Week 9: Persuasion and Communication

9.1 Articulate Motivation for the Design

9.1.1 Justify the Design You Choose

This element addresses the following learning objectives of this course:

- LO2: Design and apply research questions.
- LO4: Justify an analytic approach that informs decision making.

A major tenet of persuasion is that we want to communicate to our audience that we are both knowledgeable and trustworthy. To convey your knowledge or expertise, you want to communicate that you know the difference between what is actionable insight and what isn't. And this isn't strictly an academic exercise. You want to be able to say something like "and when we find out the answer to this question, then we'll be able to do x, y, and z."

For example, let's say you work in agriculture. And you want to improve how you freeze your product. You use historical information to inform the design of an experiment. The experiment is crafted to compare how freezing techniques affect shelf life. After completion of this project, you'll be able to tell the decision makers which method increases shelf life.

If you go a step further, you may communicate the cost-benefit approach to each option because the, quote unquote, "best method" to freeze product might also be the most expensive. In summary, justify the design you choose and articulate how the insight could affect a particular decision.

9.1.2 Conceptualize Innovation

This element addresses the following learning objectives of this course:

- LO2: Design and apply research questions.
- LO5: Identify the audience and the most effective method to communicate a persuasive argument.

How we conceptualize innovation matters. We need to be mindful about the arguments we derive from our analysis. Be mindful not to overaggregate conceptual categories in a well-intentioned effort to squeeze out knowledge out of your data set.

Be very explicit about what the data measures. Say something like, we use this particular data set to capture this concept. And we think we do capture the intended concept because, and then describe your rationale. Be precise with your words. If your ideas are unclear, it is unlikely that they will convince your audience.

9.2 Justify Your Design

9.2.1 Justify Your Design

Spend five minutes on the following prompt:

Imagine you work for a manufacturing company. You want to implement a new shift schedule, but are mindful of how this may change employee moral, and ultimately worker productivity.
You are asked to provide 2–3 bullet points of feedback on each of the following strategies.

Interview
One idea is to randomly select employees to participate in brief, semi-structured interviews to ask how they would feel about the new shift schedule.

Survey
Another idea is to survey all employees about how they would feel about the new shift schedule.

Observational Study
A final idea is to take measurements about work productivity before the implementation of the new shift schedule, and then compare it to productivity after the implementation of the new shift schedule.

9.3 Theories of Persuasion, Part 1

9.3.1 Psychology of Persuasion

This element addresses the following learning objective of this course:

- LO5: Identify the audience and the most effective method to communicate a persuasive argument.

This insight comes from one of the greatest minds on persuasion, Robert Cialdini. He highlights six principles of persuasion-- one, reciprocity. People say yes to those who have given to them first. They feel obligated to give back.

For example, if you invite me to dinner, now I have to invite you to dinner. If you do me a favor, I owe you a favor. The implication is that you have to invest in the people you want to invest in you. You have to give people different advantages and benefits first before they sign up with your company. You have to make the first move.

Idea two, scarcity. People want what is in short supply. Tell people what they'll gain from your proposal and what they will lose if they don't. Three, authority. Make sure to get your background experience and credentials on the table before you begin. People want to follow the advice of an expert.

If you're presenting, be careful about how you lead with your expertise. You don't want to come off as being perceived as full of yourself. So instead, maybe ask someone else to introduce you. That way, you don't seem like a jerk. The broader comment is that if you're interacting with a party that does not know about your credentials and your knowledge, get a third party to communicate that information.

Idea four, consistency. People like to be consistent, especially when they take a public position. We could think of this as commitment. Get people to take a small step toward the decision or toward the direction you want them to go. This small step will make it easier to convince them to take a larger step down the road.

Five, liking. Identify areas of similarity. Give compliments. Get to liking your client. The client wants to work with an expert who likes them. Demonstrably like your client, your customer, or your prospect.

And six, consensus. People follow the lead of others. In particular, they follow the lead of others who are similar to them. For example, Berkeley students report picking up at least one piece of trash a day. We'll be more effective if we keep these six principles in mind the next time we want to persuade.

9.3.2 Inform vs. Persuade

This element addresses the following learning objective of this course:

- LO5: Identify the audience and the most effective method to communicate a persuasive argument.

