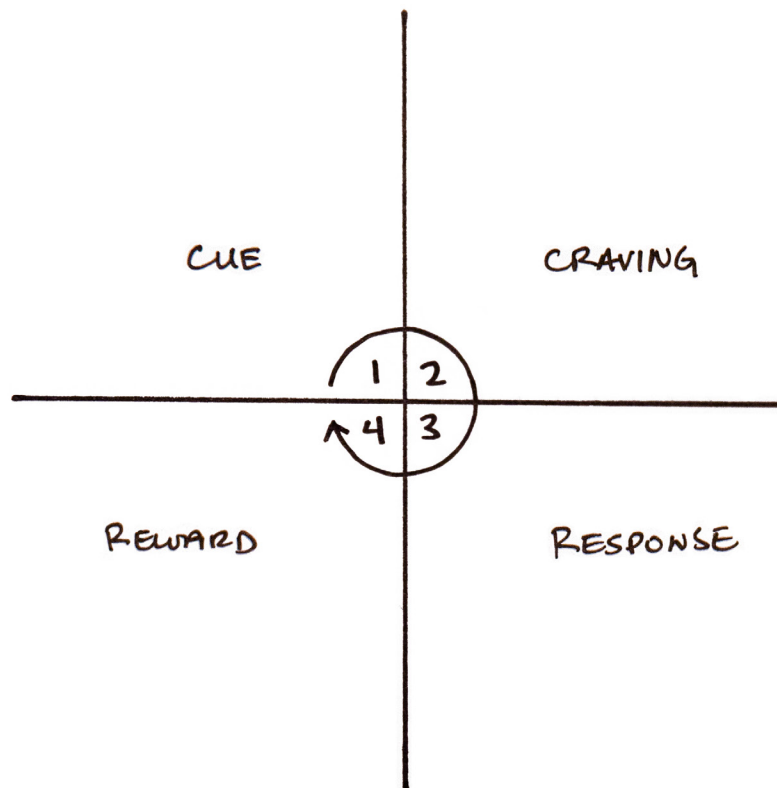# How to Apply These Ideas to Business

I n *Atomic Habits*, I explain a four-step loop that underlies all of human behavior: cue, craving, response, and reward. When repeated, this neurological feedback loop leads to the formation of new habits.

As a reminder, the Habit Loop can be represented as follows:

From these steps, I have developed the Four Laws of Behavior Change:

1. Cue: Make it obvious.
2. Craving: Make it attractive.
3. Response: Make it easy.
4. Reward: Make it satisfying.

These four laws can be applied to make any behavior easier (and the inversion of each law can be applied to make any behavior harder). In business, these same principles can be used to create more effective products and to help employees establish more effective habits.

In this appendix, I will explore some examples of how each law might be applied in a business context. I offer these only as a starting point. The Four Laws of Behavior Change are meant to provide a framework that can be flexible and adapt as your needs and tastes change. I think you'll find that the applications are nearly endless.

THE 1ST LAW

The 1st Law of Behavior Change is to *make it obvious*. This law is connected to the cue, which is the first step of the habit loop. A cue is anything that gets your attention (or your customer's attention) and signifies what to do next. As you might expect, cues that are more obvious will be more likely to get a person's attention and, as a result, are more likely to be acted upon.

This is one reason why advertising often feels intrusive. Many ads are loud, bright, glaring, and eye-catching—even if they are gaudy—because they are trying to be as obvious as possible.

The dozens of notifications that light up your phone, computer screen, social media networks, and software programs are an example of "making it obvious" for the user to know what to do next. In fact, many companies have found that the more notifications they send (text messages, email blasts, alerts, etc.), the more users will engage with their product. Even my dentist will now send me two emails and two text messages about each appointment.

Many companies have realized that each reminder makes the product or service obvious again and the user remembers to come back to it. (As a user, this can be incredibly

annoying: companies often appear to be in a race to the bottom to grab your attention and the app who interrupts you the most wins.)

The converse is also true. In support of the 1st law, we would expect behaviors that are less obvious or prevalent to be less likely to occur. The ad slot tucked away below the fold is clicked on less than the banner running at the top of the page. The products stored on the bottom shelf are less likely to be purchased. And so on. When an item or an action is invisible, it is often forgotten. This is one reason software companies hide buttons like "Cancel Account" and "Log Out" in hard-to-find places, nested deep within the settings and menus.

