifying work without giving rise to perverse consequences.

Dating

Gamification touches not only our financial and work lives, but our personal lives. Dating apps have used gamification to attract younger user demographics and bring online dating even further into the mainstream. Swiping allows for “fast, frictionless matching” that gives users instant feedback and allows them to accumulate matches quickly.³⁶ At the same time, each potential match brings an element of suspense—usually, the user can't find out how a potential match feels about them until after they swipe.

Like many video games, dating apps offer in-app purchases that let users level up: for example, Tinder users can buy *Boosts* that make them “one of the top profiles in [their] area for 30 minutes”, giving them exposure to more potential matches.³⁷ Push notifications encourage users to keep coming back to the app, in part by playing on users' fear of missing out. For example, Tinder notifies users when there's a *Swipe Surge* (abnormally high app use) in their area; the notifications claim users will have a higher likelihood of finding matches if they log in now.³⁸

³³ Gabrielle, note 31 above; Julie A Flanagan, Note, “Restricting Electronic Monitoring in the Private Workplace” (1994) 43 Duke LJ 1256 at 1263–64, [online](#).

³⁴ In Ontario, these obligations arise from the *Occupational Health and Safety Act*, RSO 1990, c O.1, s 25(2)(h). See also *Ontario (Labour) v Quinton Steel (Wellington) Limited*, 2017 ONCA 1006 at paras 24–25 (referring to the “sweeping” nature of this obligation at para 24).

³⁵ See Greg Bensinger, “‘MissionRacer’: How Amazon Turned the Tedium of Warehouse Work Into a Game” *Washington Post* (21 May 2019), [online](#); Richard A Oxarart & Jeffery D Houghton, “A Spoonful of Sugar: Gamification as Means for Enhancing Employee Self-Leadership and Self-Concordance at Work” (2021) 11:2 Administrative Sciences 35 at 38, [online](#).

³⁶ Niloofar Abolfathi & Simone Santamaria, “Dating Disruption – How Tinder Gamified an Industry” (2020) 61:3 MIT Sloan Management Review 7 at 7, [online](#).

³⁷ Tinder, “Skip the Line with Tinder Boost,” [online](#).

³⁸ Tinder, “Swipe Surge,” [online](#).

There has been an active public conversation about whether gamifying dating and relationships is a good thing.³⁹ But generally this has not been viewed as an area where law ought to intervene—dating and relationships are viewed as “private matters that ought to be free from outside assessment and influence”.⁴⁰ But widespread evidence of misogyny, racism, transphobia, and other forms of discrimination on dating apps has led legal and other scholars to question whether this kind of behaviour can really be attributable solely to individual users, or whether design choices made by apps might be feeding this behaviour.⁴¹

Features that let users filter potential matches by race or ethnicity have come under especially heavy criticism in this regard for seeming to normalize and reinforce racism.⁴² More facially neutral design choices have also come under scrutiny. For example, algorithms that rank users based on other users’ reactions to their profiles may come to internalize racial and other biases held by their user population.⁴³ Given evidence that Black women and Asian men are least likely to receive messages or responses from other users on dating apps, this concern is more than speculative.⁴⁴

Coupling this kind of algorithm with opportunities to buy a temporary boost in visibility raises another concern: that users from racialized groups are effectively being asked to pay more to receive the same level of service as White users on an app.⁴⁵ While apps’ liability for these kinds of design choices may currently be “emergent and uncertain”, this may not remain the case forever, and in any event apps will need to consider reputational risks arising from failures to consider the discriminatory impacts of their design choices.⁴⁶

³⁹ Steffen Krüger & Ane Charlotte Spilde, “Judging Books by Their Covers—Tinder Interface, Usage and Sociocultural Implications” (2020) 23:10 *Information, Communication & Society* 1395 at 1395–97, [online](#).

