Episode 92: Behavioural Science & Digital Innovation

with Paloma Bellatin, Principal Advisor with BIT

The term "digital innovation" covers a lot of (quickly-changing) ground. Paloma Bellatin provides an overview of three different areas where behavioural science is making an impact: creating new technology to bring interventions online accessibly, improving existing technology to better serve users, and protecting against online harms, whether from well-meaning companies, deliberate misinformation, or the impacts of technology use itself.

Transcript:

KIRSTIN APPELT, HOST: KIRSTIN APPELT, HOST: Welcome to this edition of Calling DIBS. I'm your host, Kirstin Appelt, Research Director with UBC Decision Insights for Business and Society, or DIBS for short. Today, we're Calling DIBS on Paloma Bellatin.

Paloma is a Principal Advisor with the Behavioural Insights Team. She has worked with different regional teams at BIT for the last five years, and brings a wealth of experience to that role. In particular, she's been doing really fascinating work in the realm of BI and technology, which is what I'm excited to pick her brain about today. I've been really looking forward to this conversation, so let's dive in. Welcome to the podcast, Paloma.

PALOMA BELLATIN, GUEST: Thank you so much Kirstin, it's great to be here.

APPELT: Why don't we just start by hearing a little bit about you and who you are?

BELLATIN: I've been working at the Behavioural Insights Team, which is a research and policy consultancy specialized in behavioural science for social good for the past five years. And my research really focuses on how can we use digital innovations, technology and media to meet people where they're at and make it easier for them to undertake behaviours that are good for them and good for society and also prevent harm and harmful behaviours for themselves, or also for the common good. So yeah, excited to chat about that.

APPELT: Yeah, it's such an interesting area that is both exciting and a little frightening when we think about the potentials online, so I'm excited to hear about it. But before we talk about the present and the future, I thought I'd ask about your past because it's always really interesting to hear how people got to BI-- we all tend to have very unique journeys. So what brought you to the field of behavioural insights?

BELLATIN: For sure. So I came to behavioural insights from having worked for a while in multilateral development, so in the international development world where I had different roles. Mostly I either designed, developed or implemented or evaluated development projects and programs for different policy sectors. So like either health, rural development, employment, education, wellbeing in general. And something that I found really interesting and really I think always gave me pause was how much a lot of the projects that we developed and evaluated and measured didn't have the effects that we expected. There were always different

factors that intervened within either the implementation or how the programs were received, and these were things that like sounded so great on paper, but then when we reached humans, things started to go awry. And that is something that is a doubt that I carried for years within that scope of work.

And so when I reached graduate school, I really wanted to understand, like, what are these factors that were not environmental, they were not infrastructure, they were not what we call "structural problems", but that were harder to measure, like harder to understand for us at that point, that prevented either government or civil society or in my case, like aid agencies, from being efficient and effective. And that's how I reached behavioural sciences.

And so much of what I reached initially just resonated deeply with me, because the thing about development programing, and it's the same for general health and human services that that governments like local, state and federal governments implement, is that they're great ideas, but they're logistically really complex to deliver, and they're also really logistically complex to receive. And so as a user, you're often faced with huge bureaucratic apparatus to be able to access A or B, or just like a lot of challenges in terms of the messaging, in terms of how something is framed, in terms of how something is advertised or offered to you.

And these are things that I think it's been changing since I've joined the field, I've seen the diffusion, I've seen like how, how much strength this field has gained. But over yeah, the past ten, fifteen years, it's something that has really caught a spark. But yeah, at that point, it just really clicked for me in a lot of different levels. And that is, I think, where I decided I wanted to dedicate my career to working in this field and to supporting or working in organizations that would deploy these tools to make services for humans, government services, aid services, civil society services more reachable.

APPELT: Yeah, your journey really resonates. And I like what you were saying about, like, these programs that seem great on paper, but then when you add us pesky humans to the mix, then it's a bit of like, there's that adage of if you build it, they will come, but a lot of times when we build these things, we unconsciously put in like this fencing and a moat and a locked door with no key. And so like, yes, if you build it, they will come, but only if you make it easy for them to come. You can't put up a lot of barriers and then expect people to crawl over them.

BELLATIN: Absolutely. And the barriers were as much sneaker than I expected. So when I started studying intensively research from social psychology, for example, it's the kind of things we wouldn't have expected, for example, like a messaging that is very well intentioned, but that can inadvertently be promoting negative social norms.

