



GAMIFICATION AND DIGITAL ENGAGEMENT PRACTICES WITHIN RETAIL INVESTING

CONSOB

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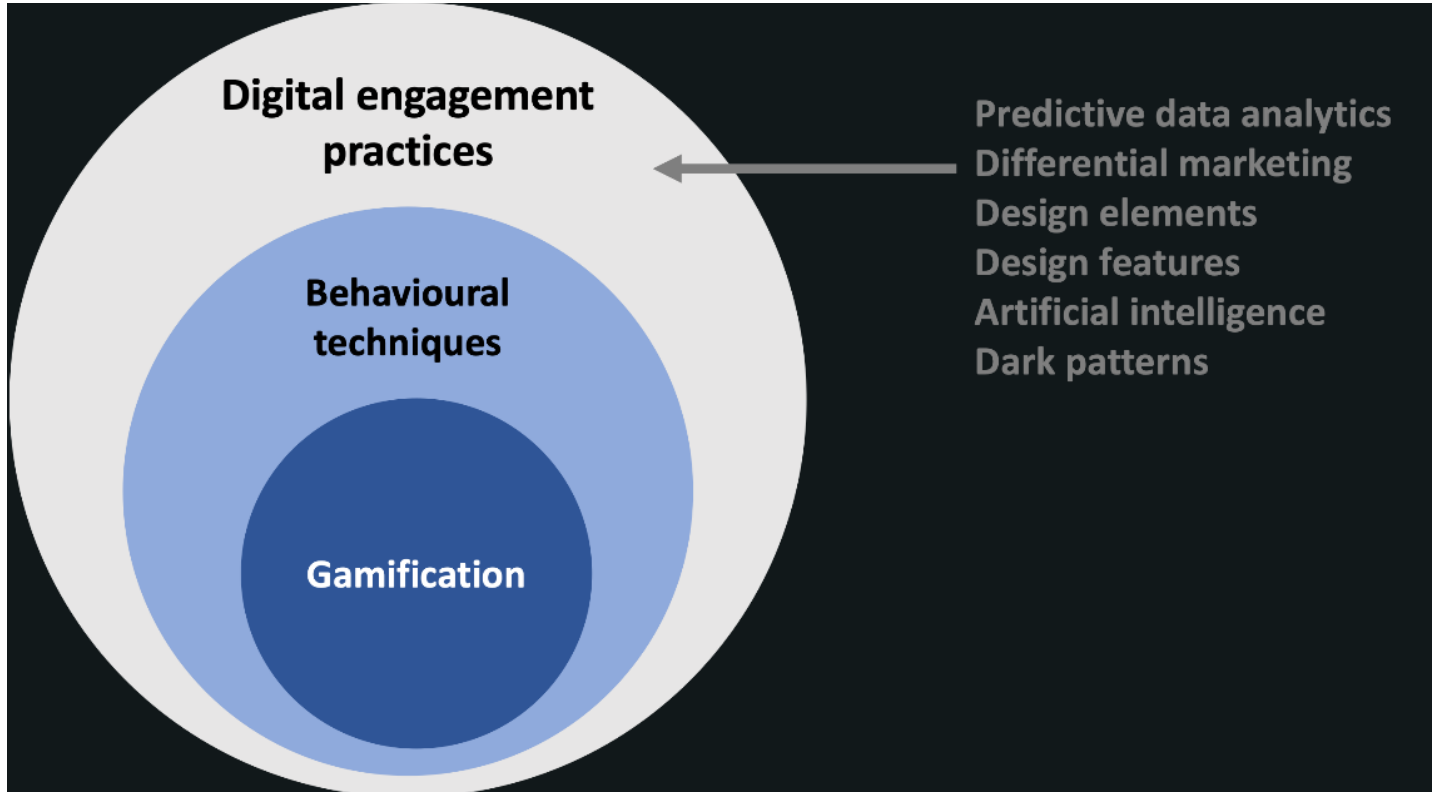
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PROJECT OVERVIEW

- We examined gamification and other behavioural techniques to see how they affect investor behaviour—both positively and negatively.
- The Investor Office worked with the Behavioural Insights Team (BIT) to:
 1. Generate a taxonomy of gamification and other behavioural techniques by conducting a literature review and environmental scan; and,
 2. Conduct an experiment that examines the effects of gamification and other related behavioural techniques on retail investor behaviours.