⁴⁰ Jevan Hutson et al, “Debiasing Desire: Addressing Bias & Discrimination on Intimate Platforms” (2018) 2:73 *Proceedings of the Association for Computing Machinery on Human-Computer Interaction* 1 at 3, [online](#).

⁴¹ *Ibid* at 2; Karen Levy & Solon Barocas, “Designing Against Discrimination in Online Markets” (2017) 32 *Berkeley Technology Law Journal* 1182 at 1232–33, [online](#).

⁴² “Grindr Removes ‘Ethnicity Filter’ After Complaints” *BBC News* (1 June 2020), [online](#).

⁴³ Hutson et al, note 40 above at 9.

⁴⁴ Christian Rudder, *Dataclysm: Who We Are (When We Think No One's Looking)* (Random House Canada, 2014) at 106–107 (discussing match data from the dating site OKCupid).

⁴⁵ More direct forms of two-tiered fee structure have posed legal problems for dating apps in the past, with Tinder facing a class action lawsuit for charging users aged 30 and older more for in-app purchases than younger users. See Alison Frankel, “9th Circuit Scraps Tinder Age Discrimination Class Settlement. Was it a ‘Sweetheart Deal?’” *Reuters* (18 August 2021), [online](#).

⁴⁶ Levy & Barocas, note 41 above at 1234.

What's the Challenge for Law?

The examples covered above encompass a wide range of applications of gamification, but the concerns they raise can be sorted into two categories. First, gamification tactics might be designed to help a business get around a legal obligation. Consider, for instance, trading apps that may lead investors to engage in risky trading behaviour they would not be allowed to directly recommend. Or ridesharing and food delivery apps that may guide gig workers into acting like employees, without necessarily assuming the obligations that come with hiring employees.

Second, gamification tactics might be designed to achieve legitimate objectives that don't interfere with legal rules, but still have harmful side effects. For example, tools meant to improve employee productivity could, depending on how they are designed, give rise to workplace injuries and other compliance problems. And design choices in dating apps meant to increase engagement could inadvertently work to amplify the effects of their own users' biases, leaving users from marginalized groups at an even greater disadvantage in seeking equal access to the services these apps provide.

In response to both of these sets of concerns, apps could argue that they are not responsible for the choices their users make. For example, trading app users are free to trade what they want, and gig workers are free to work when they want. This kind of response relies on a distinction law has traditionally drawn between *persuading* people with information or incentives (which is assumed not to affect their freedom of choice), and taking away people's *control* over their choices through coercion or deception.⁴⁷ For example, advertising rules generally do not restrict what kind of factual information businesses can use to market their products, but do prohibit the use of statements that are false or misleading.⁴⁸

The challenge gamification poses to law is that it requires that this distinction be revisited. Gamification tactics don't force users to do anything, and the information they present to users to encourage them to take a desired action can be entirely factual. But they can structure information in ways that exploit mental shortcuts we all use to make decisions quickly, to guide our choices in the direction desired by an app.⁴⁹ For example, a leaderboard of today's most commonly traded stocks appeals to our tendency to

⁴⁷ On law's traditional focus on coercion and deception, see e.g. Cass R Sunstein, *The Ethics of Influence: Government in the Age of Behavioral Science* (Cambridge University Press, 2016) at 79, 82; Tal Z Zarkasy, "Privacy and Manipulation in the Digital Age" (2019) 20:1 Theoretical Inquiries in Law 157 at 159, [online](#).

⁴⁸ See e.g. *Competition Act*, RSC 1985, c C-34, s 52(1), [online](#); *Consumer Protection Act, 2002*, SO 2002, c 30, Sch A, s 14, [online](#). French language laws, product labelling requirements for food and beverage and certain other products, rules regarding lotteries and sweepstakes, and rules regarding advertising to children are examples of other requirements that advertisers must consider.