Information is rarely sufficient to change behavior. We can't simply inundate individuals with information and hope that they come to the right conclusion themselves. We have to take the lead. Instead of saying this data tells us x, we have to take the next step. This data tells us x, and this is what I mean. And this is how I know it.

Give people sufficient information to draw a conclusion and make them enthusiastic about doing so. Data and numbers matter, but so do convincing narratives. Also, don't assume people are captive audiences. People have choices. Even if your audience is in the same conference room or video call, people can choose to listen or not. There are many distractions.

9.3.3 Rhetoric and Persuasion

This element addresses the following learning objective of this course:

- LO5: Identify the audience and the most effective method to communicate a persuasive argument.

The exposure to knowledge is not sufficient to motivate action. You have to persuade. Here I'll outline some of the fundamentals of persuasion according to Aristotle's text, Rhetoric. One, ethos, or character. You are the character in your persuasive story. You have to establish your credibility and trustworthiness.

This may not mean list off all your credentials. Maybe have someone else do that. And here, I'm not kidding. Think about the many presentations that you've seen-- someone else usually introduces the accomplishments of the speaker.

Two, logos, or reason. Clearly articulate why your audience should care about what you have to say. Develop a careful argument, use data. Three, pathos, or emotion. Tell stories, appeal to emotion, connect with audience.

Four, metaphor. Oftentimes, metaphors can help the audience understand a new concept by relating it to something familiar. Now I want to urge a little bit of caution when we use analogies or metaphors for two reasons. Reason number one, they often narrow your thinking or they fall short.

Let's say you present the metaphor of a revolving door. Then your audience can't think of a situation or can't think of the situation in any other way besides the metaphor you've presented. Or maybe your metaphor falls short, and your audience is like, I don't see how it's like a revolving door. And then they disengage.

The second reason that you want to use caution when you use analogies or metaphors is that many metaphors and analogies are culturally specific. As we work in an increasingly international world with diverse audiences, a metaphor that might resonate with some members in your audience may not resonate with others.

Finally, the fifth principle from Aristotle's text, Rhetoric, is brevity. Keep it brief. Start with your main point. Bottom Line Up Front-- perhaps the BLUF framework will help you. A similar framework is, I used to think X, now I think Y. And let me tell you why.

9.4 Theories of Persuasion, Part 2

Let's talk for a couple minutes about behavioral economics and how it fits into this discussion. You probably know that this field of behavioral economics these days is all the rage in the academic world, but it's also quite the rage and quite the meme in the popular world. Probably many of you have read the book Freakonomics or maybe heard the radio show. It's a lot of fun. Or perhaps you've read or heard of the book Nudge. It was written by Cass Sunstein and Richard Thaler, Cass Sunstein, of course, a major official in the Obama Administration. And if you've ever played around with any of the kind of weight loss programs on the internet or any of the gadgets or the kind of apps on the iPhones that are trying to get people to change what they do or break a habit or start a new habit, basically, you're living in the world of behavioral economics. So what's it about and why all the attention? It's really simple, actually. Human beings, as we know, are not rational deciders. They're not Bayesian updaters. They don't conform to all the rules that they're supposed to in the economic world, like transitive preferences, utility maximization, all those assumptions of economics.

Here's a perfect example, transitive preferences. If I like A better than B and I like B better than C, I'm supposed to like A better than C. Boy, that rule is violated every day I look at a restaurant menu or anytime I walk into a clothing store. And in fact, it's violated all over everyday living behaviors. Example-- does anyone actually believe that habits change because you give people more information about the downside of their habit? People who've tried to get people to stop smoking discovered this the hard way. You can show people data. You can show them infographics. You can show them pictures of diseased lungs, and they're probably not going to stop smoking. But what did get a lot of people to stop smoking, if you remember, was this incredible public service ad from the 1970s. "This is your brain. This is your brain on drugs," the egg frying in the pan. Everybody who's seen it remembers it, and it actually made a difference in people's behavior. So behavioral economics is really just an effort to deal with that kind of reality. But the most important thing is that it's trying to do that in a systematic and replicable

way. What I like about it is that unlike some formal economics, the behavioral stuff is anything but bloodless. It's anything but abstract. It's really very human. It's not an academic research endeavor in and of itself. It's about understanding people. But it's a synthetic effort to do that. And what behavioral economists really try to do is to incorporate insights from other sciences, things like psychology, sociology, increasingly, neurobiology, as well, into foundational models of persuasion, changing people's minds. And it's great because it's driven by real-world observations about how human beings actually do that, how they solve complex problems, how they change their minds, how they change each other's minds.