OUR PROJECT

- Used the SEC's definition of DEPs as a foundation.



OUR PROJECT

- **The five gamification techniques examined were:**
 1. Gamblification
 2. Leaderboards
 3. **Rewards (negligible or non-economic) such as points, badges, scores**
 4. Goal and progress framing
 5. Feedback

- **The four other behavioural techniques examined were:**
 1. **Salience / attention-inducing prompts**
 2. Simplification and selective deployment of friction costs
 3. Social interactions
 4. **Social norms**

GAMIFICATION AND OTHER BEHAVIOURAL TECHNIQUES



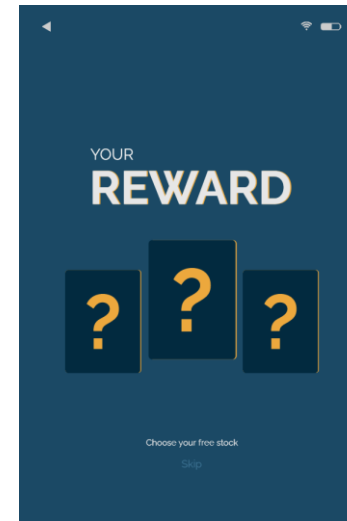
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GAMIFICATION TECHNIQUES

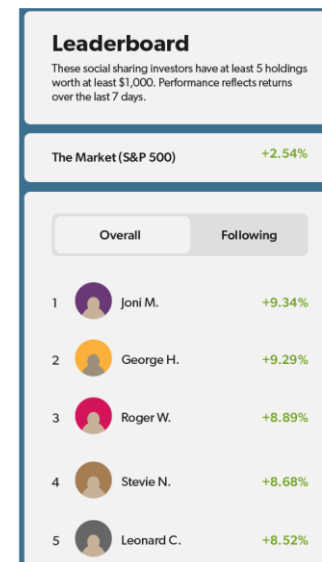
1. *Gamblification*

- Techniques derived from gambling, which most prominently include the use of variable rewards.
- Can include language and imagery that evokes gambling.



2. *Leaderboards*

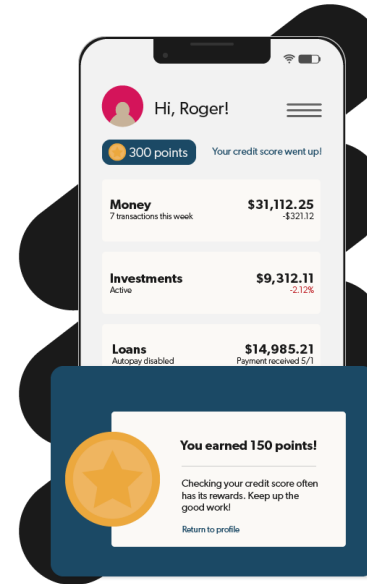
- A public display of ranked information about application users' performance.



GAMIFICATION TECHNIQUES

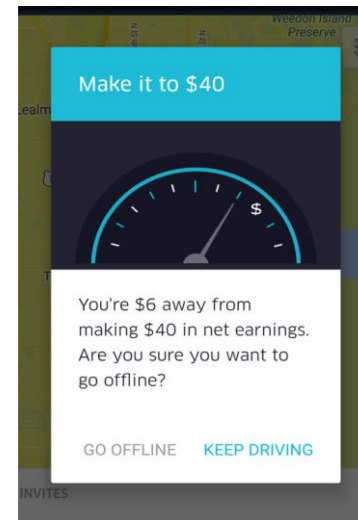
3. Rewards (non-economic)

- Providing rewards for performing tasks or accomplishing goals within an online application.
- Our definition includes rewards with either no economic value or with nominal economic value.