⁴⁹ See Daniel Susser, Beate Roesser & Helen Nissenbaum, "Technology, Autonomy, and Manipulation" (2019) 8:2 Internet Policy Review at 5–6, [online](#).

follow along with what other people like us seem to be doing—it suggests we ought to be trading those stocks, too.⁵⁰ And a ridesharing app that queues up new rides automatically appeals to our tendency to take whatever default option is offered to us.⁵¹

These kinds of tactics, in themselves, aren't new—they are a mainstay of advertising and marketing. But unlike a billboard or a TV commercial, a smartphone app follows us around. And as it follows us around, it can continually test out different ways of capturing our attention and presenting options to us. Over time, the business sitting behind that app can learn “exactly which interface, which text, which juxtapositions, and which graphics maximize revenues”.⁵² These differences make it reasonable to expect that gamification and other digital engagement tactics have far more potential to influence our choices than traditional marketing techniques.

Just because these kinds of tactics can influence user's choices doesn't make them inherently bad. Our use of mental shortcuts to make decisions is inevitable, and tactics designed with these shortcuts in mind can be used to help us make choices that serve our interests and reflect our true preferences.⁵³ But the availability of these tactics does require us to recognize the significant degree of authorship apps can have over their users' choices.

To respond to gamification, law needs to recognize the existence of these kinds of co-authored choices, and identify the responsibilities that arise from apps' use of gamification and other engagement tactics to assume a significant degree of effective control over their users' choices.

⁵⁰ See generally Robert B Cialdini, *Influence: Science and Practice*, 5th ed (Pearson, 2009), ch 4.

⁵¹ See Scheiber, note 19 above.

⁵² Jamie Luguri & Lior Jacob Strahilevitz, “Shining a Light on Dark Patterns” (2021) 13 *Journal of Legal Analysis* 43 at 103, [online](#). See also Ryan Calo, “Digital Market Manipulation” (2014) 82 *George Washington Law Review* 995 at 1018, 1051, [online](#); Daniel Susser, Beate Roessler & Hellen Nissenbaum, “Online Manipulation: Hidden Influences in a Digital World” (2019) 4 *Georgetown Technology Law Review* 1 at 17, [online](#).

⁵³ See generally Cass R Sunstein & Richard H Thaler, “Libertarian Paternalism is Not an Oxymoron” (2003) 70:4 *University of Chicago Law Review* 1159, [online](#).

Potential Responses

Luckily, addressing apps' efforts to shape choices through gamification doesn't require legal decision-makers to reinvent the wheel. Law already has tools that can and should be used to recognize gamification's potential to shape people's choices, and step in when businesses use this potential in ways that frustrate the purposes behind legal obligations or cause harm:

- **Leverage flexibility in the law** to respond to innovative tactics that would otherwise work to allow someone to evade a legal obligation—for example, a trading app that leads its users to trade stocks in a way that the app would not be allowed to directly recommend to them.
- **Duties of care**, which can step in when gamification shapes choices in ways that don't necessarily engage with existing rules but lead to reasonably foreseeable harms, such as addiction or injury, and require the taking of reasonable steps to mitigate the risk that these kinds of harms will occur.

In addition, principles from anti-discrimination law could provide a foundation for addressing an issue raised by our case studies, though not directly tied to gamification: the potential discriminatory effects of the broader set of design choices embedded in apps.

The point of these responses is not to get rid of gamification. Rather, they should work to ensure gamification is not applied in a way that lets an app evade existing legal obligations, and more generally is applied in a prudent way that recognizes gamification's power to influence choices in potentially harmful ways.

Leveraging Flexibility

"[I]nnovation seeps under, around, and through regulatory structures and undermines them and their boundaries in unanticipated ways",⁵⁴ creating a need for law to be flexible so that it can adapt when this happens. Courts often invoke phrases like "substance over form" or "you cannot do indirectly what you are precluded from doing directly" when they encounter attempts to use innovative structures to get around legal obligations.⁵⁵ They use these phrases to justify interpreting these obligations flexibly, so as to thwart these kinds of attempts at avoidance.⁵⁶

⁵⁴ Cristie Ford, *Innovation and the State* (Cambridge University Press, 2017) at 139.