Now, what makes it behavioral economics and not just kind of semi-pop psychology or Don Draper-style marketing genius, like you see in a TV show like Mad Men is that the behavioral economists are trying to be systematic, falsifiable, and formal. Or at least, they're trying to develop models that can be stated clearly enough to be falsified and predictive, and that's what makes it a science. And for those of us who want to think about persuasion, it's a really, really valuable science. As I said, behavioral economics can be kind of funny. Freakonomics is a great book, and you laugh at the radio show and it's wonderful.

But in fact, people do crazy things, and it's only funny if you don't want them to change. I think this is deadly serious stuff. And the more this science advances, the better we can get at using information and data sort of filtered through behavioral economics insights to change people's actions and behavior. And in my view, there's nothing more powerful that data science can do than that.

9.5 Theories of Persuasion, Part 3

Interview with Zeyna Ballée, Communications Consultant

9.5.1 Communicate Opportunities With a Story

This element addresses the following learning objective of this course:

- LO5: Identify the audience and the most effective method to communicate a persuasive argument

We're talking to Zeyna Ballée, who is a very well-known communications consultant, spent a lot of time in the Washington, D. C. World, and now has her own independent communications firm based in Marseilles, France.

So, Zeyna, thanks a lot for coming on.

My pleasure.

We, as you know, are trying to collect stories about difficult persuasion tasks outside of the data world. Can you tell us from your experience-- you've been doing this stuff for 10, 15 years-- a little bit about your background, how you got into this business, and tell us a story about what you think is the most challenging persuasion task you've ever encountered.

OK, sure. Well, thanks again for having me. My background and why I got into this business was that I was a literature major and always loved the arts, and especially the written word and the power that that can have over myself and other people.

But I wanted to do work in that field in a way that I can make some money, and so I got into communications, advertising at the beginning, and then all sorts of corporate communications thereafter. And I was at the Glover Park Group for a little under eight years, and, as you said, now on my own running a small business out of France, international corporate communications, for the last three years.

So what was the-- I'll give you a little story. But in general, I think the story is emblematic of the principle and persuasion that-- I think it was Dale Carnegie who said that you can never win an argument, because even if you convince somebody of something that at the beginning they didn't agree with, you may have proven them wrong, but now they resent you, because you made them look wrong.

So in a sense, I think the key to persuasion is not trying to convince everyone all the time. And many cases, you sort of have to let-- you're always going to have a fierce opposition to something, and you can't always win over everyone. So in many cases, I think, if you were to talk to somebody in political communications, they'd say you never try to win over your opposition. It's always a middle ground, and that's the swing vote, is really what you're looking for.

We worked for a coalition of biomedical research groups that were looking to persuade Congress and appropriators in Washington that they needed to make sure that they

continued funding, and increasing funding, for the NIH. And this is at a time we're continuing now of austerity and cutbacks.

Even NASA, at the time, who everybody knew from-- at least, in my generation, space camp days-- you never cut funding for NASA. And it was just an incredible environment of austerity and cutbacks, particularly for research.

So the assignment and the story was really to try to go in there and convince members of Congress that this was a worthy cause. And similar to the background I just told you about, we didn't go in and try to convince people who were naturally opposed to it. The good news is that in biomedical research, nobody in Congress is going to stand up and say they're absolutely against it.

But we did target people that were already somewhat favorable to our cause, and we're seeking ways in which we could really get them either on the record or juiced up to really support us in a very public way. And so what we did was target those people.

And then, instead of calling them up with an ask, we called them up with an offer. Again, it's sort of-- these people get asked things all the time. It's tiresome. You get asked a lot. It's hard to see the difference between one thing and another. So as opposed to calling and asking them for something, yet again, we called and said, thank you. We'd like to offer you an opportunity to do an interview, much like we're doing here, you and I, and interview about your support for biomedical research and the NIH.

