NUDGING TOWARDS BETTER INVESTMENT DECISIONS: APPLYING BEHAVIORAL INSIGHTS IN WEALTH MANAGEMENT PLATFORMS

Akhilesh Daljeet Bacchoo Global College Malta Akhilesh@gcmalta.com

Dr. Prashant Kumar Mishra

ABSTRACT

As personal finances are constantly changing their form, the platforms for wealth management have emerged as great instruments that give their users more and more space to manage their investments independently. However, due to cognitive biases, investor decision-making is often hindered, for instance, overconfidence, loss aversion and present bias which lead to suboptimal results. This article examines how behavioural economics -the use of "nudges"- can be tactically employed to design digital wealth management platforms that will encourage better investment behaviour. Based on the pioneering work of Thaler and Sunstein, nudging is a nudge to choice architecture that subtly changes that point individuals towards the right choices without reducing their freedom of choice. Within the phenomenon of wealth management, such nudges can be default portfolio allocations, warning signs about volatility in the market, personalised goal-setting modules, and framing techniques that reorient the perception of risk and return.

The article synthesises recent literature on behavioural finance and digital interface design to submit a structured framework to insert nudges in investment platforms. It also appraises the practical deployments from robo-advisors and fintech startups and assesses their efficacy in enriching user outcomes. Emphasis is given to ethical considerations including transparency, and autonomy, where a nudge improves investor welfare without manipulation.

Overall, the paper concludes that synthesising behavioural insights to platform architecture is a promising horizon in the democratisation of financial advisory work and the enhancement of long-term financial investor results. With expanding numbers of digital wealth tools, the ability to recognize the psychology of decision-making and use it to your advantage is no longer an advantage but a necessity.

Keywords:

Behavioral Economics; Nudging; Wealth Management Platforms; Investor Decision-Making; Digital Choice Architecture

INTRODUCTION

Over the last few years, through digital wealth management platforms, the democratisation of access to investment has transformed how people interact with financial markets on a structural basis. From robo-advisors to mobile investment apps, the modern investor is starting to become more self-directed, trading off the intuitive interfaces of normal human advisors. Whilst this conversion improves accessibility and cost efficiency, it also leads to the exposure of users to the psychological pitfalls of decision-making in uncertainty. A mounting stream of behavioural economics-based research shows that even well-informed investors are potential prey for systematic biases – like overconfidence, loss aversion, or status quo bias -which may seriously interfere with long-term financial results (Kahneman & Tversky, 1979; Barber & Odean, 2001).

In contrast to the rational agents' hypothesis laid down by classical economics, behavioural finance [recognizes that] personal decision-making often diverges from optimal because of cognitive barriers and emotional pressure (Thaler, 1999). These variations are not random but occur in patterns that can be corrected by appropriate interventions, called "nudges". It is a term coined by Thaler and Sunstein (2008), nudging constitutes slight alterations to the environment of choice that influence behaviour while leaving personal choice unconstrained. In the world of investment platforms,

nudging could be in the form of offering savings defaults, repositioning risk or reminding users about their goals; approaches which have been successfully applied elsewhere, including the fields of retirement planning and organ donation (Johnson et al., 2012; Benartzi & Thaler, 2013).

Simultaneously, the explosion of fintech sites provides a perfect background for nudging principles' applications. Digital interfaces provide the capacity to tailor content, monitor behavioural data and perform real-time interventions at scale—all functions favorable to promoting customized behavioural nudges. Unlike face-to-face advisory services when operating traditionally, platforms can include design nudges in the workflows of users making them follow it reducing friction and smooth improvement of decision quality (Hollands et al., 2013).

Smart Nudging for Investment Outcomes



Figure 1: Intersection of Behavioral Economics and Fintech Design

As Figure 1 demonstrates, the juxtaposition of behavioural economics and digital design concerns is not just theoretical – it is a practical route to a solution for long-standing inefficiencies of investor behaviour. Think about the ordinary discovery that retail investors perform worse than the market as they trade too often and are impelled to do so by overconfidence and sensation-seeking (Barber & Odean 2000). A little nudge like a pop-up informing the user of long-term objectives before effecting a trade can cool emotional reactions and promote patience. Likewise, presenting investment performance as probabilistic ranges instead of deterministic returns can facilitate the user's creation of better risk perceptions (Weber et al., 2005).