4. Goal and Progress Framing

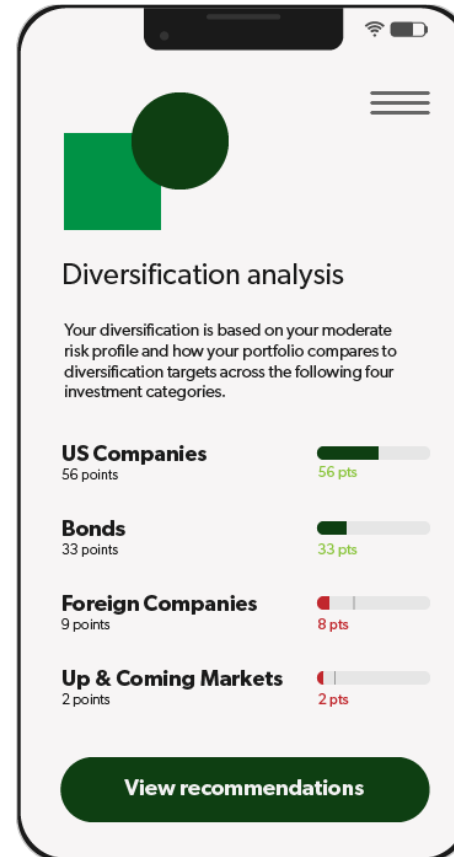
- Design elements that i) help users set and visualize their goals, and/or ii) strategically frame users' performance and progress with respect to these goals to stimulate greater levels of engagement and/or instill future outlook.



GAMIFICATION TECHNIQUES

5. Feedback

- The provision of information about a user's performance on a task in (near) real-time.



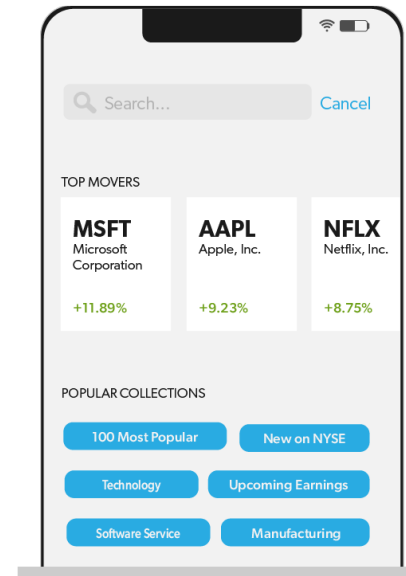
KEY PROS AND CONS OF GAMIFICATION TECHNIQUES

Pros	Cons
<ul style="list-style-type: none">• Encourage participation and learning in investor education• Motivate wide range of behaviours including improving diversification of the investors' portfolios• Improve progress towards a positive goal (e.g., savings goal)	<ul style="list-style-type: none">• Increase trading frequency• Increase risk taking• Increase short-sightedness• Make investor overconfident

OTHER BEHAVIOURAL TECHNIQUES

1. *Saliency / attention-inducing prompts*

- A very wide range of design features are included in this category, including visual cues as well as the specific language used in prompts.



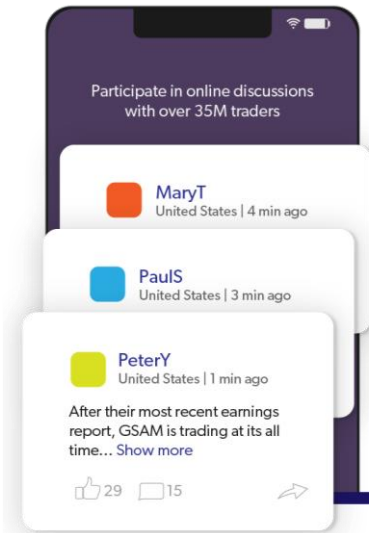
2. *Simplification & selective deployment of friction costs*

- Reductions in small barriers to make behaviours easier.
- “Friction costs” refer to increases in small barriers to make behaviours more difficult.