And I tell you, we had been banging on doors for a while, and we're weren't getting no's , but we were getting put off, and maybe next week, or the Congressman is away, duh, duh, duh. As soon as we came with this offer as opposed to an ask and this sort of approach, it's amazing how the door opened up, and opened up quickly.

And within a two-week period, we had-- I think you can still see it on the website-- we had a lot at least a small dozen members of Congress from both sides of the aisle, both chambers, talking about their personal experiences about biomedical-- interactions with disease, and either themselves or a family member, and then why that motivated them to support biomedical research in general, and therefore the NIH. And so instantaneously, we had converted, I think, people who were probably naturally predisposed, but then had persuaded them into becoming real champions for biomedical research.

Hey, Zeyna, let me ask you-- can I ask a specific question about that? So here you have, on the client side, a bunch of, by inclination and by training, scientifically-minded people. And on the target side, you have people who are politically-minded, and you're

asking them to talk about personal experiences. There's a culture clash that, I think, would be familiar-- or potential culture clash-- that might be familiar to many people in the data science world. How did that work? Was that a problem? What did that feel like?

You know, it's a good question. And I'll tell you that-- and this is why this-- you know, good for all of the people in this course, because I think people that crack that code, there's a huge amount of opportunity for those people. Because I feel like, day in and day out, I've worked with pharma companies, I've worked with scientific organizations of all kinds, patient groups, and it's a good constantly recurring issue that we come up with where people say, gosh, if only we could get the scientists to speak in more human and personal terms. It's this curse of knowledge.

So anyway-- so I think those of us in communications, for example, who can take complicated things and simplify them, retaining the elegance and the meaning, so it's not really dumbing anything down, but really simplifying it to its core and translating it into terms that are relatable by laymen. At the end of the day, that's a goldmine. I mean, that's what I'm trying to do. But there's plenty of room, believe me.

So I think that it's key. It's key. People who can do that have a bright future, I think, in terms of big data and things that organizations are going to be able to churn out. I think a lot of the open questions about the value of big data is, do we have enough people out there who are really able to separate the wheat from the chaff and find the areas of commonality or importance to people.

I think that might be an important measuring stick with which you can make that separation of the wheat from the chaff, is to say, OK, of all this data that I have-- or all this information-- what piece of it, or what chunks of it, are actually relevant, in a either personal or in some other way, that is of interest or relevance to the people I'm trying to talk to or convince.

How do you think the communications industry, as a whole, is going to respond to highly data-intensive subjects? Is that something that you guys are going to be able to work well with? Are there people going to move into that business, who are both great data scientists and great communications professionals, or how do you think that's going to work?

I think all of the above. I just think there's going to be different formulations of it. In the last, I'd say, two or three years, I've had to face this a lot more on my own than, say, in a larger agency, because you're forced to be on the front lines to stay relevant and competitive and know what you're talking about.

So in the last two or three years, I've really encountered, by luck or whatever, all the software developers and the data scientists and more technical people. And the more I found myself with those people and learn from them, the better I feel like I'm doing my job. And probably vice versa. I feel like I'm teaching them a lot, too, and then together we can go face clients with a more comprehensive, I think, solution.

So I think there is some of that marriage of the professions, in many ways. And it's already happened, too. You see how communications-- and that's what a lot of these mega-agencies have struggled with, is the fact that they used to be pure communicators, and in the digital age, it's a little bit-- it's something that they don't understand. They're running around. The big guys are running around, telling their entry-level kids out of college, like, somebody figure out digital! So I think that's really going to only increase and that people really have to straddle those two worlds, and they're becoming one. I think you really can't do without the other.

So let me ask one more question before we wrap up, specifically, with regard to data visualizations and [? infobiz. ?] One of the things, obviously, that has become very sexy as a product of big data sets is the ability to visualize information in really emotionally compelling ways. We've talked in this class a bit about that and how to think about that from a storytelling perspective.

What are you guys seeing, in terms of the principles of-- there's a lot of great digital data visualizations out there, but some of them are probably much more effective than others in the kind of work you do. Any principles that you're starting to induce from that experience about what works and what doesn't?

Yeah. And I think that your question applies, not only to visualizations, but to how to work social media in the right way, and a lot of different, again, back in the digital revolution that's come to communications, which is-- at the end of the day, the media is-- there's more media. Right? There's more different ways of telling a story.

