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Executive Summary



This paper offers important evidence regarding the continued efficacy of tangible (non-cash) rewards. Specifically, this study is the first to highlight that tangible (non-cash) rewards work because they create emotion and vividness, but in continued use they suffer more than cash in terms of satiation. This finding combined with other recent research evidence suggests you should switch it up, change your rewards, make them as vivid as possible, and incorporate some fungibility into them, while still focusing on wants over needs because tangible rewards can satiate sooner than cash rewards.

- Adam Presslee, Associate Professor, University of Waterloo

This [2022 working paper](#) by Andrew H. Newman of the University of South Carolina; Ivo Tafkov of Georgia State University, Nathan Waddoups of the University of Denver, and Grazia Xiong of Utah State University is among the first important academic discussions of cash versus non-cash rewards and incentives since before the pandemic in 2020.

This research serves as a reminder to incentive / reward designers and other professionals involved in worker motivation that the use of variety and novelty in non-cash rewards is often critical to maintain the emotional excitement that accompanies non-cash rewards, especially compared to cash.

The authors find that using frequent, smaller rewards results in greater worker efforts and/or higher quality of work in some cases. They find that when a very limited choice of non-cash rewards is used in smaller, more frequent rewards (and over a relatively short period of time), workers grow more used to them ('satiated') thereby diminishing their impact. They find that this is less likely to occur with cash.

The main takeaway for incentive designers is to remember to offer as wide a range of non-cash reward choice as possible and to regularly introduce new reward types, especially where frequent, smaller rewards are used.

Introduction

The authors study of the effects of reward frequency and satiation on work quality and quantity is grounded in rigorous scientific experimentation. They find that smaller, more frequent rewards improve worker performance – including greater output and better quality – but only where cash is used as the reward.

The authors find that frequent, hedonic non-cash rewards have no significant impact on work *quantity* but significantly reduce work *It is vital to consider, however* as workers grow satiated (akin to habituation, hedonic adaptation, etc.) with the reward over time.

In summary, these findings suggest that smaller more frequent rewards are better motivators than larger infrequent rewards and that cash is a better option than non-cash rewards when rewards are offered frequently.

It is vital to consider, however, that the authors use only two non-cash reward options in their experiments (an AMC movie gift card and chocolate). They fully acknowledge the limitations of their research and the benefits of non-cash rewards and incentives, but would argue that the limitless uses (i.e., fungibility) of cash rewards make cash a more effective motivator than equivalent-value non-cash rewards *when non-cash reward choice is restricted*. This is likely to be remedied by offering a broad choice of non-cash rewards.

Main Findings

1. Whether a cash or a non-cash reward was used, participants' performance did not change significantly in the less frequently rewarded group of participants (those who received their reward at the end of the 10 rounds).
2. In the group of participants who were rewarded frequently (after each of the 10 rounds), performance improved steadily in the cash group but remained flat for the non-cash group.
3. Among the *frequent rewards/non-cash groups*, quality of work, as measured by task errors, worsened by 5.4%. Among the *frequent rewards/cash groups*, however, quality improved by 6%.



Increasing reward frequency causes participants in the cash rewards condition to become more sensitive to their effort quality and thus decrease their error rate, whereas it causes participants in the tangible rewards condition to become less sensitive to their effort quality and thus increase their error rate.”

- Report Authors, Andrew Newman, Ivo Tafkov, Nathan Waddoups and Xiaomei Xiong

Actionable Takeaways

- When you reward workers with cash, consider offering smaller, more frequent rewards rather than large, infrequent rewards.
- When using non-cash rewards, experiment with the same approach (small, more frequent rewards), but offer broad choice in rewards, including gift cards, merchandise, experiential rewards, travel and more.
- If your non-cash incentive program is restricted in the range of choices you can offer, consider changing the reward type frequently to avoid satiation or hedonic adaptation.
- Consider including or increasing the use of points-based rewards in your overall incentive and reward program designs. This research adds to a [growing body of prior research](#) that explains the popularity and effectiveness of points-based incentive and rewards programs. The efficacy of the small but more frequent reward strategy is demonstrated in points-based reward programs where leaders and employees can recognize each other regularly and attach reward points. In most cases, the points rewarded have only a small cash value (making their frequent use affordable and scalable) but can be accumulated and redeemed for tangible rewards ranging from merchandise (of near limitless variety) to restaurant vouchers, concert tickets, travel, or even cash equivalents like open pre-paid gift cards.