Additionally, whenever possible you want to make anything that could distract the user from the desired behavior invisible. It's no surprise that many of the most habit-forming behaviors—like playing a slot machine at a casino—are solitary. There are no windows, very few distractions, and nothing but slot machines surrounding each player. It's very easy to get into "the zone" and continue playing because distractions are invisible and the desired behavior is obvious.

Businesses can utilize the 1st Law of Behavior Change in many ways. Put your most profitable product in the front of the store or in the most visible locations. Ask employees to remove distracting applications from the homescreen on their phone so they are less likely to see them and click mindlessly. Design the office workflow so the most important tasks are in the most obvious locations. Include instructions with each product that prompt users to display your product in a prominent place in their home or on the home screen of their device.

The most obvious cue is often the one that captures your attention. And the cue that gets your attention is the one that can initiate a habit.

THE 2ND LAW

The 2nd Law of Behavior Change is to *make it attractive*. This law is connected to the craving, which is the second step of the habit loop.

As we discussed in the 1st Law, you want your product to be obvious (e.g. at the top of the email inbox or on a huge billboard or sitting at the front of the store), but once it's in

an obvious location, you need the image it creates in the customer's mind to be attractive.

Every behavior is preceded by a prediction. When it comes to business, this means every *purchase* is preceded by a prediction. This is a key point. The customer does not buy your product; they buy the prediction it creates in their mind. They look at all of the soda bottles in the vending machine and predict Coke will taste the best, so they buy it. Or, they need to create a new website and decide to choose the service with the best reviews because they predict it will be the most satisfying experience.

For many products, "making it attractive" comes down to explaining the benefits in a clear and compelling way. This is why you'll occasionally hear marketers and graphic designers say things like, "The words are the design" or "Copy is a design issue." Choosing the correct words makes the message attractive and the product "beautiful" in the customer's mind.

In many cases, personalizing the message can be an effective way to implement the 2nd Law of Behavior Change because products are often more attractive when they seem relevant to the customer's life. If you're a freelance writer, it is more powerful to read a sales page with the title, "Exactly How to Double Your Income as a Freelance Writer" than to read, "How to Double Your Income." It's the same pitch, but the first one feels like it's made for you.

This strategy is even more powerful if you can use the person's first name. Imagine if the freelance writer mentioned above was named Olivia and she received an email with the subject, "Olivia, here's exactly how to double your income as a freelance writer."

Similarly, many online retailers create offers that are highly personalized. Rather than offering a product for "managers," they display different text on the sales page depending on who is looking at the screen. Depending on their title, one person sees a product for "chief financial offers" and another sees the same product pitched for "marketing managers."

This strategy can be used in nearly any area of life. Everyone is "selling" something, even if it doesn't feel like sales. Doctors sell healthy lifestyle changes to their patients. Coaches sell teamwork to their players. Parents sell life skills to their kids. Making your message personal—something as simple as saying the other person's name—helps connect with people in a meaningful way and is one way to make change a bit more attractive.

Amazon utilizes personalization every day. The company often showcases items a customer has viewed recently or products that are similar to what they have purchased in the past. It becomes very attractive to spend money on Amazon because customers are always seeing what is relevant to them.

Of course, individual personalization is not always possible, but businesses can often "personalize" at scale if they pair the product with a strong identity. For example, Toyota has been able to connect driving a Prius with being environmentally friendly. If you are the type of person who believes strongly in helping the environment, then buying a Prius is a way to signal your identity to others. The product instantly becomes more attractive to a certain type of consumer because it feels like an extension of their identity. This type of connection can be incredibly powerful, which means it might be useful to highlight the identity your product represents.

Another strategy that can increase the attractiveness of a product (and which I discuss in detail in Chapter 10) is highlighting social norms. Humans are heavily influenced by the crowd. If you can show a customer that other people like them use your product—people in their zip code, from their hometown, on their team, etc.—they will be more likely to find it attractive themselves.

There is an important caveat here that deals with framing: If people think the behavior your product requires is rare, you should frame those who have it in a positive light (achieving status): "60% of millionaires read one book every day. With our new product, you can too."

If people think the behavior your product requires is common, then frame those who *don't* do it in a negative light (deviating from the norm): "75% of people in your neighborhood are paying less than you on their energy bill. Click here and learn how to not miss out on these savings."