OTHER BEHAVIOURAL TECHNIQUES

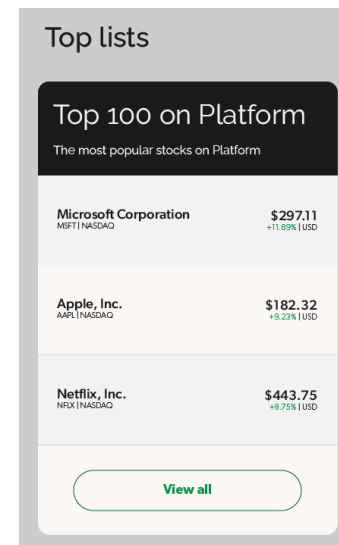
3. *Social interactions*

- Design elements that enable platform users to interact with other users by i) generating, sharing, viewing, and reacting to content, and ii) engaging in direct messaging.



4. *Social Norms*

- Design features which signal social norms - i.e., information about how others think and behave, leading users to behave similarly.



KEYS PROS AND CONS OF OTHER BEHAVIOURAL TECHNIQUES

Pros	Cons
<ul style="list-style-type: none">• Raise awareness of info pertinent to investors' well-being (e.g., costs)• Reduction in barriers makes participation easier• Reduction of inaction• Help investors who have low knowledge	<ul style="list-style-type: none">• Herding• Increase trading frequency• Increase risk taking• Distract users from important info• Easier to trade more complicated products (e.g., options)• Less data and info could lead to poorer decisions

EXPERIMENT



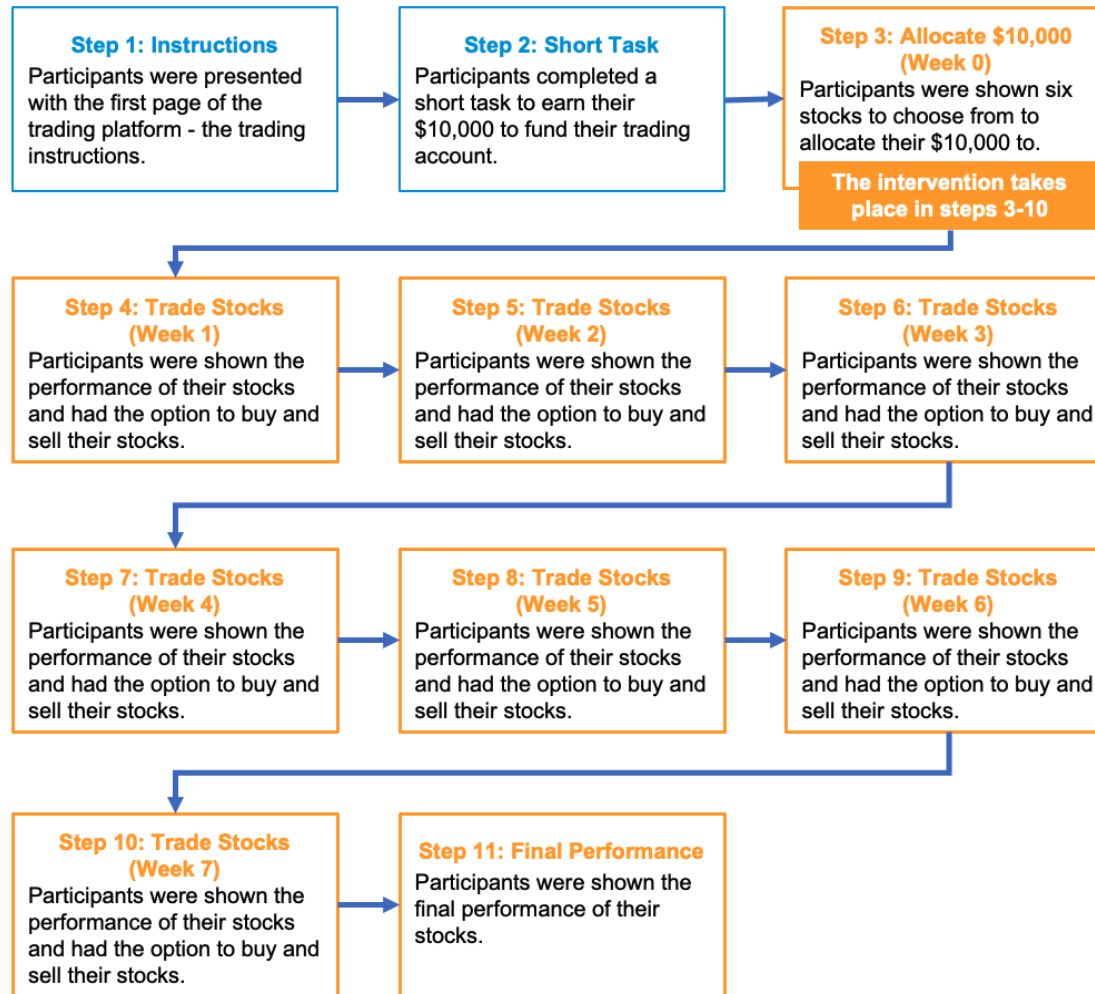
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THE EXPERIMENT