So like you want to tell people to stop littering, but you're just saying how much people litter, and so... and that is that is a really classic one that I see all the time and that, I mean, guilty as charged in my past, and so many others about like how we didn't tend to think about, like, the role of social norms and the rule of social influence and social diffusion in the way people behave and learn and make decisions. But it's so important, so, so fundamental, and I think programs and, and policies in general are so much more powerful when they include these kind of ideas into the very early design stage.

APPELT: Hundred percent. Yeah. Well, let's just dive into the online work because I think it'll build nicely, but also has its own special features.

So you said your portfolio is digital innovation and that, you know, is quite vast. But you said when we talked previously that you kind of see your work as fitting into three buckets of creating new tech, improving existing tech, and protecting against bad uses of tech. And so maybe we can chat about each of those and maybe start

with new tech. So what is BIT doing in that space? What do you mean by creating new tech? What are some examples of that work?

BELLATIN: Yeah for sure. So in terms of creating new technology, we've done a really wide, diverse array of interventions. We call them solutions. And sometimes they are things like a new website or a new web platform. They can be things with more basic technology like an SMS intervention, a package of SMSes. Chat bots are a really big one, and I'm happy to talk a bit about that in particular, or apps or web platforms in general.

But whenever we create new technology, I think the first thing that we think about is what do people use normally? Like what, in this specific population, how do people engage with technology? What do they use in their everyday? What do they reach out for first to communicate with the people that are closest to them, like what feels more native to this group? And so that varies widely between, as you can imagine, between the different population groups that we want to intervene with. So, for example, there are groups of people that do not use smartphones in certain countries, in certain areas, and where text message is the easiest and the most efficient way to reach them. And then there are gen alpha that use only, well, communicate through TikTok quite often. And they are very used to interacting with AI chat bots. And so we really try to accommodate to all of these audiences to try to make the experience as seamless as possible.

I think the thing with new technology is that we never want to create something that people have never seen before. You know, if there's a population group where like, you know, app download is very rare and like people don't use apps because it spends a lot of data, it's expensive, the Wi-Fi in that area isn't very strong, we would never try to create an app or a very complex digital platform that people don't feel that is friendly, that is something approachable. And so I think that's a first thing we consider when creating a new technology is that it shouldn't feel new. It should feel that the organization that's approaching you, be it either a civil society, potentially a private company, but more frequently governments, state, local, federal government is speaking the language that you're already using in terms of technology. And so that's what we look for.

So we're basically translating it to something that should feel more native to you instead of like creating something like new and flashy for the sake of it, which we wouldn't want to do. We don't think that would have a lot of a good effect.

So in terms of chat bots, for example, when we think about a chat bot, a good benchmark is how many people do you want to reach? Like, is there a reason why your population is so wide that reaching them through other forms would be extremely costly or logistically or operatively unfeasible? And so thinking about that, I think is the first step when we are considering a chatbot bot as an intervention. And two, do you have a need to standardize information and diffuse it in a way that's efficient and effective? So like, do you have a package of information that you wish you could like go to everyone and send someone to the home and like tell them or send this reminder or provide this training or this information, but you know, that just isn't feasible for most organizations or for most governments, almost for all. So do you have this piece of information that you really wish could be standardized and provided widely?

And so in those terms, those are the two things that we think about when we're designing chat bots, and we build different types of chat bots at BIT. And then maybe I'll briefly discuss two that we've built that have had really interesting results.

So one type of chat bot is the type where you have the kind of information where you want to remind people of doing something and you have information that they lack to do so. And so that is the type of chat bot you want to use when you've done scoping, qualitative research, and you've identified, well, the behavioural

barriers for this are that there is an action-intention gap. So people want to do this, probably, like they don't have anything morally against it, they don't have attitudes or beliefs that are against this action. But there is a lot of things they're sending in their way. There's cognitive overload, there is immediacy, bias, there's a lot of reasons why they're not undertaking this action. And so what you want to do in that case is build a chatbot accordingly, so that will address those specific behavioural barriers.

And so in this case we collaborated with the government of Argentina. And this was a project led by my colleague in the UK, Sebastian Solamon, and Adelaida Barrera, and what we did was develop a chatbot that had that information, and it was, you know, open to different to citizens and to different users. It told you when you had to take the vaccine, when was your follow up shot, where you could go and get it and had all this really important, crucial information, but it gave it to you at a timely moment. So it didn't tell it to you once, it told you, reminded you when you were supposed to go and how and what you were you were supposed to do.

