Immediacy increases intrinsic motivation by strengthening the activity-goal association

Industry Report on:

It’s About Time: Earlier Rewards Increase Intrinsic Motivation.


Through the studies summarized in this report, IBECC expert Dr. Kaitlin Woolley and her colleague Ayelet Fishbach examined the hypothesis that immediate rewards increase intrinsic motivation more than delayed rewards, with implications for goal pursuit.

Read on to learn how the studies were conducted, what expert Dr. Woolley and her colleague Dr. Fishbach found, and the key takeaways for your business.

1. Rationale

Most activities people undertake, such as reading this summary, are driven by a combination of intrinsic motivation (the positive experience) and extrinsic motivation (the perceived outcome importance). An intrinsically motivated activity is seen as an end in itself, that is, the pursuit of the activity and the attainment of the goal are inseparable and the person experiences pursuing the activity as achieving the goal. As such, activities strongly associated with their goal are more intrinsically motivated than those that have a weak goal association. On the other hand, activities that are extrinsically motivated are pursued to achieve an outcome that is separate from the activity.

IBECC expert Dr. Woolley and her colleague Dr. Fishbach hypothesized that a more immediate delivery of a goal increases intrinsic motivation. Immediacy, they believe, affects how strongly an activity is associated with its goal. By increasing the association strength between an activity and its goal, they predicted that immediacy increases intrinsic motivation for an activity.

2. Background

This research aimed to understand how proximity between an activity and its outcome affects the activity goal association, and thus intrinsic motivation. Existing research has found evidence that the number of links between an activity and a goal determines their association (the means-ends fusion) which indicates
that additional links negatively affect intrinsic motivation. The current research predicted that immediacy, similar to the number of links between activities and goals, can strengthen the association between an activity and its goal, thus increasing intrinsic motivation.

3. Research Description

To test their hypothesis that immediate (vs. delayed) rewards increase intrinsic motivation by strengthening the activity-goal association IBECC expert Dr. Woolley and her colleague Dr. Fishbach, through the studies summarized here, manipulated the delivery time of rewards (i.e., the goal of pursuing the activity). They expected the delivery time for both internal and external rewards to influence intrinsic motivation. Thus they examined rewards that were internal to an activity, typically considered intrinsic (e.g., becoming more informed from watching the news), and rewards external to an activity, typically considered extrinsic (e.g., receiving bonus payment for a task).

They predicted that for typically rewarded activities (e.g., participation in a paid experiment) an immediate reward would increase intrinsic motivation vs. delayed. They also provided a test of discriminant validity: whether immediate rewards increase intrinsic motivation (positive experience) more than extrinsic motivation (perceived outcome importance), and predicted that the effect of reward timing was unique to intrinsic motivation and would not influence extrinsic motivation.

How were the studies conducted and what did IBECC expert Dr. Woolley and her colleague Dr. Fishbach find?

Study 1: Framing Rewards as Immediate Versus Delayed

In this study IBECC expert Dr. Woolley and her colleague Dr. Fishbach examined whether framing the rewards of an activity as immediate (vs. delayed) increases intrinsic motivation. A total of 220 workers who participated in this study for monetary compensation watched a 75 second clip from a satirical news program, Last Week Tonight with John Oliver, from an episode on Tibetan Buddhists and the Dalai Lama. Participants in the immediate reward condition focused on immediate rewards from watching the show. They were asked to “think about and elaborate on how becoming more informed and gaining conversation topics is an immediate benefit you receive from watching this clip.” Participants in the delayed rewards condition focused on delayed rewards from watching the show. They were asked to think and elaborate on the benefits of watching the show arrive days or weeks after watching the clip. Self-reported intrinsic motivation was measured on a scale from 0 to 6, through the following questions (adapted from the Intrinsic Motivation Inventory): “How much did you enjoy watching this news clip?”; “How interesting was it to watch this news clip?”, and “To what extent did watching this news clip feel more like work or more like fun?”

Participants in the immediate rewards condition reported greater intrinsic motivation to watch the news clip than those in the delayed rewards condition. These results provide initial evidence that focusing on immediate rewards that are internal to an activity can increase intrinsic motivation compared with focusing on delayed rewards.

Study 2: Receiving Immediate Versus Delayed Rewards

In Study 2, the researchers assessed participants’ intrinsic motivation in a task (filling out a survey) that delivered either immediate (simultaneous, in this case) or delayed rewards. A group of 101 undergraduate
students completed the task in exchange for chocolate rewards. In the immediate reward condition participants received the chocolate and the task at the same time but were not allowed to eat the chocolate until after completing the task. In the delayed reward condition they were showed the chocolate and were told they would get it after completing the task. The same type of questions and scale, as those used in Study 1, were used to measure self-reported intrinsic motivation.

Confirming the researchers’ prediction, results showed greater intrinsic motivation among participants that received the chocolate at the same time as the task (immediate reward) vs. the group that received a delayed reward, even though no one was allowed to consume the chocolate until after completing the task.