- We conducted an experiment (a randomized controlled trial or RCT) with 2,430 investors engaging in simulated trading environment using both mobile and desktop.
- The RCT assessed the impact of 2 tactics based on behavioural techniques on investing behaviours:
 1. Giving investors “points” with negligible economic value for buying or selling stocks—a form of reward, and
 2. Showing investors a “top traded list”—a combination of attention-inducing prompts and social norms.

THE EXPERIMENT



EXPERIMENT: CONTROL CONDITION

Start by buying one or more of the stocks below. You must invest the full \$10,000 to begin.

Available stocks	
Ciber	\$0.23 -2.0% past week
Glitch	\$0.34 0% past week
Vonics	\$1.30 0% past week
Swipro	\$2.80 -3.4% past week
Boodl	\$1.12 -14.5% past week
Gadger	\$1.10 +17.0% past week

Please enter how much of each stock you would like to purchase, from \$0 - \$10,000 in whole dollar increments.

For more information about each stock, hover over or click the stock name.

Ciber	\$	<input type="text" value="0"/>
Glitch	\$	<input type="text" value="0"/>
Vonics	\$	<input type="text" value="0"/>
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EXPERIMENT: POINTS CONDITION

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Every time you buy or sell a stock, you will get 100 points. For every 1200 points you get, you will receive \$0.01 in additional compensation.

YOUR TOTAL POINTS: 0

Please enter how much of each stock you would like to purchase, from \$0 - \$10,000 in whole dollar increments. For more information about each stock, hover over or click the stock name.

Ciber \$

Glitch \$

Vonics \$

Swipro \$

Boodi \$

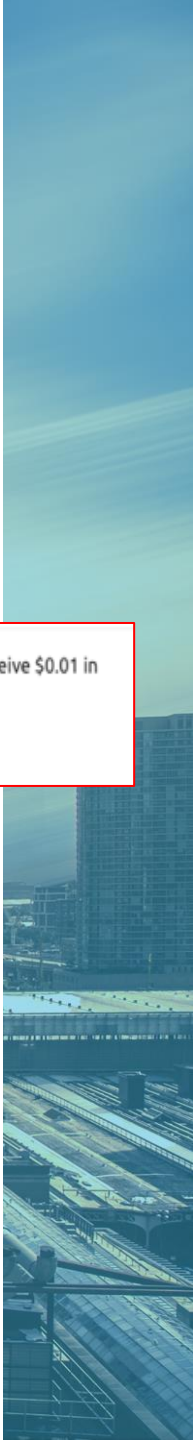
Gadger \$

Remaining: \$ 10000

Total: \$ 0

Every time you buy or sell a stock, you will get 100 points. For every 1200 points you get, you will receive \$0.01 in additional compensation.

YOUR TOTAL POINTS: 0



EXPERIMENT: POINTS CONDITION



For your trades, you earned
600 points

Please click the 'Next' button to move on to the next week of trading.