And this intervention had a really good, positive and significant effect. After receiving the chatbot message that uptake of the Covid vaccines were almost threefold compared to not receiving the message and almost twofold compared to receiving just a static message. So this this information on boosters was just like really, really, really efficient. And it just comes to show like how important is like, receiving information in the right moment, in the right way.

The second type of chatbot is one that we design when we want to use a chatbot as a way to communicate media, and so to share media that has been designed in a way to shift a bit of these more hard to shift aspects of oneself, for example, attitudes and beliefs and knowledge. So like all of these, very hard, normally they're very resource intensive because things that work, it depends on the sector, but like tend to be human to human or have a human component to them. Or media, but in a bit more intensive form of media. And so it's not the behavioural barriers are different. So they're not an action-intention gap or the like, the intention is part of what we want to address.

And so in those cases we use chat bots to-- we develop gamification and narrative strategies. And so in that case we pull a lot from edutainment, educational entertainment media. And we develop things in the form of games, in the form of a serialized narratives, in the form of different types of media that is more geared towards these more complex behavioural barriers. And so the intervention tends to be a bit longer.

And so we've done quite a few of those and we're currently ongoing some replications, one that had results that we published, that we shared, was a chatbot in South Africa that I worked on for two years jointly with Alexandra De Filippo. And here it was designed to address relationship dynamics and power dynamics within relationships among adolescents. So it was a chatbot really geared towards teen dating violence and intimate partner violence and understanding what are some early red flags? What are some normal behaviours and what things have been normalized that shouldn't be normalized in our society, in our culture?

So this chatbot, we designed and deployed it specifically for South African youth, and we collaborated with local writers and content creators to do serialized narratives of a story portraying the different socioemotional skills that we wanted the young women to learn, and also increasing their knowledge about the red flags and like consequences as a relationship with those kinds of red flags could progress. And then a gamified version of the same, where they had to practice different skills and help someone, a friend, a main character, identify and navigate this complex relationship. And they would gain points and badges and stickers along the way.

And so what we saw as a result was that the gamified chatbot had about seven percentage points less of self-reported violence at the end of the intervention versus the control group. So we found like a pretty good

effect. And we also found that this trail arm helped participants better recognize what were unhealthy relationship behaviours, and really helped shift attitudes and beliefs on this topic. So yeah, we thought, I mean, within a field, you know, this is like normally the IPV field is pretty hard to move the needle on things, especially attitudes and beliefs. We're really excited with these results and so we're replicating this trial in other localities.

Yeah, I think these two, they're very different types of chat bots, but like the meaning of just using technology as an intervention strategy, I think is consistent. And for us, pretty exciting. It's made us want to develop more things in the space.

APPELT: Those are such exciting examples. And really, like you said, a massive effect. Like seven percentage points might seem small, but when you're talking about something like changing beliefs and knowledge, those are really hard to move, especially like you said, in the area of intimate partner violence. So that's super impressive.

And also just like the examples because I think they really talk about the things we talk about with the BI normally about like you have to reach people where they're at, and, you know, timing is everything and location, location, location and all those things apply online. Like we think of online as being everywhere, but different people access the internet in different ways or access communication networks in different ways. And so if you're not tailoring it to the way they do it, like you said, speaking their language, whether that's literally the language or the language of technology that they use. So I think those examples are really powerful.

And because they're so different, they really kind of open up the field. So you can see like what might be possible, and that's just with chat bots, which is just one type of technology, so really impressive and exciting. I know you also do things around things that are already online because obviously there's a lot online already, and some of it is well designed and some of it could be improved. So can you tell us a little bit about your work that fits into the bucket of improving existing technology and what that means and maybe some examples?

BELLATIN: Yeah, I think that the second bucket is really exciting for us, and I think it's one of those where there's so much room to grow and to do more things. Because over the past, especially accelerated by the COVID pandemic, a lot of governments have really ramped up their digital strategies for efficiency reasons, for sterilization reasons, for cost effectiveness, they've been using a technology to reach people increasingly. A lot of government services that used to be very like front office paperwork in the mail have shifted to being platforms where you can type in different information and access the kind of services and programs that you're looking for. There is definitely room to improve and make those services and those platforms much more accessible and much easier to understand.