**Study 3: Effect of Immediate, Delayed and No Rewards**

In this study IBECC expert Dr. Woolley and her colleague Dr. Fishbach focused on understanding the effect of reward timing on intrinsic motivation. This study compared the effect of an immediate reward (bonus provided after completing the task), with a more delayed reward (bonus arriving a month later) and no-bonus, on intrinsic motivation. 223 workers participated in the experiment (conducted on an online platform) and completed a task for a fixed amount of money. In addition, a bonus tied to completing a spot-the difference task (identifying differences between two similar images) was offered to some of the participants. A third of the participants were offered the bonus payment delivered immediately, another third were offered the same bonus with a delay of one month, and the remaining third were not offered a bonus at all. Upon identification of 4 out of the 5 existing differences, the researchers measured intrinsic motivation by asking participants a set of questions similar to those used in the two previous studies. Finally, as a behavioral measure of intrinsic motivation, the researchers recorded whether participants chose to continue engaging in the spot-the-difference task (to find the 5th and last difference) or ended their participation, when no extra compensation was offered (free-choice paradigm). Doing so suggests that workers were interested in the task for its own sake, and willing to continue with it even after a reward was removed.

Overall, the results showed that adding an immediate bonus to a spot-the-difference task increased intrinsic motivation on self-report (Figure 1) and behavioral measures (the free-choice paradigm) of intrinsic motivation (Figure 2), compared with delayed and no bonus conditions.
Study 4: Immediate Versus Delayed Rewards and Activity-Goal Association

In this study the researchers tested the process underlying the effect of immediate rewards on intrinsic motivation. They predicted that, by strengthening the activity-goal association, an earlier reward (immediacy) increases intrinsic motivation. In all, 119 individuals participated in the experiment for a fixed monetary compensation. Participants were offered a bonus for completing a reading task, which consisted of reading the first five pages of the book, *Big Magic: Creative Living Beyond Fear* by Elizabeth Gilbert. Some participants were told that the bonus would be automatically paid out after they completed the reading task (immediate reward condition), while others were told that they would receive the bonus automatically one month after completing the same task (delayed reward condition). After reading the excerpt, participants answered researchers’ questions to assess their intrinsic and extrinsic motivation to read the book, and questions intended to measure the perceptual overlap between the activity and the goal (activity-goal association).

As IBECC expert Dr. Woolley and her colleague Dr. Fishbach predicted and illustrated in Figure 3, participants in the immediate reward condition were more intrinsically motivated versus participants in
the delayed reward condition. There was no such effect of timing on extrinsic motivation. Furthermore, the results supported the researchers’ prediction that the strength of the activity-goal association underlies the effect of reward timing on intrinsic motivation: an immediate delivery of the reward led people to perceive reading and receiving a bonus as more closely connected, which increased intrinsic motivation but not extrinsic motivation. Participants in the immediate rewards condition felt the activity provided a greater positive experience, but did not provide a more valuable outcome.

Study 5: Immediate Rewards versus Larger Rewards

In this final study IBECC expert Dr. Wooley and her colleague Dr. Fishbach examined the hypothesis that immediate rewards are more motivating because they are psychologically larger than delayed rewards. To better assess whether the size of the reward underlies the effect of timing, in this study the researchers independently varied reward timing (immediate vs. delayed bonus) and reward size (large vs. small bonus), to test if the effect of timing can be explained in terms of the size of the reward. In all, 206 workers participated in the study (involving reading the same five-page book excerpt as in Study 4) for a set monetary compensation, plus a bonus to continue to read. Participants in the immediate reward condition were offered the bonus within an hour of completing the task, while participants in the delayed reward condition were offered the bonus one month after completing it. In addition, participants were offered either a smaller bonus ($0.50) earlier or a larger bonus ($1.50) one month later. As with previous studies, after completing the reading task, participants answered questions to assess their intrinsic and extrinsic motivation. In addition, to measure intrinsic motivation using the free-choice paradigm, participants read that in the last 2 minutes of the study they could either continue reading the book excerpt or complete another task (dot-counting) with no additional bonuses available.

In addition to confirming the results from Study 4, where an earlier reward increased intrinsic but not extrinsic motivation, overall the results of this study suggest it is unlikely that immediate rewards increase intrinsic motivation because they appear psychologically larger. The timing of the reward (immediate vs. delayed) influenced intrinsic motivation more than the size of the reward (larger vs. smaller). Furthermore, as illustrated in Figure 4, participants in the immediate reward condition were more likely to continue the reading task compared to participants in the delayed reward condition.

Figure 4
4. Takeaways for Your Business

Key Takeaway:

Immediate rewards increase intrinsic motivation by strengthening the activity-goal association.

Other Important Takeaways

- People are more intrinsically motivated by immediate rewards than by delayed or at times no rewards.
- A larger delayed reward does not increase intrinsic motivation as much as an earlier reward does. This suggests companies can provide sooner smaller rewards to boost intrinsic motivation in employees, over larger later rewards.
- The effect of reward timing (immediate vs. delayed) is unique to intrinsic (vs. extrinsic) motivation.
- Immediate rewards make the experience of pursuing an activity more positive (intrinsic motivation), but don’t make the outcome of the activity more important (extrinsic motivation).
- Immediate (vs. delayed) rewards boost persistence by increasing intrinsic motivation, such that the activity as such is more enjoyable.

Caveats

This research examined the effect of reward timing on activities that people were both intrinsically and extrinsically motivated to pursue (e.g., work tasks). It is an open question how immediacy will influence intrinsic motivation for activities where people are not already motivated to some degree.

*This is an industry-focused summary of the publication cited below.*

*For references cited and additional information please consult the original paper:*