Finally, you can make any product inherently more attractive by employing the 3rd and 4th Laws of Behavior Change. Behaviors that are "cheap"—easy to do, low social costs, immediate payoffs—are attractive. Behaviors that are "expensive"—hard to do, high social costs, delayed payoffs—are unattractive. Let's talk more about how to get those two laws working in your favor.

THE 3RD LAW

The 3rd Law of Behavior Change is to *make it easy*. This law is associated with the response, which is the actual behavior or habit that you perform. Behaviors are more likely to be performed when they are easy—that is, when they can be accomplished with ease.

From a business standpoint, perhaps the most effective way to employ the 3rd Law of Behavior Change is to map out the chain of behaviors that a customer must perform to purchase your product or use your service, and then search for any possible area where you can reduce the friction associated with the task.

Imagine the first ride-sharing services like Uber or Lyft. When they were launching, they could have mapped out the chain of behaviors a customer had to perform to get a ride across town: walk outside, wait for a taxi to pass on the street, get in, ride across town, arrive at destination, pull out a credit card or cash, pay for the ride, put the credit card (or any change) back in their purse or wallet, get out of the car, etc.

Then, the company could look at each stage and ask themselves how they could reduce the friction associated with the task (or eliminate that step entirely):

How can we make it easier to walk outside? What if users could download an app that would summon a car from their phone and didn't have to walk outside at all?

How can we make it easier to wait for the ride? What if we told users how long it would be until a ride arrived? Then they could just walk outside at the right moment.

How can we make it easier to get in the car? No change.

How can we make it easier to ride across town? Rather than leave it up to the driver's memory, we could display the route on the users phone and the driver's phone. Now the user can make suggestions if they want to go a different way and the driver can rely on the GPS for up-to-date information and routing.

How can we make it easier to pay for the ride? We already have an app on the user's phone. What if we asked users to upload their credit card information? Then, they could pay automatically and just exit the car once they arrive.

And so on.

In Chapter 12 of *Atomic Habits* I wrote, "Business is a never-ending quest to deliver the same result in an easier fashion." The idea is to make every phase of the process as convenient as possible.

Consider the timeline of Amazon's shipping policies:

1994: Amazon founded.

2002: Amazon launches Free Super Saver Shipping with free shipping on orders over $99.

2005: Amazon launches Amazon Prime with free two-day shipping on all products.

2014: Amazon launches "Read While Your Book Ships" so people who bought the print version of a book can read the Kindle version instantly while they wait for the purchase to arrive in the mail.

2018: Amazon launches free grocery delivery within two hours.

Amazon is continually looking to give customers what they want in an easier, faster, and more convenient fashion: Get it shipped. Get it shipped free. Get it shipped free in two days. Get it shipped free in two hours. Get it *right now* while you wait for us to ship it to you free in two days.

Great businesses remove every point of friction they can think of to make the desired behavior as easy as possible.

THE 4TH LAW

The 4th Law of Behavior Change is to *make it satisfying*. The final stage of the habit loop is the reward. If there is a reward associated with a behavior—that is, it feels good and has a satisfying ending—then we have a reason to repeat it in the future.

In Chapter 15 of *Atomic Habits*, I say, "The first three laws of behavior change—*make it obvious*, *make it attractive*, and *make it easy*—increase the odds that a behavior will be performed this time. The fourth law of behavior change—*make it satisfying*—increases the odds that a behavior will be repeated next time. It completes the habit loop."

In business, we could say that making your product or service satisfying increases the odds that a customer will return next time. It is the fourth stage that closes the loop and encourages your customers to use your product or service habitually.

The speed of the reward is a crucial factor in the 4th Law of Behavior Change. Customers need to feel immediately successful—even if it's just in some small way—each time they use a product or service. At a minimum, the product should solve the problem (i.e. resolve the craving they experienced in Law 2) and, if possible, it should do so with some surprise or delight as well.

Creating a satisfying experience requires a balance between the 2nd Law (make it attractive) and the 4th Law (make it satisfying) because your level of satisfaction is directly linked to your level of expectation and desire. The danger of making too big a promise is that you'll get people to buy once, but they won't have a reason to buy again. Think: massive discounts that aren't followed with great experiences or the sales team making a promise that the product team can't deliver on. Huge expectations might trigger a single sale, but you'll never create a buying habit.