But at the end of the day, a good story is good because it has a beginning, a middle, and an end. It's of interest to people in your target audience and the people you're trying to communicate to in a highly compelling way. And usually, for something to be compelling to Mr. X sitting in front of you, whether it be a client or a professor or a boss, even, is to put yourself in that person's shoes and think, OK, what is this person's needs, their objectives, their likes and dislikes? And trying to not just pander to that, but in an authentic way, with what you're trying to accomplish, find that common ground.

And I think that goes back to what we were saying earlier about the [? masses ?] of data sets in a world where you've got a ton of data, and you've got to make sure that it is simple and compelling. You've got to cull away the wheat from the chaff. In my experience with being persuasive, the thing to use as your tool for that is to say, OK, what is the objective or the outcome I need to accomplish, in terms of the person you're then going to try to persuade or convince, whether it's with a visualization or other tools? To say, where does what I'm trying to accomplish overlap with what they're trying to accomplish?

And that's your sweet spot for having compelling and convincing products, communication products of any kind, whether it be visualizations or other. And after that, there's tons of things, like pretty colors. And I think people who have a really nice design eye are integral to having successful visualizations, because I can tell you a good story, but I'm going to leave it to the designer to make it look-- make sure the color palette is all matching.

But at the end of the day, I think you have to make sure the story is compelling in a simple and relevant way to the person with whom you're trying to communicate or convince.

9.5.2 The Carnegie Perspective

This element addresses the following learning objectives of this course:

- LO5: Identify the audience and the most effective method to communicate a persuasive argument.
- LO6: Navigate organizational, personal, legal, and ethical constraints to facilitate better decision making and improve communication.

So I just wanted to reflect on a couple of things that Zaina pointed to, one of which she's kind of slipped in there, which you may not have noticed, but I think is actually worth paying attention to. Zaina mentions Dale Carnegie, which might seem like it came out of left field. And the question is, is it relevant in any way?

And she's been talking to me about Dale Carnegie for years. And I used to just kind of pooh pooh it and not pay attention, until I actually read the book. You better believe it, this is relevant. The man was a genius observer of human decision psychology. And as bizarre as it may sound, I think you could be a much more effective data scientist-- and frankly, more than that-- by reading this book.

It's classic. You know, 1936. And the book will make you laugh, because it has all the kind of cultural tropes and weird things that people thought about like women in the

workplace in 1936. It's quite funny. But maybe it's not funny. It's just kind of a period piece.

But in any case, if you can get past that weirdness, there's some really important lessons for the data age that come out of Dale Carnegie. So let me do my Dale Carnegie in 4.1.

You can never win an argument. You generally can't change the minds of people who are opposed to your position by arguing with them until you beat them into the ground. It just doesn't work.

Second, it's the swing vote. It's the swing vote is what you're actually looking to win over. The people who haven't firmly made up their minds or at least are persuadable. And you know them when you see them.

Third, give people an offer, not an ask. In other words, invite them to join with you rather than hectoring them or trying to prove them wrong. That's something that I wish I had learned in graduate school, quite frankly, that you can't prove people wrong and expect them to then come back and agree with you.

And fourth-- and I think this is the most important thing actually-- give people an opportunity to see-- in the convincing story you want to tell them and the persuasion you want to bring to them, give them an opportunity to see and talk about their own personal experience, how it impacts them. You know, Dale Carnegie said it, and it sounds kind of obnoxious, but I think it's actually accurate. For most people, the most interesting person in the world is themselves. And so if you make the problem you want to solve part of their perspective on themselves, you will get their attention and hold it in a way that you otherwise never could.

Make it personal. And again, there's no real tension I think between this kind of notion of persuasion and being a scientist. You don't have to dumb anything down to think this way. You just have to remember that the customer and the user of your data product is almost always going to be a person. Treat them like a person, and you'll actually find that the data will be more effective in getting them to change their minds.

9.6 An Ask or an Opportunity

9.6.1 An Ask or an Opportunity

Spend five minutes on the following prompt:

Describe a time you were successful at framing an ask as an opportunity. What went well?
Describe a time where you were unsuccessful at framing an ask as an opportunity. What went wrong?

