Economic psychology applied to business: Designing a mobile-banking app

Roel Wijland, Paul Hansen and Fatima Gardezi[1]

paul.hansen@otago.ac.nz; roel.wijland@otago.ac.nz; fng_21@hotmail.com

Ever since the Economics Nobel Prize in 2002 was awarded to Daniel Kahneman for his research with Amos Tversky into 'behavioural economics', business people have looked for ways to apply ideas from the area to attract more customers – to make more money!

TO BE OR NOT TO BE?

Behavioural economics (BE) – sometimes also known as economic psychology – applies insights from cognitive psychology to economic decision-making. BE challenges the conventional economics assumption that decision-makers are completely rational, emphasising instead the role played by emotions, intuition and heuristics (rules of thumb). BE implies that when it comes to decision-making most of us are more like Homer Simpson than *Star Trek's* Mr Spock!


versus
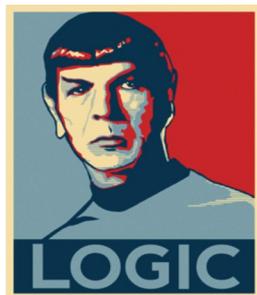
As a case study about how BE can be applied to business, this article reports on our research project that used BE to generate insights for improving the *YouMoney* mobile-banking app[2] developed by Bank of New Zealand as part of its *Be Good with Money* brand campaign. We wanted to see if BE concepts related to consumer emotions, intuition and heuristics can be translated into new features and interface enhancements, with the objective of increasing young people's engagement with m-banking apps.

WINK, WINK … NUDGE, NUDGE

Because many of our behavioural traits are hard-wired into our thought processes it's often hard to recognise and mediate our irrational decision-making (Altman 2012, Kahneman 2011). Hence, in many situations human behaviour can be changed more effectively by external interventions, or 'nudges', than by non-intuitive-based means such as providing more information and education (Thaler and Sunstein 2009, Altman 2012).

Nudges influence how people make decisions by tapping into their automatic decision-making processes and reducing cognitive errors. Nudges are aspects of the 'choice architecture' that influence people's behaviour in predictable ways, and where choices are affected such that people are better off according to their own standards.

Though nudging is highly intuitive, operating primarily at a subconscious level, it may also work by raising awareness of certain situations to a more conscious level, even if only momentarily (Lunt and Staves 2011). By reframing consumer
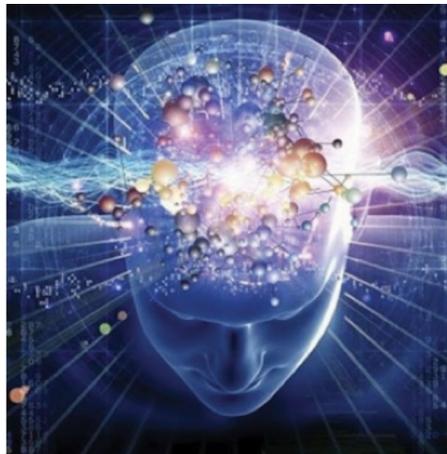
engagement problems as behavioural ones, marketers and app designers can try to influence consumers' behaviour, while marketing strategy can be designed to change behaviour via a series of small nudges.

FIVE BEHAVIORAL ECONOMICS CONCEPTS

After reviewing the BE literature, we selected the following five BE concepts for evaluation with respect to their relevance for m-banking apps.

'Loss aversion' relates to the idea that most people feel that losses are more distressing than gains of equivalent size are enjoyable.

'Power of now' is the tendency for people to prefer thinking about the present ('the now') than the future.

'Scarcity value' captures the idea that the scarcer a thing is the more desirable it is.

'Chunking' is about the presentation of a task in its constituent parts making it seem less onerous than its presentation as a single overall task.

Finally, 'choice architecture' is a wide-ranging term relating to the design of how choices can be presented to consumers, and the impact of that presentation on consumer decision-making. Choice architecture is influenced by the many biases and heuristics discussed in the BE literature, such as primacy and framing effects and the availability heuristic (IPA 2009).

RESEARCH PARTICIPANTS AND METHODOLOGY

Three groups of participants were involved in the research:

1. 60 third-year students in a creative marketing communication class at the University of Otago (taught by the first author).

2. Eight m-banking managers and app designers from BNZ and their advertising agency, Colenso BBDO.

3. 257 of BNZ's *YouMoney* app users in the 18-29 age-group (the young consumer target segment) who completed an online survey, out of 3000 potential participants invited by BNZ.