One way to employ the 4th Law is to drop in little bits of satisfaction throughout the experience. For example, car manufacturers have begun to add fake engine noise to their cars and trucks to create a satisfying growl when the owner punches the accelerator.[1] Additional examples are covered in Chapter 15 of *Atomic Habits* like adding flavor to chewing gum or toothpaste.

Of course, this same principle can be applied to help the employees of any company build better habits. Behaviors can be reinforced by offering small bits of praise and encouragement throughout the work day.

One founder I interviewed spoke of a simple method his company was using to make work more satisfying, "Everyone gets a Post-It Note in the form of a hand," he said. "It's called a 'five.' And whenever someone does something above and beyond, it goes on the community wall in the breakroom. And everyone sees it. It's just about celebrating the behaviors you want to reinforce. At the end of the month, we pick a few out, read them out loud to everyone, and then give out a few gift cards. Everyone goes up and grabs a few and then finds the person that it's written about and then gives it to them. We want to have little wins all the time."

Behaviors that make you feel good—that is, behaviors that are followed by an immediate sense of satisfaction or praise or encouragement or pleasure—are exactly the kind of behaviors you want to repeat in the future.

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[1] Drew Harwell, "America's best-selling cars and trucks are built on lies: The rise of fake engine noise," *The Washington Post,* January 21, 2015, https://www.washingtonpost.com/business/economy/americas-best-selling-cars-and-trucks-are-built-on-lies-the-rise-of-fake-engine-noise/2015/01/21/6db09a10-a0ba-11e4-b146-577832eafcb4_story.html.

SUMMARY

The classic example of an addictive product is the slot machine, and indeed you'll find that they employ all four laws of behavior change.

Make It Obvious: Slot machines are extremely profitable and casinos know it. That's why the first thing they do is make them obvious: slot machines outnumber table games 100-to-1 in nearly every casino.

Make It Attractive: Many electronic slot machines strategically employ the near-miss effect to create a false sense of reward. A near-miss occurs when the winning symbol appears just above or below the payline. Imagine tapping the spin button, watching the wheels rotate, and seeing two cherries line up—but the third cherry narrowly misses. You *almost* won the jackpot.

That "almost" feeling tricks your brain into predicting the reward is now closer than before. With a little more work, you might be able to get it. After a near-miss, the reward system in your brain will light up with anticipation. Many machines are intentionally programmed to deliver near-misses more frequently than would arise by pure chance. By teasing a jackpot, the designers make the game more engaging, but they are also deceiving users by making them feel like a win is closer even though the odds of winning are no better than before.

Make It Easy: The entire experience of playing slots is designed to be easy. The chairs are comfortable enough to sit in for hours. Most machines don't even require you to pull a lever anymore. Playing another round is as simple as pressing the SPIN button. When you run out of money, casinos make it as easy as possible to get more. Many slot machines allow you to pay directly from your seat. ATMs are always easy to access, and cash advance and debit withdrawal options are available when your account is empty.

Make It Satisfying: The only unsatisfying part of the experience is losing money, and slot machines are designed to hide this as best as possible. They make it difficult to tell how much money you are spending.

The traditional slot machine is just a lever and one wheel, but electronic slot machines allow users to play multiple wheels at the same time. Imagine a screen with one hundred tiny slot machine wheels spinning at once. Each time you press the spin button, you bet one hundred pennies—one per wheel. Say you win on thirty wheels during this particu-

lar turn. The machine will highlight your thirty wins. Flashing lights go off in celebration and the machine plays the sound of coins clinking into the dish. It feels as if you won thirty cents, but you really *lost* seventy cents. The machine frames a loss as a win.

Put it all together and...

After a casino enters an area, the rate of gambling addiction rises within a fifty mile radius. In some cases, the rate is twice as high as it was before. According to one report, "Casino patrons bet more than $37 billion annually—more than Americans spend to attend sporting events ($17.8 billion), go to the movies ($10.7 billion), and buy music ($6.8 billion) combined."

This is the kind of effect you get when you employ all four laws of behavior changes at once. When all the levers are pointed in the same direction, the likelihood of a given behavior goes through the roof.

To conclude this appendix, I'd like to share a case study, which may provide more insight on what the Four Laws of Behavior Change look like when used in combination.