9.7 Persuasion Challenges or Opportunities, Part 1

9.7.1 Know Your Audience

This element addresses the following learning objective of this course:

- LO5: Identify the audience and the most effective method to communicate a persuasive argument.

The way you talk to a technical team will be different than the way one talks to members in the C-suite, potential venture capitalists, current client, future clients, donors, et cetera. A good strategy to figure out how to talk to an audience is to think about their incentive structure. What do they care about? What ideas or frameworks will get them to listen? What narratives will speak to them? Be intentional and design your approach in a way that is very centered on your specific audience.

It's tough when you have audiences with a mixed set of incentives or different levels of technical expertise, but one way to deal with this is to identify the main decision makers, and then tailor your message to them.

It's good practice to be explicit about who your audience is. Write that down on a note. Put it at your workstation and constantly look at it whenever you're making a decision about your project. For example, say you want to determine the best visualization technique. Ask yourself what would my audience expect to see? And what are they familiar with?

9.7.2 Different Archetypes You Will Work With

This element addresses the following learning objectives of this course:

- LO5: Identify the audience and the most effective method to communicate a persuasive argument.
- LO6: Navigate organizational, personal, legal, and ethical constraints to facilitate better decision making and improve communication.

Organizational culture and individual personalities will affect your ability to persuade people. Here are 10 archetypes you will meet in your effort to persuade-- the chairman, contrarian, creative enthusiast, cynic, disengaged, evaluator, pragmatist, process checker, threatened, and timorous. Think about the way in which each of the types argues.

Then think about how each one of them might use a product of a major data science research efforts inside the company that you currently work in or a company that you're interested in. Who would be the most likely to use a data science product? Who would be the least likely to use a data science product? Think about who you anticipate would give you the most pushback and what data would you bring to the table to try to persuade them.

9.7.3 In the Next Video

In the next video, Steve is transposing Jekyll and Hyde in this segment—Dr. Jekyll, of course, was the good person, and Mr. Hyde was the bad person. It's Dr. Jekyll who is trying to bind Mr. Hyde from doing bad things.

Also, note that Tom Schelling died in late 2016.

9.8 Persuasion Challenges or Opportunities, Part 2

Let's go ahead and make this set of issues just a little bit more personal because it'll actually be more effective that way. Let's go inside ourselves and ask, what do we know about how this works in our own lives? One really good way to think about this is a phrase people use called into intertemporal choice. What that really means, it's captured, I think, most effectively by a phrase we've all heard from back in the year 391. St. Augustine, who would later be known as a true Saint, actually was a great sinner. And that's his story until his conversion. But in 391, when he's still a sinner, he prays oh, god, give me virtue, but not yet. That's the Augustinian dilemma. And that's the problem of inter intertemporal choice. What we want today is not what we want for ourselves tomorrow. Or what we might want for ourselves in the long-term is not what we're willing to do today. In fact, the simplest way to think about this is actually to imagine that inside of ourselves there are actually two selves. And they're fighting, in a way, for control of what we do. There's the present self-- what I want right now. And then there's the future self-- what, six months from now, I will wish I had done today. I think every busy person experiences this every day. You get asked to go to a meeting or to do a project or to do something, and it's not going to start for another six months. And you agreed to do it.

Whereas, if somebody asked you, would you do it today, you'd probably say no. In fact, it's such a constant phenomenon in busy people's lives that, one of my good friends who is extremely good at managing this, actually has used this decision rule for herself. When someone asks her to do something six months or a year or a year and a half from now, she says to herself, would I do it if they were asking me to do it tomorrow? And if the answer is no, then she says no for the future.

Here's what actually works for me or how I think about it. The fundamental question for me is what I call the warm chocolate cake dilemma. You know what I'm talking about-- that warm chocolate cake where it's kind of gooey on the inside. It's really super delicious. Every time I see that on a menu in a restaurant I really, really want it. But when I order it, the next day I feel like I probably shouldn't have had that entire warm chocolate cake because it's really not what I need to be eating right now. And for me, that's the intertemporal dilemma. I want it right now, and I know that tomorrow I will wish I hadn't had it. The question is, how does my future self, that person who doesn't actually get to make the decision right now, bind my present self to doing what the present self doesn't want to do, which is pass on the warm chocolate cake.