⁵⁵ See e.g. *Pacific Coast Coin Exchange v Ontario Securities Commission*, [1978] 2 SCR 112 at 127, [online](#); *Alberta (Attorney General) v Moloney*, 2015 SCC 51 at para 28, [online](#).

⁵⁶ In many cases, legislatures backstop this flexibility with open-ended anti-avoidance standards. See Douglas Sarro, "Corporate Veil-Piercing and Structures of Canadian Business Law" (2022) 55:1 UBC Law Review 203 at 210–20, [online](#).

At least two of our case studies raise issues that may call for a similarly flexible approach to interpreting existing legal obligations:

- If an online trading app told its retail clients that they should trade several times a day in volatile, single-name stocks, this likely would violate their obligation not to recommend trades unless they appear suitable for those clients.⁵⁷ Maybe gamification tactics that lead clients to make these kinds of trades “on their own” ought to be treated as equivalent to recommendations.
- If a ridesharing or food delivery app told its gig workers where and how long to work, there likely would be no question that these workers are employees.⁵⁸ Maybe when apps use gamification tactics to exercise effective control over these elements of gig workers’ services, this should similarly be taken into account when determining whether these workers are employees.

Employee productivity tools could fall within this category as well. If an employer were to tell employees to skip breaks or ignore health and safety procedures to get work done faster, the employer likely would find itself in various kinds of legal trouble.⁵⁹ Maybe a similar result should arise when an employer introduces a mandatory productivity leaderboard, monitors it constantly, and then leaves employees to “choose” how to react even after signs of these kinds of problematic side effects arise.

Legal decision-makers looking at gamification in other contexts could phrase these kinds of question in a more general way: **If, instead of designing an environment to lead the user to choose X, the app just told the user to choose X, would any legal consequences arise?** If so, they should consider whether they have identified an example of gamification being used to try and avoid a legal obligation, and, hence, have a basis for interpreting that obligation broadly enough to capture this avoidance behaviour. Rather than reflecting inflexibility in the face of new technologies, this approach leverages law’s capacity to adapt to innovation.

These decision-makers face two challenges in responding to these applications of gamification, however. First, they may lack empirical data establishing which kinds of gamification tactics work and how well. Second, it probably is not fair to paint all applications of gamification by a particular kind of app with the same brush. For example, if a trading app user prefers to trade frequently, and has specifically requested

⁵⁷ See *Re Matthews*, 2014 IIROC 56, [online](#); Kyle Langvardt & James Fallows Tierney, “On ‘Confetti Regulation’: The Wrong Way to Regulate Gamified Investing” (2022) 131 Yale Law Journal Forum 717 at 737–38, [online](#) (discussing equivalent U.S. requirements).

⁵⁸ See England, note 18 above at 16–19.

⁵⁹ See notes 32–34 above and accompanying text.

that they receive push notifications when stock prices move, does it really make sense to treat these notifications as recommendations from the trading app?⁶⁰

Adopting a presumption, *in the absence of evidence to the contrary*, that gamification tactics achieve the objectives they seem to be designed for could offer decision-makers a way through these challenges. Apps would then have an incentive to volunteer evidence showing what impact their gamification tactics actually have on their users' behaviour, in the hope of rebutting this presumption.⁶¹ From the decision-maker's perspective, this evidence can pave the way to better-informed, and perhaps more nuanced, regulatory responses to gamification.

Duties of Care

By flexibly applying existing legal rules, decision-makers can address attempts to avoid these rules through gamification. But as outlined earlier, some applications of gamification, even if not designed to avoid an existing legal rule, could still give rise to harm. For example, while a user who experiences financial loss as a result of addictive behaviours fed by a gamified online trading app may have a remedy under securities law, would the same necessarily be the case for a user (or third party) who experiences similar loss or other harm as a result of addictive behaviours fed by a different kind of app, that's subject to less regulation? And while a worker who feels pressured to cut health and safety corners as a result of an employee productivity tool, and suffers injury as a result, presumably would have access to remedies like workers' compensation, would the same necessarily be the case for a third party who suffers harm as a result of this corner-cutting?