CASE STUDY: TURNING $2 MILLION INTO $2 TRILLION

Background: This essay was originally delivered as a talk by Charlie Munger on April 24, 1998 at the 50th Reunion of the Harvard Law School Class of 1948. It was published as Appendix D in [Damn Right: Behind the Scenes with Berkshire Hathaway Billionaire Charlie Munger](#) by Janet Lowe. A portion of the full talk is republished here as an example of how to apply the 4 Laws of Behavior Change to business. Comments from James Clear are included in italics.

It is 1884 in Atlanta. You are brought, along with twenty others like you, before a rich and eccentric Atlanta citizen named Glotz. Both you and Glotz share two characteristics: first, you routinely use in problem solving the five helpful notions, and, second, you know all the elementary ideas in all the basic college courses, as taught in 1996. However, all discoverers and all examples demonstrating these elementary ideas come from dates transposed back before 1884. Neither you nor Glotz knows anything about anything that has happened after 1884.

Glotz offers to invest $2 million, yet take only half the equity, for a Glotz charitable

foundation, in a new corporation organized to go into the non-alcoholic beverage business and remain in that business only, forever. Glotz wants to use a name that has somehow charmed him: Coca-Cola.

The other half of the new corporation's equity will go to the man who most plausibly demonstrates that his business plan will cause Glotz's foundation to be worth a trillion dollars 150 years later, in the money of that later time, 2034, despite paying out a large part of its earnings each year as a dividend. This will make the whole new corporation worth $2 trillion, even after paying out many billions of dollars in dividends.

You have fifteen minutes to make your pitch. What do you say to Glotz?

And here is my solution, my pitch to Glotz, using only the helpful notions and what every bright college sophomore should know.

Well Glotz, the big "no-brainer" decisions that, to simplify our problem, should be made first are as follows: first, we are never going to create something worth $2 trillion by selling some generic beverage. Therefore we must make your name, "Coca-Cola," into a strong, legally protected trademark. Second, we can get to $2 trillion only by starting in Atlanta, then succeeding in the rest of the United States, then rapidly succeeding with our new beverage all over the world. This will require developing a product having universal appeal because it harnesses powerful elemental forces. And the right place to find such powerful elemental forces is in the subject matter of elementary academic courses.

Note: Munger's desire to create a product with "universal appeal" naturally means he will employ the 4 Laws of Behavior Change—even though he won't use those terms. Remember, the four laws are about the principles that underpin all of human behavior and when they are working in your favor, they make any human behavior more likely to occur. That includes, as is the case here, growing a business and getting more people to buy your product.

We will next use numerical fluency to ascertain what our target implies. We can guess reasonably that by 2034 there will be about eight billion beverage consumers around the world. On average, each of these consumers will be much more prosperous in real terms than the average consumer of 1884. Each consumer is composed mostly of water and must ingest about 64 ounces of water per day. This is eight eight-ounce servings. Thus, if our new beverage, and other imitative beverages in our new market, can flavor and otherwise improve only 25 percent of ingested water worldwide, and we can occupy half of the new world market, we can sell 2.92 trillion eight-ounce servings in 2034. And if we

can then net four cents per serving, we will earn $117 billion. This will be enough, if our business is still growing at a good rate, to make it easily worth two trillion dollars.

A big question, of course, is whether four cents per serving is a reasonable profit target for 2034. And the answer is yes, if we can create a beverage with strong universal appeal. One hundred fifty years is a long time. The dollar, like the roman drachma, will almost surely suffer monetary depreciation. Concurrently, real purchasing power of the average beverage consumer in the world will go way up. His proclivity to inexpensively improve his experience while ingesting water will go up considerably faster. Meanwhile, as technology improves, the cost of our simple product, in units of constant purchasing power, will go down. All four factors will work together in favor of our four-cents-per-serving profit target. Worldwide beverage-purchasing power in dollars will probably multiply by a factor of at least forty over 150 years. Thinking in reverse, this makes our profit-per-serving target, under 1884 conditions, a mere one fortieth of four cents or one tenth of a cent per serving. This is an easy-to-exceed target as we start out if our new product has universal appeal.

That decided, we must next solve the problem of invention to create universal appeal. There are two intertwined challenges of large scale: first, over 150 years we must cause a new-beverage market to assimilate about one fourth of the world's water ingestion. Second, we must so operate that half the new market is ours, while all our competitors combined are left to share the remaining half. These results are lollapalooza results. Accordingly, we must attack our problem by causing every favorable factor we can think of to work for us. Plainly, only a powerful combination of many factors is likely to cause the lollapalooza consequences we desire. Fortunately, the solution to these intertwined problems turns out to be fairly easy, if one has stayed awake in all the freshman courses.