Next



EXPERIMENT: TOP TRADED-LISTS CONDITION

Start by buying one or more of the stocks below. You must invest the full \$10,000 to begin.

Available stocks	
Ciber	\$0.23 -2.0% past week
Glitch	\$0.34 0% past week
Vonics	\$1.30 0% past week
Swipro	\$2.80 -3.4% past week
Boodi	\$1.12 -14.5% past week
Gadger	\$1.10 +17.0% past week

Please enter how much of each stock you would like to purchase, from \$0 - \$10,000 in whole dollar increments.
For more information about each stock, hover over or click the stock name.

Top Stocks	
Most actively traded stocks on Stockland this week	
	Volume
1 Boodl	417,170
2 Vonics	125,252
3 Glitch	77,895

Ciber \$

Glitch \$

Vonics \$

Swipro \$

Boodi \$

Gadger \$

Remaining \$ 10000

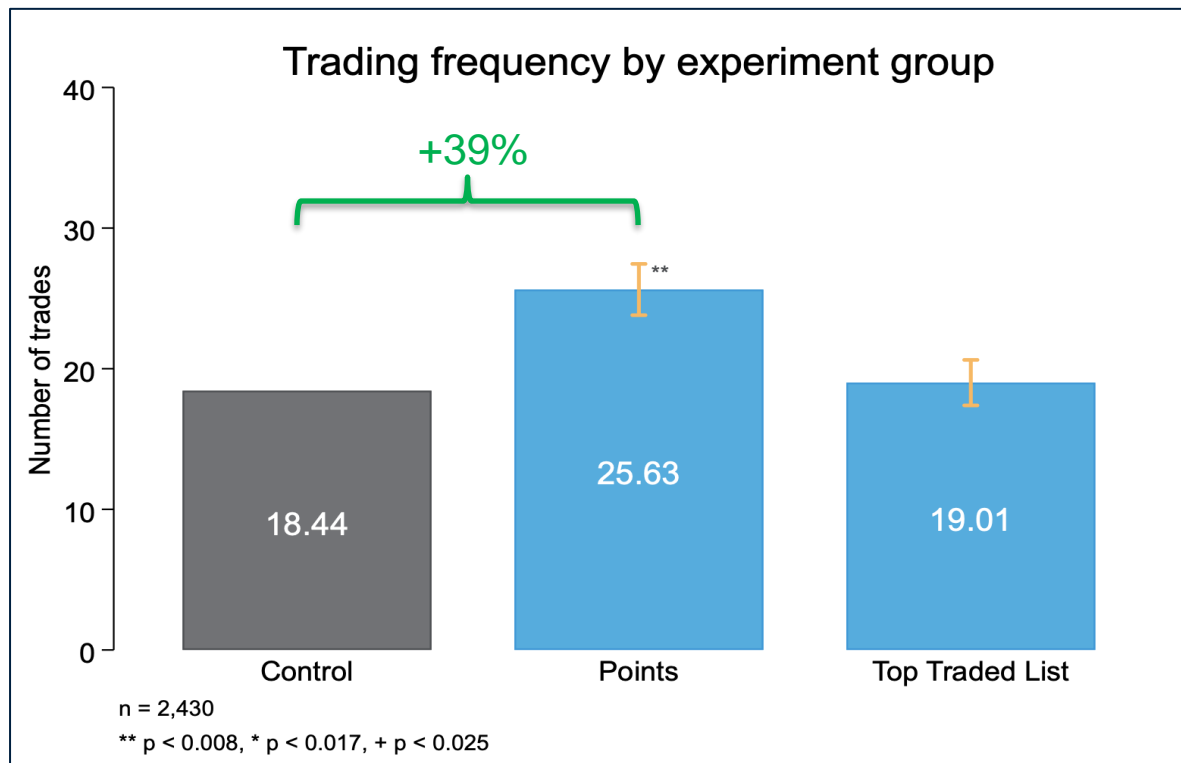
Total \$ 0

Top Stocks	
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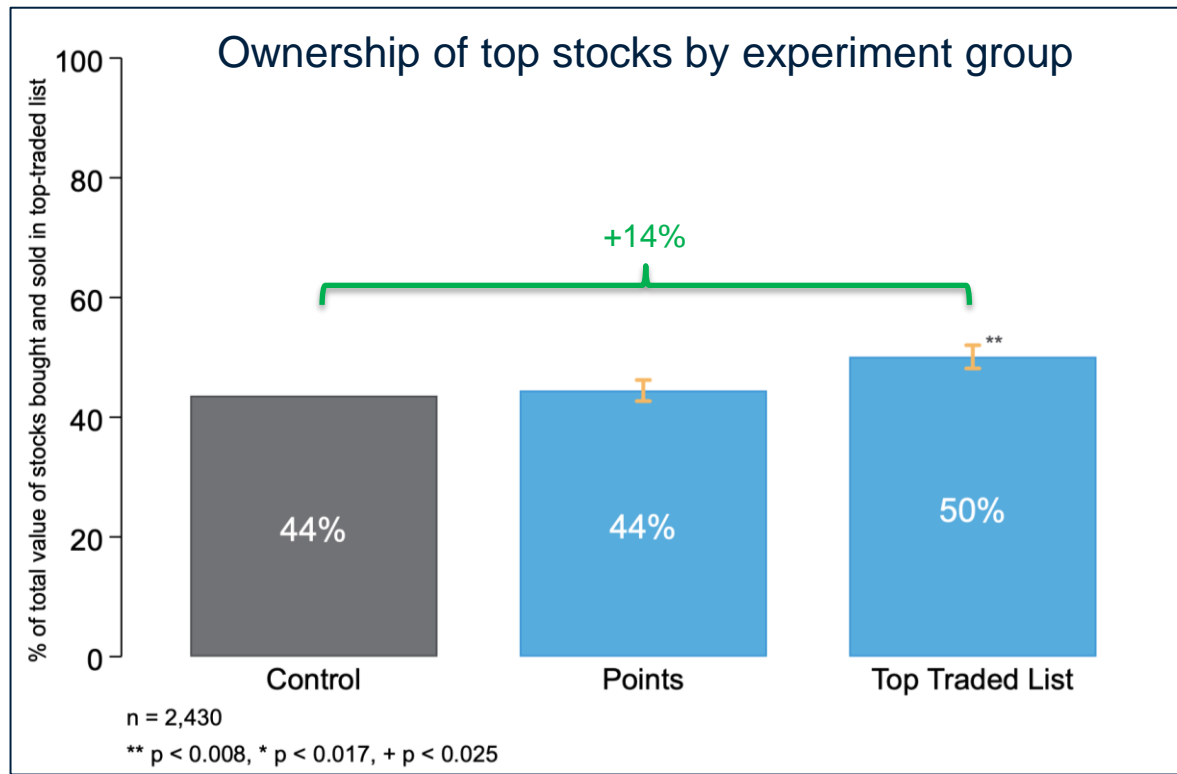
WHAT WE FOUND

- There were **significant findings** through the RCT:
 1. Participants who were rewarded with points made almost 40% more trades than the control group.



WHAT WE FOUND

- There were **significant findings** through the RCT:
 2. Participants who saw the top traded lists were 14% more likely than participants in the control group to own those top listed stocks.



RECOMMENDATIONS



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RECOMMENDATIONS IN THE REPORT

The report recommends that regulators consider the implications of the findings, including whether any of the gamification and other behavioural techniques examined result in investor behaviour that is detrimental to investor outcomes and if so, consider possible responses.



The report also recommends:

1. Collecting more data to see the impact on other tactics through other experiments or through leveraging data collected by digital trading platforms
2. Collect evidence and data on strategies to mitigate negative impacts of DEPs to determine if mitigation approaches are effective (e.g., add friction points), and
3. Explore positive impacts of gamification and other behavioural techniques to increase investing knowledge and level of expertise.

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