Open-ended questions relating to the five BE concepts discussed earlier were put to the 60 students as a group to generate ideas for new features or refinements for the *YouMoney* app based on nudges. These ideas were then presented to the eight BNZ and Colenso BBDO managers and app designers for them to refine and to select two features for each of the five BE concepts.

The relative desirability of these 10 m-banking features was determined by the 257 *YouMoney* app users who completed an online 1000Minds survey (1000minds.com), where each person was asked to pairwise rank the m-banking features with respect to which feature they would be most likely to use on their *YouMoney* app. An example of a pairwise-ranking question appears in Figure 1.

Figure 1. Example of a pairwise-ranking question
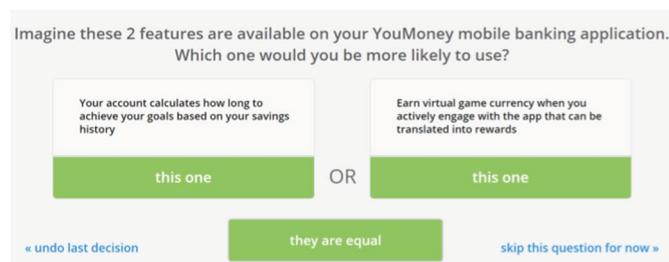
RESULTS

The ideas for new features and refinements of the *YouMoney* app elicited from the student participants are discussed below, grouped according to the five BE concepts.

Loss aversion (losses are more distressing than gains of equivalent size are enjoyable)

Ideas include: the ability to open multiple accounts, the simplicity of setting personal goals for these accounts, the ease of moving money between accounts and adding personal images to accounts, and the overall convenience and ease of use. Features reporting previous transactions were described by one student as "highly addictive but also alarming":

> People love to see what they have done, but also hate to see what they have lost. YouMoney can become highly addictive but also alarming as you can easily track where you spent your money carelessly.

Power of now (preferring to think about the present more than the future)

Students placed a strong emphasis on balancing their impulsive spending decisions vis-à-vis their future financial well-being. Nudges in the form of alerts were suggested:

> The app will question if you are sure you wish to make this call and a note will pop up about a compromised event or upcoming date you have been saving for.

Scarcity value (the scarcer a thing is the more desirable it is)

Students suggested many ideas for how m-banking apps can be made unique, personal, customised and adaptable, and related these features to reducing the likelihood of switching to another bank's app:

> Having a personal attachment to the app will lead to customers using the app more often and being less likely to discard the app for a new one because of their personal connection and the higher value placed upon a product function that is perceived as rare, personalisable and desirable.

Though associating m-banking apps with celebrities and how they financially manage their 'cool' lifestyles was regarded as attractive,

the students emphasised that they are more interested in sincere, transparent and real-life inspirational stories. These inspirational stories, such as from rising stars dealing with the same struggles as students, could help nudge them to be good with their money:

> 'The Shade' is a group of hardworking, poor students that young customers will be able to relate to – deal with similar, daily financial stresses and problems.

Chunking (the presentation of a task in its constituent parts making it seem less onerous than its presentation as a single overall task)

Students admitted that staying motivated to accomplish long-term financial goals is difficult. They favoured a m-banking app that nudged them through a series of steps to make intuitive 'good' decisions along the course of their money-management journey:

> People are against managing their money because they perceive it to be hard and a strenuous process to complete. The way of helping people with that is by breaking up the process of money-management into small steps which can be completed easily so the customer does not feel pressured or overwhelmed.

The types of nudges envisaged by the students were things like a virtual guide that offered ongoing advice, 'cool' visual effects for tracking progress to illustrate how the constituent parts were building up to something bigger, alerts and achievement messages for milestones. These nudges correspond to a m-banking app as a financial 'wellness guru', functioning as a virtual friend offering instantaneous and real-time advice.

Choice architecture (how and why people make decisions, etc)

Students conveyed that there is a need for a bigger overall plan to achieve financial success, while acknowledging their own poor money-management choices. They recognised that their errors were systematic and repetitive and, at least in part, symptomatic of their life stage:

> In our life you can get distracted with temptations and opportunities that you sometimes stumble across. You find yourself swiftly acting on these opportunities, not giving a damn about the repercussions YOLO [You Only Live Once]!

Some students also pointed out that young people did not necessarily have financial goals and that an app that could nudge young people to start thinking about the future would be valuable:

> Even a small reminder of what your goals and aspirations are at vulnerable times might actually help you to reach and stick to the goals you set.

Others suggested a formal nudge to make a coherent overall plan, with a deliberate architecture and pro-active functionality:

> Rent, electricity, food, clothing, new car, Saturday nights out ... Within each mobile app there can be the option of a hierarchy of 'goodness'.