Note: "Lollapalooza" is the term Munger uses when multiple psychological forces are working in your favor and they combine to create a powerful effect. Sort of like compound growth or the whole being greater than the sum of its parts. The same kind of effect you get when multiple Laws of Behavior Change are working for you.

Let us start by exploring the consequences of our simplifying "no-brainer" decision that we must rely on a strong trademark. This conclusion automatically leads to an understanding of the essence of our business in proper elementary academic terms. We can see from the introductory course in psychology that, in essence, we are going into the

business of creating and maintaining conditioned reflexes. The "Coca-Cola" trade name and trade dress will act as the stimuli, and the purchase and ingestion of our beverage will be the desired responses.

Note: Remember the four-step habit loop: cue, craving, response, reward. Munger is explaining that the Coca-Cola name and logo are the cue. Buying and drinking the product is the response. The question is, how do we create a craving and deliver a reward?

And how does one create and maintain conditioned reflexes? Well, the psychology text gives two answers: by operant conditioning, and (2) by classical conditioning, often called Pavlovian conditioning to honor the great Russian scientist. And, since we want a lollapalooza result, we must use both conditioning techniques—and all we can invent to enhance effects from each technique.

The operant-conditioning part of our problem is easy to solve. We need only (1) maximize rewards of our beverage's ingestion, and (2) minimize possibilities that desired reflexes, once created by us, will be extinguished through operant conditioning by proprietors of competing products.

Note: The second point is worth highlighting because it is somewhat unique to businesses. Not only can you make your products more attractive (2nd Law) and satisfying (4th Law), your competitors can invert these laws to make your offerings less attractive and less satisfying. To build a solid business you need to do the first and defend against the second.

For operant conditioning rewards, there are only a few categories we will find practical:

1. Food value in calories or other inputs;

2. Flavor, texture, and aroma acting as stimuli to consumption under neural preprogramming of a man through Darwinian natural selection;

3. Stimulus, as by sugar or caffeine;

4. Cooling effect when man is too hot or warming effect when man is too cool.

Note: Points 1 and 4 are methods of making the product more satisfying (4th Law). Points 2 and 3 are methods of making it more attractive (2nd Law). The aroma mentioned in point 2, could also function as a cue and make the product more obvious (1st Law). Finally, it is worth noting that Munger offers all of these options together because he implicitly realizes that it is always more powerful to have multiple Laws of Behavior Change working for you than just one.

Wanting a lollapalooza result, we will naturally include rewards in all the categories.

To start out, it is easy to decide to design our beverage for consumption cold. There is much less opportunity, without ingesting beverage, to counteract excessive heat, compared with excessive cold. Moreover, with excessive heat, much liquid must be consumed, and the reverse is not true. It is also easy to decide to include both sugar and caffeine. After all, tea, coffee, and lemonade are already widely consumed. And it is also clear that we must be fanatic about determining, through trial and error, flavor and other characteristics that will maximize human pleasure while taking in the sugared water and caffeine we will provide. And, to counteract possibilities that desired operant-conditioned reflexes, once created by us will be extinguished by operant conditioning employing competing products, there is also an obvious answer: we will make it a permanent obsession in our company that our beverage, as fast as practicable, will at all times be available everywhere throughout the world. After all, a competing product, if it is never tried, can't act as a reward creating a conflicting habit. Every spouse knows that.

Note: The 1st Law in action: "our beverage, as fast as practicable, will at all times be available everywhere throughout the world." Munger is also referencing an inversion of the 1st Law by stating that "a competing product, if it is never tried, can't act as a reward creating a conflicting habit." In this context, using the customer's product would qualify as a bad habit and one of the most effective ways to eliminate a bad habit is to cut it off at the source. This is something we cover in detail in Chapter 7 of Atomic Habits.

We must next consider the Pavlovian conditioning we must also use. In Pavlovian conditioning powerful effects come from mere association. The neural system of Pavlov's dog causes it to salivate at the bell it can't eat. And the brain of man yearns for the type of beverage held by the pretty woman he can't have. And so, Glotz, we must use every sort of decent, honorable Pavlovian conditioning we can think of. For as long as we are in business, our beverage and its promotion must be associated in consumer minds with all other thing consumers like or admire.