First because like, not everyone has the same amount of digital literacy, but second, because most governments, historically, have not been the best at user friendly design. And so when you-- and so that obviously adds a lot of very well researched impacts on equity, and accessibility of programs. And then when you put that same framework and mindset online, it just compounds on different things.

I think something that exemplifies like how we approach this is that we did a really cool research and a really cool intervention in Nevada with the Department of Training and Rehabilitation jointly with the National Association of State Workforce Agencies. And so we really wanted to understand unemployment insurance. There was an uptick in requests over the pandemic, clearly, of unemployment insurance in Nevada. And there we had studied that there were different barriers of users accessing, interacting, either the program itself or just mainly the online platform.

So what we normally do in these cases is we run a sort of behavioural audit. And so we interact with the platform, and then we also do research, observing users interact with the platform and analyzing the different steps that they take along the way and we analyze their different levels. What is the user understanding? Do they know what to do next? But also what are their emotions around different steps? What is what is being triggered for users at that point? Something so simple as messaging and a phrase or a word that can be, you know, sometimes even a hot red color can feel threatening to the self, to identity, to the person when they're accessing these kind of services.

Health and human services people are pretty vulnerable, like they are at a pretty vulnerable moment, if not period. So really looking into all of those factors and how technology is eliciting these different thoughts, feelings, of frustration, of feeling self defeated, of fear, of nervousness and trying to encapsulate all of these into a platform that would feel much more welcoming and promotes people to completing the task at hand instead of like seeming to have a lot of barriers. So using language that feels incriminating or crass towards users. And so I think that is a really interesting approach.

And then, I think times when we work with state agencies, local agencies, federal governments who have developed these platforms, their intention was never to lock people out of these spaces, like their intention was always to make it accessible. And yet, like they're often very surprised by results that they that we find from this research and they're often really willing to correct the default because, like, no design is... something that we always think is that no design is neutral. Like, every design has a choice and has an effect on people. So in this case, we created a modern version of the unemployment insurance homepage. And this led to a fivefold increase in customer efficiency and reduced substantially the administrative burden that claimants face.

And so we were really excited with these results, and it's a kind of thing that we've been thinking about, replicating when trying to reduce administrative burden for different people, and especially like how online platforms are such like a cost efficient, easy one off way to do that and to drive a positive results across the board.

APPELT: Yeah, that's another really powerful example. And I think, going to your point about it's the organization's intention to make things easy, but it's just these things that maybe you don't think about, and that, if there is bad design and then the organization is either not reaching people or they're having to use a lot of staff resources to support people, then that's taking away from other things they could be doing. So the more we can improve the technology, the more they can do other great things. So it's a really great example of how the hallmark of BI, you know, some small tweaks can have big impacts, and I think that's a really good example of that.

Okay, so we heard about leg two of, I guess that's not a leg, second bucket of your online work. So making clunky or suboptimal design tech better. Obviously, a big concern on the internet is the harmful side of things when people are being targeted or falling prey to various online harms. So what work are you aware of to prevent or reduce or protect against online harm? And again, can you share some examples?

BELLATIN: I think the prevention of online harms, it falls into a few different categories, and we've done a lot of working in two of those, and in others, it's still very nascent. And I think we're going into that space, as are other researchers. I think I would divide it into harms that with, you know, probably unintentionally on doing harms, but intentionally on driving up profit, organizations that are engaging with people's decisions online are driving and that are very relevant for regulators, and that regulators are normally the ones who partner

with us to understand, like, how is this happening? What can we do to prevent it? So I have a couple examples from those types of harms.

Then online harms more around social media. I think that's less clear because it's not about, you know, a company wanting to make more profit out of X and Y, but it's sometimes around a bit, I think darker motives. So misinformation, propagation of hate speech and of different targeting, you know, very young, vulnerable people with very toxic information and content. And then online harms, I think the third potentially bucket here would be online harms that are related to just the use of technology itself. And then especially with very young users, although there are studies have shown this is, you know, also affecting adults, all of us, on the cognitive effects and mental health effects of the overuse of social media screens, especially depending on what kind of content you're receiving. So I think, on that last one is where we still have less research and less information, although there is a lot of exciting research that's coming up in this field, but it's jumping so quickly. Researchers, we tend all tend to struggle to catch up with how quickly this is moving forward.

Oh god, and then like, I think maybe in the second bucket stuff that we're also trying to catch up with is like the effects of, broadly, generative AI, either used as a weapon against others, especially talking about harassment and bullying within school settings, with very vulnerable people. But just like, you know, in general, violence against genders, violence against any vulnerable group, and that's also something that we are we're still trying to catch up with where we don't have concrete examples, but we're very closely following the work that other researchers are doing.