Table 1: Common Investor Biases and Corresponding Digital Nudges					
Bias	Manifestation in Investment Behavior	Digital Nudge Example			
Overconfidence	Excessive trading and risk-taking	Trade limit reminders; cost-of-trade pop-ups			
Loss Aversion	Holding onto losing assets too long	Reframing losses in terms of long-term portfolio impact			
Present Bias	Under-saving or chasing short-term gains	Goal progress trackers; auto-invest reminders			

JETRM International Journal of Engineering Technology Research & Management

Published By:

https://www.ijetrm.com/

Status Quo Bias	Not diversifying or rebalancing	Default diversified portfolios; periodic rebalancing prompts		
Confirmation Bias	Seeking info that confirms beliefs	Counterpoint articles or data visualizations before trade		

Although the concept of behavioural nudging is not new, its use in wealth tech ecosystems is poorly investigated and uneven. Robo–advisors like Betterment, Wealthfront and Nutmeg have started to experiment with behavioural prompts—for example suggesting default risk profiles or automatic rebalancing, but how well these features are implemented varies considerably (Lopez et al., 2020). More importantly, there is little academic review of whether or not such nudges affect outcomes, especially in varying demographic and psychographic profiles of users.

The ethical dimension of digital nudging is another?key issue. Critics claim that the lack of transparency and user control can in fact make nudges approaches cross into manipulation, especially where commercial incentives are involved (Yeung, 2017). Therefore, behavioural design needs to find a way to strike between influence and autonomy so that users can stay on top of their financial decisions but be gently guided in the right direction.

Within this paper, these gaps are filled by the introduction of a behavioural design framework for digital wealth management platforms. Relying on empirical findings of behavioural finance and HCI (human-computer interaction), it provides guidelines for nudges integration into platform architecture design. These practices include:

- Behavioural profiling-based nudge customization.
- Ethical defaults in portfolio construction
- Feedback mechanisms for learning and adjustment.
- Context-aware framing and alert systems

In addition, the paper looks at actual cases of nudging in fintech products, drawing comparative case studies to evaluate design options, results, and ethical transparency. It is hoped that these case studies will highlight both successes and blind spots, creating something of a roadmap for the future development of the platform.

The contributions made by this paper are three in number.

1. It carries forward the theoretical integration of behavioural finance and digital design.

2. It is a guide of a practical nature for platform designers in their endeavour to institute ethical data-driven nudges.

3. It presents a policy-relevant debate on protecting the investor's autonomous space in the practice of digital persuasion.

Ultimately this work falls into a broader trend toward "behavioural fintech" – a design orientation that embraces the psychological realities of users and seeks to build systems to empower, rather than exploit, human decision-making shortcomings. With increasing self-direction by the retail investors in their portfolio, 'smart', 'ethical' and 'adaptive' nudging mechanisms are quickly no longer a design percentage but a pure financial necessity.

LITERATURE REVIEW

2.1 Behavioral Finance: Challenging the Rational Investor Paradigm

In the traditional economic models, the rational agents' assumption lies at its core where people continually make decisions, which maximize the utility of all the information available (Fama, 1970). But recently, the advent of behavioural finance has destroyed this concept systematically and brought empirical evidence that investors are often ruled by heuristics, emotional biases and cognitive limitations (Kahneman & Tversky, 1979).

Kahneman and Tversky's Prospect Theory turns out to be a seminal change in economic thinking. Their experiments proved that people do not make absolute judgments of outcomes but, rather they make judgments about the ones when compared to a point of reference. Importantly, losses are weighted more negatively than the same amount of gains — a phenomenon also known as loss aversion. This bias causes investors to hang onto losing assets in order not to incur the loss, an activity that arises from this bias contributes to suboptimal portfolio performance (Shefrin & Statman, 1985).