Another way to think about that is how does Mr.-- the story of Jekyll and Hyde everybody knows, right? How does Mr. Hyde, when he's sane, stop Dr. Jekyll, when he wakes up, from killing somebody. Mr. Hyde doesn't want it to happen. But when Dr. Jekyll is in control, Dr. Jekyll does what he wants to do. Actually, this is a really interesting problem in human behavior. And I think it was actually Thomas Schelling, recent Nobel Prize economist, who did the best job in conceptualizing this and trying to understand how it would work for people. He wrote a really powerful article almost 50 years ago, now, called The Intimate Contest for Self-Control. And I think that's exactly the right phrase. Just interestingly, Schelling's background-- he was an economist. He was part of the group of economists and strategists who, very early on, in the late 1940s and the early 1950s, developed strategies of nuclear deterrence precisely on the same logic. He conceptualized nuclear deterrence as a kind of time inconsistency problem. Somebody could, today, threaten to, say, trade New York for Paris if the Russians were to invade Western Europe. And you could do that before the Russians invaded. But ex-post, after they had done it, it would no longer be a rational choice for that person to end the world. They wouldn't want to do it because it made no sense. There's nothing to gain.

And so, because everyone knows up front that the future self can't bind the present self, it's actually very hard to even make the threat credible, which means the game unravels and the Russians invade. Or, in my case, the game unravels, and I'm going to order that

warm chocolate cake. The question is how do you respond to that effectively? Well, what Schelling understood is that, what people need to be able to do and what organizations need to be able to do, is to find some way to commit themselves-- to design a commitment mechanism and bind themselves to a course of action ex-ante so that ex-post they don't actually have a choice, right?

In other words, let the present itself take away the freedom of choice of the future self or vice versa. Classic example-- sometimes people talk about burning your bridges behind you so that you can't retreat, even though you might want to. In nuclear deterrence, what Schelling said was we ought to have tripwires so that, actually, the future self doesn't get to make a choice. One way to do that would be to put American soldiers right on the border of Eastern and Western Europe so that if the Russians were to attack, the American soldiers would be killed, and then the president would, essentially, have to respond. He also developed the idea of what's called negative control on nuclear submarines. So it used to be, during the Cold War, for example, that a submarine with weapons on it was getting a signal every two minutes saying everything's OK. Everything's OK. Everything's OK. And if it ever didn't get that signal, then the commander of that submarine would have the right to launch his missiles. It was a way of binding people to do things that, in fact, they wouldn't actually want to do. No one would send a signal to that submarine saying launch the missiles. Now, that's pretty dramatic kind of version of this phenomenon.

In regular life, it's worth thinking about what kinds of self-persuasion commitments people actually use to solve simple problems of commitment-- like things that make sense in the future, but that we don't really want to do right now. Obvious examples-- weight loss, the promise to exercise, the commitment to read a book that we feel like we really should have read, but maybe don't want to actually sit down and read today like War and Peace. There are some examples. And none of them are perfect. People actually use them in combination. But it's worth thinking about them. They're very practical, simple, everyday ways in which people try to bind themselves.

So one way they do it-- they self bind by making a moral or ethical commitment, sort of trying to recognize an implant in our minds that there's some kind of transcendent value that will be so strong that it will hopefully overcome my desire on a Sunday afternoon to sit on the couch and watch a football game instead of doing something else, like reading War and Peace or maybe even preparing for my lectures on Monday.

Another way we do it now is we bind ourselves by making social commitments to friends. So I might make a date to meet my friend at the gym precisely when the Giants

game is on TV so I won't have a choice but not to watch it. Or I might bind myself by making commitments to very large numbers of strangers who are going to, then, put enormous peer pressure on me. So I might post my exercise hours every day on Facebook and invite everybody on Facebook to comment on that, particularly, if I don't check in at the gym. Sometimes people use transparency. And there's a lot of technology that can help with that. Like, I could put a sensor on my road bike and then tie that to Facebook. So if the wheels of the bike aren't moving, a message on Facebook goes up saying he's home again watching the Giant game on TV. I could use shame and guilt. This is a particular phenomenon of people who grew up where I grew up. I could put a sensor on my bike. And actually, instead of tying it to Facebook, tie it to my mother's phone. So it automatically calls her or has her call me if I'm not on the bike during the time that the Giants game is on TV. That's shame and guilt.