Such extensive Pavlovian conditioning will cost a lot of money, particularly for advertising. We will spend big money as far ahead as we can imagine. But the money will be effectively spent. As we expand fast in our new-beverage market, our competitors will face gross disadvantages of scale in buying advertising to create the Pavlovian conditioning they need. And this outcome, along with other volume-creates-power effects, should

help us gain and hold at least 50 percent of the new market everywhere. Indeed, provided buyers are scattered, our higher volumes will give us very extreme cost advantages in distribution.

Note: This is the section where Munger really enforces the power of the 2nd Law of Behavior Change. He is using Pavlovian conditioning to create a craving by associating the response he needs the user to take (buying Coca-Cola) with something the user already wants (in his example, a pretty woman). This is a corporate form of temptation bundling, a strategy covered in chapter 8 of Atomic Habits. By pairing a "want" with a "need" you can make any product more attractive and gradually condition the buyer to crave your offering. It's one of the core philosophies behind many advertising campaigns.

Moreover, Pavlovian effects from mere association will help us choose the flavor, texture, and color of our new beverage. Considering Pavlovian effects, we will have wisely chosen the exotic and expensive-sounding name "Coca-Cola," instead of a pedestrian name like "Glotz's sugared, caffeinated water." For similar Pavlovian reasons, it will be wise to have our beverage look pretty much like wine, instead of sugared water. And so we will artificially color our beverage if it comes out clear. And we will carbonate our water, making our product seem like champagne, or some other expensive beverage, while also making its flavor better and imitation harder to arrange for competing products. And, because we are going to attach so many expensive psychological effects to our flavor, that flavor should be different from any other standard flavor so that we maximize difficulties for competitors and give no accidental same-flavor benefit to any existing product.

Note: These are all ways of making a product more satisfying, which increases the odds that someone will purchase again and again (4th Law) and ultimately leads to a greater desire for the product (2nd Law).

What else, from the psychology textbook, can help our new business? Well, there is that powerful "monkey-see, monkey-do" aspect of human nature that psychologists often call "social proof." Social proof, imitative consumption triggered by mere sight of consumption, will not only help induce trial of our beverage. It will also bolster perceived rewards from consumption. We will always take this powerful social-proof factor into account as we design advertising and sales promotion and as we forego present profit to enhance present and future consumption. More than with most other products, increased selling power will come from each increase in sales.

Note: As we covered in Chapter 10 of Atomic Habits, we find it attractive to imitate the habits of those around us. Social norms are one of the most powerful forces influencing human behavior. The more you can use social proof to show potential customers that "people like you use our product," the greater likelihood you have in altering someone's behavior.

We can now see, Glotz, that by combining (1) much Pavlovian conditioning, (2) powerful social-proof effects, and (3) wonderful-tasting, energy-giving, stimulating and desirably-cold beverage that causes much operant conditioning, we are going to get sales that speed up for a long time by reason of the huge mixture of factors we have chosen. Therefore, we are going to start something like an autocatalytic reaction in chemistry, precisely the sort of multi-factor-triggered lollapalooza effect we need.

The logistics and the distribution strategy of our business will be simple. There are only two practical ways to sell our beverage: (1) as a syrup to fountains and restaurants, and (2) as a complete carbonated-water product in containers. Wanting lollapalooza results, we will naturally do it both ways. And, wanting huge Pavlovian and social-proof effects we will always spend on advertising and sales promotion, per serving, over 40 percent of the fountain price for syrup needed to make the serving.

A few syrup-making plants can serve the world. However, to avoid needless shipping of mere space and water, we will need many bottling plants scattered over the world. We will maximize profits if (like early General Electric with light bulbs) we always set the first-sale price, either (1) for fountain syrup, or (2) for any container of our complete product. The best way to arrange this desirable profit-maximizing control is to make any independent bottler we need a subcontractor, not a vendee of syrup, and certainly not a vendee of syrup under a perpetual franchise specifying a syrup price frozen forever at its starting level.