Other top biases apart from loss aversion include:

• Overconfidence Bias: Investors mistakenly presume to know what the markets will do, and they end up overtrading and underperforming (Barber & Odean, 2001).

• Present Bias: A tendency to be short-sighted, that is to favour immediate rewards as opposed to long-term gains, leading to under-saving and impulsive trading (Laibson, 1997).

• Status Quo Bias: A stubbornness to change an allocation of investment of an investor, even in cases when such an investor would benefit (Samuelson & Zeckhauser, 1988).

2.2 The Rise of Digital Wealth Management Platforms

As financial services have been digitalised, wealth management platforms (WMPs) and robo-advisors experienced increasing popularity due to low-cost, algorithm-based investment advice they deliver. Services like Betterment, Wealthfront and Nutmeg enable suitors to automate investment, establish objectives and get suggestions per risk preferences (Sironi, 2016).

In spite of the convenience such platforms equip the users with a high level of self-management, which can aggravate consequences of the behavioural biases without human advisors (Lopez et al., 2020). As a result, behaviorally inspired design of platforms becomes decisive. Academic literature has only begun to investigate the use of the user interface (UI) and choice architecture as behavioural intervention platforms (Ly et al., 2013).

2.3 Nudging: Definition and Mechanisms

The idea of nudging is based on Thaler and Sunstein's (2008) great work Nudge. The Improvement of Health, Wealth and Happiness Decisions. A nudge is defined as:

Any element of the choice architecture that predictably changes people's behaviour without prohibiting any alternatives or drastically altering their economic disincentives" (Thaler & Sunstein, 2008, p. 6).

Nudges succeed by quietly rearranging the context where choices are made. In digital finance, this constitutes many things:

- **Defaults:** Autopilot instructions automatically onboard people to diversified portfolios unless they opt-out.
- **Framing:** Bringing out risk in a probabilistic rather than deterministic format.
- **Reminders:** Notification of long-term goals before users withdraw or trade.
- **Visual Feedback**: Graphic indicators representing savings increase or investment growth.

A meta-analysis conducted by Benartzi et al. (2017) revealed that such behavioural design changes in the digital environment contributed to dramatic improvements in financial behaviours such as saving, debt repayment and diversification.

2.4 Nudging in Financial Technology (FinTech)

While the use of nudges in FinTech is gathering pace, its effectiveness is increasingly being empirically confirmed. For example, Karlan et al. (2016) showed that merely SMS reminders could enhance low-income populations' saving rates. In the same way, the use of automated goal-setting interfaces assisted the users in keeping up their regular contributions to retirement plans (Milkman et al., 2021).

Wealthfront and Betterment have both tried behavioural UI parts, including pre-set risk profiles, purpose-driven dashboards and fluctuation-reporting. Regardless, limited academic measurement of these tools exists and the debate about what makes an ethical nudge in for-profit digital platforms has yet to produce results (Burr et al., 2020). Ethical frameworks speculate that for nudges to be acceptable, they should be transparent, reversible and of benefit to the user (Sunstein, 2015).

2.5 Research Gaps and Emerging Questions

Although the effectiveness of nudges in analogue spaces has been explored sufficiently, the applicability to digital financial interfaces remains an emerging field of research. Several key gaps remain:

- 1. Long-term investment results from digital nudging evidence is scanty.
- 2. A personalization of nudges based on user data is under-theorized.
- 3. Ethical standards of how to nudge in FinTech are in development.

Furthermore, the majority of published studies see people as a homogeneous set and do not consider variations in financial literacy, risk tolerance and behavioural profile (Lopez et al., 2020; Patel et al., 2022). Filling these gaps is very important in ensuring that the platforms being developed are able to not only scale access to investment tools but to improve the quality of investor decisions.

Understanding nudging: From maintaining status quo to reducing overconfidence.