Where these gaps appear, courts have the ability to fill them by imposing duties of care that require businesses to work to mitigate reasonably foreseeable risks of harm arising from the influence they exercise over their clients or workers. Most prominently, bars and other commercial hosts have long been under a common law duty to take reasonable steps to mitigate risks of injury that arise from their over-serving their patrons.⁶² The duty reflects these hosts' capacity and incentive to feed into

⁶⁰ See Tierney, note 1 above at 20–21.

⁶¹ On the effects of legal presumptions on parties' incentives to volunteer information, see generally Bruce L Hay & Kathryn E Spier, "Burdens of Proof in Civil Litigation: An Economic Perspective" (1997) 26 *Journal of Legal Studies* 413 at 426–27, [online](#). Factual inferences are a related tool that can serve a similar function in adjudicative proceedings. See Colleen Sheppard & Mary Louise Chabot, "Obstacles to Crossing the Discrimination Threshold: Connecting Individual Exclusion to Group-Based Inequalities" (2018) 96:1 *Canadian Bar Review* 1 at 18–20, [online](#).

⁶² See *Jordan House Ltd v Menow*, [1974] SCR 239, [online](#); *Stewart v Pettie*, [1995] 1 SCR 131, [online](#). See also *Crocker v Sundance Northwest Resorts Ltd*, [1988] 1 SCR 1186, [online](#) (concluding a ski resort was required to take steps "to prevent a visibly intoxicated person from competing in the resort's dangerous 'tubing' competition" (para 1)). Liquor licensing laws impose specific statutory duties on bars, but the

their patrons' vulnerabilities by overserving them, as well as these hosts' ability to monitor and control their clients' alcohol consumption.⁶³

And, more recently, the Court of Appeal for Ontario extended this logic to suggest casinos may be under a similar duty to monitor for and mitigate risks of harm arising from problem gambling, including by refusing service to known problem gamblers so as to prevent further financial losses, both to the gambler and to third parties whose funds the gambler might be using to feed their problem behaviour.⁶⁴ Commentators have embraced this idea, noting it responds to casinos' incentive to design choice environments that feed into problem gambling, and reflects their ability to monitor their patrons' behaviour for signs of problem gambling and mitigate the risks of harm arising from it.⁶⁵

Much the same can be said about apps that employ gamification. They too create an environment that could facilitate their users' making choices that result in harm, potentially by exploiting weaknesses in these users' decision-making. Apps are at least as well-placed as bars and casinos to observe and track their users' behaviour, giving them opportunities to detect signs of trouble and intervene.

The scope of a duty of care, of course, is not unlimited—it does not require the prevention of all harm. It requires that only that a business take *reasonable steps to mitigate* the risk of harm. In the case of a bar, that could mean calling a cab for patrons who seem unable to get themselves home safely.⁶⁶ In the case of an app concerned about mitigating risks of harm arising from addictive behaviours, it could mean implementing counter-addictive design features, like mandatory breaks from use and changes in the user's choice environment intended to discourage use over long, continuous periods.⁶⁷ Workplaces implementing new gamification tactics could take steps to monitor the effects of these tactics, so that they can detect possible unintended consequences and course correct if needed.

Law should work to encourage apps and other businesses that use gamification to reflect on what behaviours they are seeking to optimize, and what risks to users or third parties could arise when these behaviours go too far. They should be further encouraged to develop systems designed to detect when these risks are reasonably likely to be occurring, and implement design features that can come into play to

presence or absence of these statutory duties is not necessarily determinative of whether a broader common law duty also applies. *Jordan House*, *ibid* at 246–47.