The new-feature ideas from the students were presented to the eight managers and interface designers from BNZ and Colenso BBDO, who refined and ultimately selected the 10 m-banking features – two for each of the five BE concepts – reported in column (2) of Table 1.

The overall ranking of the 10 m-banking features, based on calculating the means from the individual rankings from the 257 *YouMoney* app users who completed the pairwise-ranking exercise, is reported in column (3) of Table 1. Also reported in columns (4) and (5) are the proportions of participants for whom the identified feature appeared in their top-three (most preferred) and bottom-three (least-preferred) features.

Table 1: Five BE concepts and 10 m-banking features, and the ranking results

(1) BE concept	(2) M-banking feature	(3) Overall rank	(4) Proportion of participants for whom feature is in their: Top-3 features	(5) Bottom-3 features
Loss aversion	1. Your account increases in interest every week – unless you spend $ before reaching your savings goal.	1st	60%	9%
	2. Your account calculates how long to achieve your goals based on your savings history.	2nd	46%	14%
Power of now	1. 'Locked savings' options – e.g. ranging from 100% locked until goal is met to all you need to do is email BNZ for a code to unlock.	3rd	46%	18%
	2. Set 'DO NOT' alerts to discourage impulse spending – e.g. "DO NOT spend more than $20 this Saturday".	4th	42%	22%
Scarcity value	1. Able to set milestones along the way to reaching your bigger savings goals.	5th	34%	17%
	2. Recommended sub accounts – e.g. for a 'vacation' goal, sub accounts for 'flights', 'hotels', 'activities', etc.	6th	31%	24%
Chunking	1. A recommended set of accounts within the app for managing your $ based on your current needs.	7th	23%	18%
	2. A virtual guide to help you manage your finances – e.g. after creating a savings account you're advised to set a savings target too.	8th	23%	31%
Choice architecture	1. Earn virtual game currency when you actively engage with the app that can be translated into rewards.	9th	32%	38%
	2. Share exceptional savings progress with other similar users: e.g. "Luke has achieved 75% of his goal: A trip to Oz!"	10th	8%	68%

MANAGERIAL IMPLICATIONS

Our research confirmed that young people see value in money-management tools that work with their intuitive nature to help them 'be good' with money. A key theme to emerge from the student discussion was that unless young people are actively nudged into making better money decisions, they will often fail and therefore such interventions are appealing to them.

The pairwise ranking exercise revealed that the most desirable new features are associated with the BE concept of loss aversion, followed by (in decreasing order of desirability) the power of now, scarcity value, chunking and choice architecture.

Participants revealed a lack of interest in features that offer aspects of exclusivity, elements of gaming and especially the sharing of individual achievements with their peers when it comes to money-management. Instead, they indicated a preference for a more basic m-banking app that addresses their main money-management concerns: about saving, achieving goals and day-to-day financial survival. It appears that this market segment – young people – mostly requires nudges that simply help them to manage their money based on their everyday needs without too much fuss.

Overall, our research reveals that m-banking app design can benefit from fundamentally different approaches (relative to traditional methodologies) that prioritise intuitive interfaces over non-intuitive-based designs, and, in particular, that behavioural economics and nudging can supply valuable insights for new features or refinements.

QUESTIONS TO CONSIDER

Who are *you* more like when it comes to how you make decisions: Homer Simpson or *Star Trek's* Mr Spock?

How many of the m-banking features listed in Table 1 appeal to you? Do you agree with the ranking in the table? Are there any other features you can think of that are also appealing?

REFERENCES AND FURTHER READING

Altman, M. (2012), "Behavioural economics perspectives: Implications for policy and financial literacy", *SEF Working Paper* 11/2012, Victoria University of Wellington.

IPA, *Behavioural Economics – Red hot or red herring?*, IPA, 2009.

Kahneman, D., *Thinking, Fast and Slow*, Penguin Books, 2011.

Lunt, J., and Staves, M. (2011), "Nudge nudge, Think think", *Beyond Compliance: Innovative Leadership in Health and Safety*, UBM Information Ltd, 2014. Available from iso45001assessment.com/files/Beyond-Compliance-SHPOnline.pdf#page=11.

Thaler, R.H., and Sunstein, C.R., *Nudge: Improving Decisions About Health, Wealth and Happiness*, Penguin Group, 2009.

Wijland, R., Hansen, P., and Gardezi, F. (2016), "Mobile nudging: Youth engagement with banking apps", *Journal of Financial Services Marketing*, 21, 51-63.