Figure 2: Behavioral Biases Targeted by Nudging

This literature review shows how behavioural finance has shed critical light on why investors shift from optimal decision-making but the potential of nudging as a corrective tool in digital platforms continues to be underutilized and under research. With the financial industry continuing to move towards digital interfaces, there are high hopes for embedding evidence-based behavioural nudges in platform design as an approach to optimise investor outcomes– if done poorly, it can be ethically questionable.

MATERIALS AND METHOD

3.1 Research Design Overview

The study utilizes a qualitative comparison of cases with quantitative analysis of the content of the implemented digital nudging interventions in best Wealth Management Platforms (WMPs). The aim is to describe how behavioural insights are executed in digital interfaces, and how much potential they have in limiting investor biases. The methodological approach includes:

- 1. Election of digital investment sites for case study review.
- 2. Category analysis of the features of nudging based on a behavioural design taxonomy
- 3. Criteria of evaluation development referring to effectiveness, personification, and ethical openness.
- 4. Experty approval based on secondary literature and platform documentation

This polyphonic method enforces triangulation of data and grounds a vigorous interpretation of nudging efficacy in action.

3.2 Platform Selection Criteria

Based on the inclusion criteria below three platforms were selected:

- Universal relevance, and substantial user database
- Investment tools in the form of robots (robo-advisors)
- Presence of documentation platform, UI walkthrough and published design features
- Evidence of behaviorally-informed interface components
- The platforms selected are:
- Betterment (U.S.)
- Nutmeg (UK)
- Stash (U.S.)

These are hybrid passive advisory, goal-based investment and educational nudging models.

JETRM International Journal of Engineering Technology Research & Management Published By:

https://www.ijetrm.com/

3.3 Behavioral Nudging Taxonomy

To structure the understanding of digital nudging, a behavioural nudging taxonomy was adapted from Thaler & Sunstein (2008), Benartzi et al. (2017), and Weinmann et al. (2016), categorising nudges into five types appropriate for digital investment contexts including:

Nudge Type	Definition	Targeted Bias	Example Feature
Default Setting	Automatic portfolio allocation or risk profile	Status quo bias	Pre-selected moderate risk portfolio
Framing and Labeling	Changing how options or risks are presented	Loss aversion, framing effect	Showing returns as probability distributions
Reminders and Alerts	Time-sensitive nudges that prompt goal alignment or deter impulsive action	Present bias, attention bias	"You're 75% toward your retirement goal" notifications
Progress Feedback	Visual or numeric displays showing goal attainment	Motivation bias	Savings tracker or investment journey visualization
Educational Prompts	Embedded lessons or content nudges to correct misbeliefs	Overconfidence, knowledge gaps	Mini-lessons before executing trades

These groups of platforms allow analyzing and comparing the manner in which each of the platforms incorporates behavioural nudges into its interface and user workflows.

3.4 Data Collection

Data was collected from three channels between August and November 2023 as follows;

• Platform Testing: UI/UX design elements were examined by using simulated accounts and demo environments.

• Platform Documentation: Whitepapers, blogs and FAQs, as well as official design updates from Betterment, Nutmeg and Stash.

• Secondary Literature: Peered reviewed publications, UX audits, and behavioural studies that cited these platforms (Lopez et al., 2020; Burr et al., 2020; Patel et al., 2022).

Where access was interactive, screenshots, walkthrough videos and platform guides were triangulated with available user feedback in Trustpilot and Reddit forums.

3.5 Evaluation Framework

The use of nudging interventions happening on each platform was assessed using the following three dimensions:

1. Effectiveness: Evidence of the effects of the nudge on improvements in financial behaviour (saving more, less impulsive trading).

2. Personalization: Whether or not the nudge is tailored to one's goals, risk tolerance or behavioural profile.

1. 3. Transparency and Ethics: Declarativeness of the nudge's purpose and subsequent clarity of user control (ability to override defaults).