⁶³ See *Childs v Desormeaux*, 2006 SCC 18 at paras 18, 22, [online](#).

⁶⁴ *Paton Estate v Ontario Lottery and Gaming Corp*, 2016 ONCA 458 at paras 31–44, Pardu JA, [online](#).

⁶⁵ Erika Chamberlain, Robert Simpson & Garry Smith, "When Should Casinos Owe a Duty of Care Toward Their Patrons?" (2019) 56:4 *Alberta Law Review* 963, [online](#).

⁶⁶ See *Jordan House*, note 63 above at 248.

⁶⁷ See Kyle Langvardt, note 6 above at 154–60.

mitigate these risks when they are detected. And, of course, the standard they are held to should not be omniscience or perfection, but rather that of taking reasonable steps to mitigate reasonably foreseeable risks.

Legal decision-makers may need to consider contractual or other legal barriers that prevent duties of care from operating in this way. For example, user agreements that purport to waive liability or require arbitration of disputes (preventing users from mounting class actions) could work to frustrate attempts to subject apps to duties of care.⁶⁸ Strong consideration should be given to removing these barriers where they are found, including through judicial application of existing common law and equitable doctrines.

Anti-Discriminatory Design

Our dating case study suggests there is at least one concern related to gamification, though not directly tied to it, that requires more attention from apps and legal practitioners: the potential legal implications of app design choices that have discriminatory effects on different groups of users. Consider, for example, matching algorithms used by dating apps that, even if facially neutral when first deployed, end up producing biased outcomes due to their internalizing the biases of their user populations. Or apps in which users belonging to marginalized groups face a disproportionate amount of harassment and other abuse from other users.

Human rights legislation protects individuals' right to equal treatment in the delivery of services, without discrimination.⁶⁹ In addition to protecting individuals from intentional discrimination, this right protects individuals from *constructive* discrimination—facially neutral policies that have the effect of excluding or preferring a group of persons on legally protected grounds.⁷⁰ Could matching algorithms that systematically downgrade users belonging to certain racial or ethnic groups, include design features that let users filter potential dates by race or ethnicity, or expose users belonging to marginalized groups to disproportionate amounts of harassment from other users, be viewed as having discriminatory effects? Could users belonging to marginalized groups say that they are not receiving equal treatment with respect to the services their app delivers?⁷¹

⁶⁸ On these and other contractual clauses operating to similar effect, see John Enman-Beech, "Unconscionable Inaccess to Justice" (2020) 96 *Supreme Court Law Review* (2nd series) 77, [online](#).

⁶⁹ See e.g. *Human Rights Code*, RSO 1990, c H.19, s 1, [online](#).

⁷⁰ See e.g. *ibid*, s 11(1).

⁷¹ On the potential for algorithmic bias to give rise to human rights claims in Canada, see e.g. Jacquelyn Burkell & Jane Bailey, "Unlawful Distinctions? Canadian Human Rights Law and Algorithmic Bias" (2016/2018) 2 *Canadian Yearbook of Human Rights* 217, [online](#); Dominique Payette & Virginia Torrie, "AI Governance in Canadian Banking: Fairness, Credit Models, and Equality Rights" (2020) 36:1 *Banking & Finance Law Review* 5, [online](#); Cynthia Khoo, *Deplatforming Misogyny: Report on App Liability for*

Under Ontario's *Human Rights Code*, the right to be free of constructive discrimination is subject to a proviso—the “requirement, qualification or factor” that results in such discrimination is permissible if it is “reasonable and *bona fide* in the circumstances”, which requires at a minimum that the individual claiming discrimination “cannot be accommodated without undue hardship ... considering the cost” and other factors.⁷²