And finally, in the finance world, people have figured this out for centuries. It's been designed and used, really, for thousands of years, and it's called a bond. So I would post $100 bond. I would put $100 in escrow. If I exercise, I'm going to get $101 back. If I don't exercise, maybe the $100 goes to a political cause that I really despise. Or maybe the bond gets forfeited, and Goldman Sachs gets to just deposit that money into its bank account. That's a commitment that just might work. Now, none of these commitments are perfect. And, in fact, none of them will always work for everybody. And most people try to combine them, or at least elements of them, to do something that is better than any single commitment mechanism on its own. Here's the key problem to solve. And actually, I think it is an enormous opportunity because, after all, the market for human self-control is huge and lucrative. And if you don't believe that, look at weight loss apps and weight loss programs. The market opportunity is to help people to solve problems like this through designing commitment mechanisms that leverage all the new data that's going to be coming off their behavior.

9.9 Persuasion Challenges or Opportunities, Part 3

9.9.1 Learn From Your Attempts to Persuade

This element addresses the following learning objective of this course:

- LO5: Identify the audience and the most effective method to communicate a persuasive argument.

When things go poorly, we often engage in a postmortem analysis. What went wrong and why? When things go well, there's also an opportunity to think about what went well

and why? Each persuasive task provides a chance to hone our craft. The challenge, however, is that it's difficult to separate the process from the outcome.

In other words, it's possible that you followed all the principles of what make for a good persuasive argument. But still, the audience wasn't convinced. When you do a postmortem, as much as you can, separate the process from the outcome. Let's take advantage of this learning opportunity.

9.9.2 Persuasion vs. Manipulation

This element addresses the following learning objectives of this course:

- LO5: Identify the audience and the most effective method to communicate a persuasive argument.
- LO6: Navigate organizational, personal, legal, and ethical constraints to facilitate better decision making and improve communication.

Harmful persuasion is often unintentional. Either you don't really know what you're doing, or you don't have enough data or information to fully understand the situation. Let's look at an example when both of these occur. Let's imagine you're a startup. You have a team of electrical engineers, and they're offering fitness devices. The devices gather a wearer's steps. And you will analyze this data to make recommendations about daily activities.

Someone puts on the device. They walk around. You get the data. You analyze it and say-- and communicate back to the customer or the user, based on what you've done, we recommend that you take a long walk tomorrow. And you persuade them. You tell them that you will broadcast their activity on social media. Maybe they'll earn a badge. This type of gamification can be really persuasive.

So the next day, your user does go out for a walk. But they actually get heatstroke, and they nearly die. It turns out your user was an older adult. And they were taking medications. And it was an incredibly hot day that time. That recommendation, the persuasive act that you took, was wrong in this context. It hurt them, and perhaps you can be held liable.

You could have persuaded them to do something else like maybe exercise indoors. But to do that, you'd need a couple of things-- one, more knowledge of exercise physiology and, two, more data-- their age, fitness level, the weather where they live, and perhaps their list of medications.

So some takeaways from this example. You can have incredible power to persuade people. And with that power comes some responsibility, responsibility to know what you're doing and responsibility to gather the right data for what you're doing.

There's a couple more things to consider. Persuasion can very easily become manipulation when two conditions exist-- one, when the individual cannot opt out of the experience or, two, when the user can't communicate with you and provide feedback.

In the fitness example, the person using your device could have opted out. If you told them to do something, they could choose not to do it. Or your company could introduce some kind of feedback. Someone could provide you with information and say, you know what? It's too hot outside. Then we could learn from that information.

Now, before I conclude, I want to talk about the ethics of persuasion. Is it the mechanism or is the outcome that makes us uncomfortable? Some say that the mechanism we use to persuade doesn't matter. If the outcome is, quote unquote, "good" like getting someone to eat their vegetables or exercise, then the persuasion task is OK.

Others say the outcome doesn't matter. It's the mechanism of persuasion that we should be concerned about. If we use very persuasive techniques that are not transparent and that the users did not explicitly consent to, then we're not OK with that. And it doesn't matter how, quote unquote, "good" the outcome is.

In closing, persuasion can very readily go wrong. The onus is on you as a data scientist to think like a doctor and pledge to do no harm whether intentional or not.