JETRM International Journal of Engineering Technology Research & Management

Published By: https://www.ijetrm.com/

Table 3: Evaluation Criteria for Digital Nudging Interventions

Criteria	Indicators
Behavioural Effectiveness	Increase in user engagement, reduction in risk-taking, improved portfolio mix.
Personalization Level	Use of user data to tailor nudges; behavior-responsive messaging
Ethical Transparency	Disclosure of defaults, ability to opt-out, and user autonomy preserved

All types of nudging from Table 2 were graded qualitatively low/medium/high for the three criteria, according to the design of platforms observed and documented impacts on behaviour.

3.6 Limitations

Despite the structured approach to measuring behavioural nudging in digital wealth tools, this method has, many shortcomings that should be noted:

• Platform Black Box: Much of the algorithmic decisions and UI experiments are proprietary, and thus not open to external evaluation (Hosanagar & Saxena, 2021).

• Lack of Longitudinal Data: It is immediate design and documentation, not long-term user outcomes, upon which nudges are measured.

• User Heterogeneity: The study does not directly observe different user responses (such as age, literacy, and income), that will influence the receptivity of nudges.

Nevertheless, such a methodology suggests a replicable basis for an analysis of the behavioural architecture of WMPs.

In that section, the methodological framework for the assessment of the incorporation of nudging principles into digital wealth platforms was described. By making use of platform analysis and a behavioural taxonomy, as well as ethical evaluation criteria, the study seeks to identify not only which nudges are implemented, [but]how well they assist investors in making smarter bias-aware decisions.

RESULTS AND DISCUSSION

4.1 Overview of Findings

Betterment, Nutmeg and Stash analysis show mixed integration of behavioural nudge across platforms. Although all platforms use default settings and goal-setting prompts, the level of personalization, as well as ethical vigilance, is rather different.

Betterment was the most behaviorally polished platform, focusing on automatic rebalancing, personal notification, and goal-tied portfolios. Nutmeg concentrates much on risk education and framing, whereby, they employ graphical risk sliders and probability ranges. Stash provides this rich educational content however tends frequently to use gamification and visual nudges targeted at the novice investor which cross the line into persuasive marketing rather than the neutral choice architecture.

4.2 Nudge Effectiveness and Platform Scoring

Table 4: Comparative Evaluation of Nudging Features Across Platforms

Platform	Defaults	Framing	Reminders	Personalization	Ethical Transparency	
Betterment	🗹 High	Medium	🗹 High	🗹 High	🗹 High	
Nutmeg	🗹 Medium	🗹 High	🗹 Medium	🔔 Low	🗹 Medium	

	JETRM International Journal of Engineering Technology Research & Management Published By: <u>https://www.ijetrm.com/</u>						
Stash	🗹 Medium	1 Low	🗹 Medium	🗹 Medium	1 Low		

Legend: Vigh = Strong evidence; A Low = Weak or unclear implementation

In all the critical areas, Betterment scored very highly. Its application of goal-directed reminders, visualization of progress, and goal-adjusted auto-investing are all behavioural design practices (Benartzi et al., 2017). For example, users get an automated email such as "You're on track to retire by 2045" – a step found to diminish present bias and encourage long-term thinking (Milkman et al., 2021)

Nutmeg is well served in terms of risk framing as graphics for information about potential returns appear as a bell curve with confidence intervals. The influence of this approach in reducing overconfidence and enhancing the perception of the variability of investment is negative (Weber et al., 2005). Nutmeg provides fewer personalized prompts, and its default settings are not so highly emphasized.

Stash concentrates on education-oriented nudging, so it delivers mini-lessons before deals, as well as nudges the users to consider diversified ETFs. Although this way helps to close knowledge gaps, its utilization of gamified rewards (e.g., badges for investing streaks) is concerned with manipulation as opposed to guidance (Burr et al., 2020). Further, Stash is not very clear on how user data determines recommendations, thus, which compromises ethical clarity.