This limitation makes sense. It would be unreasonable to expect an app to transform its users into perfect people, or entirely eliminate long-standing social problems like discrimination and harassment. **But it does seem reasonable to expect apps to take ownership of the influence they have over their users' choices, and as such at least take care to avoid feeding these users' worst tendencies.** Anti-discriminatory design, like counter-addictive design, is not a new idea.⁷³

Of course, claimants must meet not only substantive hurdles to success, but procedural and evidentiary ones as well.⁷⁴ But tools for ensuring these hurdles are not insurmountable are already available, though not necessarily everywhere in Canada. Reflecting the informational advantage defendants have over claimants in human rights cases, tribunal decision-makers have significant flexibility to draw factual inferences from partial evidence provided by claimants (e.g., about the likely effects of a gamification tactic or other digital engagement practice), so as to give defendants the incentive to introduce evidence providing more background on their design choices and other decisions.⁷⁵ British Columbia also provides a group litigation procedure for human rights claims, which would seem to give similarly affected users a cost-effective means to have their rights to equal access to digital services vindicated.⁷⁶

Accordingly, there is reason to expect that identifying and implementing principles for anti-discriminatory app design will not only improve outcomes for apps' users, but also help apps mitigate future litigation and liability risks.

Technology-Facilitated Gender-Based Violence (Women's Legal Education & Action Fund, 2021) at 129–30, [online](#).

⁷² *Human Rights Code*, note 69 above, s 11(2).

⁷³ See e.g. Hutson et al, note 40 above at 11–15; Levy & Barocas, note 41 above at 1189–92.

⁷⁴ See Bradley Henderson, Colleen M Flood & Teresa Scassa, “Artificial Intelligence in Canadian Healthcare: Will the Law Protect Us from Algorithmic Bias Resulting in Discrimination?” (2022) 19 *Canadian Journal of Law & Technology* 475 at 491–93, [online](#).

⁷⁵ See generally Sheppard & Chabot, note 61 above at 18–20, 34–35.

⁷⁶ See *Human Rights Code*, RSBC 1996, c 210, s 21(4), [online](#); Jean-Simeon Schoenholz, “Opening the Doors of Justice: Group Litigation and Claims of Systemic Discrimination” (2017) 48:2 *Ottawa Law Review* 687 at 691–92.

Looking Ahead

Innovation continually challenges law to keep pace with it. But adapting to new technologies doesn't always require new legal principles or regimes. Often, it requires only that legal decision-makers make proper use of the tools they already have, by interpreting legal obligations flexibly rather than in narrow or technical ways, and recognizing connections between challenges posed by new innovations and earlier challenges already addressed by law.

Taking this approach to gamification can get us much of the way towards giving apps more of an incentive to recognize the influence they have over their users and exercise this influence in a responsible way. That gamification should not be used as an end-run around legal obligations, or as a way for apps to absolve themselves of responsibility for mitigating reasonably foreseeable risks of harm arising from their businesses, ought to be uncontroversial. Decision-makers should have little hesitation to use the law's flexibility to achieve these objectives. Apps also have reason to take measures to identify and mitigate any discriminatory effects of their design choices more broadly.

The novel nature of much of the technology discussed in this report should not distract us from the reality that the kind of challenge it raises is one law is accustomed to dealing with: adapting so that it can keep doing the job of preventing and holding people accountable for harms arising from their decisions. Because apps are extensions of the people who design them. They reflect design choices made by people, their testing and monitoring is overseen by people, and often they rely on data supplied to them by people. And just like people, apps and other AI systems are prone to get things wrong and harm people, especially when those who oversee them have perverse incentives.⁷⁷ Law can help correct for this problem by imposing obligations on those responsible for overseeing these systems to exercise their powers reasonably. This report has aimed to outline a pathway towards achieving this.

⁷⁷ On the importance of human judgment to algorithm design, and hence algorithmic decisions, see Anthony J Casey & Anthony Niblett, "The Death of Rules and Standards" (2017) 92 *Indiana Law Journal* 1401 at 1438–40, [online](#).

Appendix

Research Team

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