Consider increasing the frequency with which you provide rewards to employees. In our experiment we find that providing more frequent rewards leads to more effort by employees even when the total amount of reward payout is held the same. For example, firms might want to consider paying out a monthly reward of \$1,000 instead of an annual reward of \$12,000. The total payout is the same, but our research suggests that the more frequent rewards can lead to better employee performance. (2) Keep an eye out for satiation or hedonic adaptation. Humans tend to become somewhat desensitized to events that they experience often (e.g., a song that you used to love just doesn't have the same potent effect on you after you've heard it hundreds of times; the same goes for a restaurant or a fun experience like Top Golf). We find evidence that tangible rewards are more susceptible to satiation than cash rewards, likely because cash can be used to purchase just about anything.

- Nathan Waddoups, report co-author.



Varying the tangible rewards might very well slow the effects of satiation and could end up being even more important for firms that provide rewards more frequently. Our intent with this study is not to make tangible rewards look bad because we believe they can be very effective when used appropriately—we just want to demonstrate that as reward frequency increases, satiation could be more problematic for tangible rewards than cash rewards if firms are not careful.

- Nathan Waddoups, report co-author

Conclusions

Satiation and hedonic adaptation are known obstacles to experienced reward and incentive designers. Accordingly, savvy designers provide a wide range of tangible (non-cash) rewards workers can choose from and/or they introduce novelty and vividness on a regular basis by changing the rewards in their programs.



I think that increasing the options available from tangible rewards could make its satiation rate similar to cash's satiation rate even as reward frequency increases. As the tangible reward provides access to more and more options, it becomes more and more like cash. For example, it's pretty hard to distinguish a prepaid debit card (a tangible reward) from cash. The line between what is cash and what is a tangible reward really starts to blur. We wanted to keep a very strict delineation in our study for scientific reasons, but it would be interesting to see if it is possible for firms to get the best of both worlds.

- Nathan Waddoups, report co-author

In this study, it was necessary for the researchers to restrict non-cash reward options to ensure the integrity (internal validity) of the experiments. Indeed, the rigor observed in the study should give incentive and reward designers confidence that their own experiments with smaller, more frequent rewards – cash *and* non-cash – might yield greater worker performance, provided the range of non-cash reward options, and their variety, is sufficiently wide.

A full copy of the research paper discussed in this article can be downloaded [here](#), or obtained on request from Allan Schweyer at info@theirf.org.

Appendix: Research Methodology

97 undergraduate students from business classes at a large public university in the United States participated in the first experiment. Each worked alone on the same task type for 10 rounds lasting three minutes each. Participants were rewarded for their work (above a nominal guaranteed participation fee of \$5.00) either at the end of the tenth production round only (less frequent), or at the end of each of the 10 production rounds (more frequent). At most, participants could earn an additional \$9.20 in rewards, bringing the total to \$14.20.



I believe there is an emotional value in tangible rewards that you don't get with cash! For example, my wife's company took all their employees on a fully paid trip to an exotic location—probably valued at around \$5,000 per employee. The employees talked about it non-stop for about six months before the trip and they still talk about it years later. I don't hear them talking about the \$5,000 bonus they got three years ago.

- Report co-author

In the first experiment, participants were either incentivized by an AMC movie gift card or the equivalent cash. Participants earned the card or the cash in small increments (a piece rate) as they completed tasks in each round. Some participants earned their rewards after each round, others at the end of the 10th round. Those in the frequent reward group could keep track of their cumulative reward on their screen alongside pictures of the AMC gift card or a cash dollar amount.

The second experiment was identical, except instead of an AMC gift card, the non-cash reward group was offered chocolate. 86 students from the same group of students participated in the second experiment.