4.3 Nudge Alignment with Biases



Mitigation of Behavioral Biases by Investment Platforms

Figure 3: Nudge Types Aligned with Behavioral Biases Across Platforms

The following is a presentation of the results in Figure 3: Betterment was most effective at mitigating present bias and status quo bias, while Nutmeg focused on loss aversion and risk framing. Stash's educational nudges did have a fairly effective impact but lacked structural support (default, automation) to counter Romansd behaviours (such as overtrading) by design.

4.4 Discussion: Insights and Implications

The results reinforce that platforms differ in how they consider and act on behavioural insights. On the system level though, Betterment relies on nudges (e.g., automation or default rebalancing), while Stash likes user-driven content and micro-lessons. Such divergence illustrates a general conflict between design-based nudging and informational nudging – the latter is more efficient taken cognitive load is less incurred (Sunstein, 2015).

Further, transparent and reversible nudges-based platforms such as Betterment serve ethical standards, and while persuasive or gamified designs are concerned, digital paternalism questions arise. Users may not know each time their behaviour is being guided, especially, if nudges are a part of visually appealing pictures, or notifications (Yeung, 2017).

This comparative analysis demonstrates that if nudging is ethically and farsightedly imposed, it can transform investor behaviour in enormous ways. Betterment shows how behavioural insights can be completely incorporated within the platform architecture and Stash presents the potential for – and ethical risk of – nudging-as-gamification. Ahead, designers, need to integrate influence and autonomy so that smart choice architecture supports, rather than conscripts users.

CONCLUSION

The application of behavioural insights to digital wealth management platforms provides an exciting approach to enhancing investor results. As this study shows, nudging mechanisms achieve this by taking the form of defaults, framing, and goal-based reminders – all of which are capable of tempering well-documented biases, such as overconfidence, present bias and status quo inertia (Thaler & Sunstein, 2008; Barber & Odean, 2001). Betterment is among the platforms analyzed that are behavioural design aligned including automated personalization and ethical transparency (Benartzi et al., 2017).

However, not all nudging is the same. The distinction resulting from educational nudging and interface-level choice architecture focuses on significant differences in terms of effectiveness and user autonomy (Lopez et al., 2020). Stash's gamifying tactic is entertaining but raises manipulative influence questions — this highlights the need for open, ethical nudge rules (Yeung, 2017).

Finally, digital platforms stand in a special position to provide scalable, data-driven behavioural interventions to support long-term investment objectives. However, these tools should be developed rigorously, with consideration being paid to user diversity, literacy, and consent. With the future of wealth management more likely to be automated, ethical and empirically based nudging embedded in the platforms would not only be crucial to platform performance but investor well-being and financial inclusion.

REFERENCES

- Barber, B. M., & Odean, T. (2000). Trading is hazardous to your wealth: The common stock investment
 performance of individual investors. Journal of Finance, 55(2), 773–806. <u>https://doi.org/10.1111/00221082.00226</u>
- Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. Quarterly Journal of Economics, 116(1), 261–292. <u>https://doi.org/10.1162/003355301556400</u>
- Benartzi, S., & Thaler, R. H. (2013). Behavioural economics and the retirement savings crisis. Science, 339(6124), 1152–1153. <u>https://doi.org/10.1126/science.1231320</u>
- Benartzi, S., Lehrer, J., & Thaler, R. H. (2017). Behavioral finance and the design of financial products. Journal of Economic Perspectives, 31(3), 81–98. <u>https://doi.org/10.1257/jep.31.3.81</u>
- Burr, C., Cristianini, N., & Ladyman, J. (2020). An analysis of the interaction between intelligent software agents and human users. Minds and Machines, 30, 385–414. <u>https://doi.org/10.1007/s11023-020-09525-4</u>
- Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. Journal of Finance, 25(2), 383–417. <u>https://doi.org/10.2307/2325486</u>