Being unable to get a patent or copyright on our super important flavor, we will work obsessively to keep our formula secret. We will make a big hoopla over our secrecy, which will enhance Pavlovian effects. Eventually food-chemical engineering will advance so that our flavor can be copied with near exactitude. But, by that time, we will be so far ahead, with such strong trademarks and complete, "always available" worldwide distribution, that good flavor copying won't bar us from our objective. Moreover, the advances in food chemistry that help competitors will almost surely be accompanied by technological advances that will help us, including refrigeration, better transportation, and, for dieters,

ability to insert a sugar taste without inserting sugar's calories. Also, there will be related beverage opportunities we will seize.

Note: You'll notice that as Munger projects the future of the business, he is continually going through the habit loop. This is not a one-time process. Achieving worldwide distribution makes Coca-Cola obvious. Adding sugar without calories makes the product more attractive to dieters. And so on. Round and round, always looking for areas of improvement. Business, like all pursuits of continuous improvement, is a never-ending cycle of revisiting the four laws of behavior change: make it obvious, make it attractive, make it easy, make it satisfying.

This brings us to a final reality check for our business plan. We will, once more, think in reverse like Jacobi. What must we avoid because we don't want it? Four answers seem clear:

First, we must avoid the protective, cloying, stop-consumption effects of aftertaste that are a standard part of physiology, developed through Darwinian evolution to enhance the replication of man's genes by forcing a generally helpful moderation on the gene carrier. To serve our ends, on hot days a consumer must be able to drink container after container of our product with almost no impediment from aftertaste. We will find a wonderful no-aftertaste flavor by trial and error and will thereby solve this problem.

Second, we must avoid ever losing even half of our powerful trademarked name. It will cost us mightily, for instance, if our sloppiness should ever allow sale of any other kind of "cola," for instance, a "peppy cola." If there is ever a "peppy cola," we will be the proprietor of the brand.

Third, with so much success coming, we must avoid bad effects from envy, given a prominent place in the Ten Commandments because envy is so much a part of human nature. The best way to avoid envy, recognized by Aristotle, is to plainly deserve the success we get. We will be fanatic about product quality, quality of product presentation, and reasonableness of prices, considering the harmless pleasure it will provide.

Fourth, after our trademarked flavor dominates our new market, we must avoid making any huge and sudden change in our flavor. Even if a new flavor performs better in blind taste tests, changing to that new flavor would be a foolish thing to do. This follows because, under such conditions, our old flavor will be so entrenched in consumer preference by psychological effects that a big flavor change would do us little good. And it

would do immense harm by triggering in consumers the standard deprival super-reaction syndrome that makes "take-aways" so hard to get in any type of negotiation and helps make most gamblers so irrational. Moreover, such a large flavor change would allow a competitor, by copying our old flavor, to take advantage of both (1) the hostile consumer super-reaction to deprival and (2) the huge love of our original flavor created by our previous work.

Note: In Atomic Habits, I briefly cover the inversion of each law and how to use it to our favor. Munger is employing a similar method of thinking here where he is "inverting" and thinking about the opposite of what he wants to occur and how a good business might avoid those outcomes. This approach, known simply as inversion, is a powerful way to think more clearly and it can give you a big leg up in business. I wrote more about it here: https://jamesclear.com/inversion

Well, that is my solution to my own problem of turning $2 million into $2 trillion, even after paying out billions of dollars in dividends. I think it would have won with Glotz in 1884 and should convince you more than you expected at the outset. After all, the correct strategies are clear after being related to elementary academic ideas brought into play by the helpful notions.

How consistent is my solution with the history of the real Coca-Cola company? Well, as late as 1896, twelve years after the fictional Glotz was to start vigorously with $2 million, the real Coca-Cola company had a net worth under $150 thousand and earnings of about zero. And thereafter the real Coca-Cola company did lose half its trademark and did grant perpetual bottling franchises at fixed syrup prices. And some of the bottlers were not very effective and couldn't easily be changed. And the real Coca-Cola company, with this system, did lose much pricing control that would have improved results, had it been retained. Yet, even so, the real Coca-Cola company followed so much of the plan given to Glotz that it is now worth about $125 billion and will have to increase its value at only 8 percent per year until 2034 to reach a value of $2 trillion. And it can hit an annual physical volume target of 2.92 trillion servings if servings grow until 2034 at only 6 percent per year, a result consistent with much past experience and leaving plenty of plain-water ingestion for Coca-Cola to replace after 2034. So I would guess that the fictional Glotz, starting earlier and stronger and avoiding the worst errors, would have easily hit his $2 trillion target. And he would have done it well before 2034.

This is a bonus chapter from Atomic Habits

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