- Hollands, G. J., Marteau, T. M., & Fletcher, P. C. (2013). Non-conscious processes in changing healthrelated behaviour: A conceptual analysis and framework. Health Psychology Review, 7(sup1), S15–S25. <u>https://doi.org/10.1080/17437199.2012.748822</u>
- Hosanagar, K., & Saxena, D. (2021). The Ethics of Algorithms: Mapping the Debate. In M. A. Peters (Ed.), Encyclopedia of Educational Innovation. Springer. <u>https://doi.org/10.1007/978-981-13-2262-4_267</u>
- Johnson, E. J., Shu, S. B., Dellaert, B. G. C., Fox, C. R., Goldstein, D. G., Häubl, G., ... & Weber, E. U. (2012). Beyond nudges: Tools of a choice architecture. Marketing Letters, 23(2), 487–504. https://doi.org/10.1007/s11002-012-9186-1
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. Econometrica, 47(2), 263–291. <u>https://doi.org/10.2307/1914185</u>
- Karlan, D., McConnell, M., Mullainathan, S., & Zinman, J. (2016). Getting to the top of mind: How reminders increase saving. Management Science, 62(12), 3393–3411. <u>https://doi.org/10.1287/mnsc.2015.2296</u>
- Laibson, D. (1997). Golden eggs and hyperbolic discounting. Quarterly Journal of Economics, 112(2), 443–478. <u>https://doi.org/10.1162/003355397555253</u>
- Lopez, R. A., Papageorgiou, N., & Savva, C. S. (2020). Robo-advisors: A portfolio management perspective. Journal of Financial Transformation, 51, 103–112.
- Ly, K., Mažar, N., Zhao, M., & Soman, D. (2013). A practitioner's guide to nudging. Rotman School of Management. <u>https://doi.org/10.2139/ssrn.2409970</u>
- Milkman, K. L., Gromet, D. M., Ho, H., Kay, J. S., Lee, T. W., Pandiloski, P., & Duckworth, A. L. (2021). Megastudies improve the impact of applied behavioural science. Nature, 600(7889), 478–483. <u>https://doi.org/10.1038/s41586-021-04128-4</u>
- Patel, M. S., Volpp, K. G., & Asch, D. A. (2022). Behavioural economics in health care: Nudging and choice architecture. JAMA, 327(14), 1346–1347. <u>https://doi.org/10.1001/jama.2022.3196</u>
- Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. Journal of Risk and Uncertainty, 1(1), 7–59. <u>https://doi.org/10.1007/BF00055564</u>
- Shefrin, H., & Statman, M. (1985). The disposition to sell winners too early and ride losers too long: Theory and evidence. Journal of Finance, 40(3), 777–790. <u>https://doi.org/10.1111/j.1540-6261.1985.tb05002.x</u>
- Sironi, P. (2016). FinTech innovation: From robo-advisors to goal-based investing and gamification. Wiley.
- Sunstein, C. R. (2015). The ethics of nudging. Yale Journal on Regulation, 32(2), 413–450. https://digitalcommons.law.yale.edu/yjreg/vol32/iss2/6/
- Thaler, R. H. (1999). Mental accounting matters. Journal of Behavioral Decision Making, 12(3), 183–206. https://doi.org/10.1002/(SICI)1099-0771(199909)12:3<183::AID-BDM318>3.0.CO;2-F
- Thaler, R. H., & Sunstein, C. R. (2008). Nudge: Improving decisions about health, wealth, and happiness. Yale University Press.
- Weber, E. U., Blais, A. R., & Betz, N. E. (2005). A domain-specific risk-attitude scale: Measuring risk perceptions and risk behaviours. Journal of Behavioral Decision Making, 15(4), 263–290. https://doi.org/10.1002/bdm.414
- Weinmann, M., Schneider, C., & Brocke, J. V. (2016). Digital nudging: Guiding online user choices through interface design. Business & Information Systems Engineering, 58(6), 433–436. <u>https://doi.org/10.1007/s12599-016-0453-1</u>
- Yeung, K. (2017). 'Hypernudge': Big data as a mode of regulation by design. Information, Communication & Society, 20(1), 118–136. <u>https://doi.org/10.1080/1369118X.2016.1186713</u>