APPELT: Yeah. That space has so much unfortunately, there's a proliferation there, but excited to see about some of the work that can combat some of the online harms. Did you have any other examples you wanted to share in that space?

BELLATIN: On this first bucket of like how businesses are making design choices that don't-- the bottom line isn't creating harm for users. The bottom line is making profit. But you know, knowingly or unknowingly, it creates harm for users. So there we've worked on a few projects.

The gambling space, it's one, and the lottery space is one that's very exciting because it's to be legalized in different states, it's something that's moving quickly. The online gambling platforms are huge and have an amazing reach and an amazing popularity that's really skyrocketed over the last five years. But there, we're working with the State of Ohio, and we've done some work also within the United Kingdom to study how the interfaces and how the platforms themselves can lead people to make riskier decisions, so place riskier bets, because of the way that they display the information.

So recently done a study, again, we do this kind of behavioural audit. And so we understand how do people interact and react with these different platforms. And then we often run a randomized control study. So we simulate the environment that they would be looking at and we try to recreate how are people-- how are different design choices shifting people's decision online decision making. And so in that sense, on gambling, for example, we've found really interesting results on how presenting the odds in different forms can have a huge impact on how risky the bets people place or the number of risky bets that people place. So it's been really exciting results that we, we hope to publish soon.

But we've done this type of thing for different sectors. So also choosing meal delivery apps. How the way that information is portrayed or the design choices make you choose unhealthier choices that would be, you know, beneficial for you, for society. Those have also been really interesting as results that we've had.

And another example in Canada, we worked with the Ontario Securities Commission, we've had really interesting results finding how gamification and social norms can influence the way and the frequency in which users and customers trade and can really prompt people to trade more. And so, like a very recent study that in my colleagues, Laura Callender and the rest of the team led was about how social norms and telling you information about, like, how others trade and also the possibility of copy trading, so like just copying how others are trading, made people, in one condition was 12%, the other condition 18%, trade more prompted stock, the stock that they prompt you to trade.

And so people make, you know, in this design, people in this simulation, people would make choices based on others, but they did not know if those others knew what they were doing. And, you know, these are design features that are driven to increase profit, honestly of the company, as all companies do in a very normal and fair way, but that have these features that can have an outsized impact on how we make choices.

And again, like, no design choice is neutral. Like all of these choices will bias you in one way or the other. And so these are information in all of these cases, this information we've been feeding regulators to learn and to know about how they can set different standards and boundaries and regulate the online design. Because I think that's one of the things that's so hard about this field and about the fastness with which technology and the digital world is advancing is that, we as researchers, we struggle to keep up.

You know, as we were talking at the very beginning, like, you know, you're working on a grant that has a timeline, then it's approved. It's its own timeline for everything for a research project. In that period, like, there might already have been like a leapfrogging in different technologies. Something new might have already appeared. And so that's why it's, you know, we all try to keep nimble, but if we as researchers struggle to keep up regulators definitely you know, it's even harder to keep up with how fast technology is moving and how fast companies are able to do these improvements and enhancements to their web pages. But that's why it's so important that there's this collaboration between regulators and researchers that are observing what are the unintended effects that these kind of design features have over how consumers make online decisions and the potential consequences for household finances?

APPELT: Yeah, absolutely. That's a really interesting one. And yeah, totally, with the speed of change, it's you know, you can barely measure short term impacts, let alone long term impacts because things are changing so fast. And like you said, it's tough for researchers to keep pace, let alone regulators. And then individual consumers, especially if your tech literacy is low and things are evolving fast, you just really feel left behind. So this work is really important and it's not going anywhere. It's going to be something that's important for a long time, because it's also an interesting space where sometimes research doesn't replicate and it's not because the research was faulty, but it's because it's changed so much since the research has been done that now people's familiarity and comfort is different, or the way people interact with the technology is different.

I know we've been using a lot of your time today, so maybe I'll ask if you have any other examples you wanted to cover in the online harms bucket. But also, if we've tapped you out, that's also fine.

BELLATIN: I'll briefly mention that in misinformation, and especially with this recent pretty unfortunate, in my opinion, decision of Meta to stop fact checking information.

APPELT: I was going to ask you about that.

BELLATIN: Yes. I mean, I think our role of researchers and then organizations in general that work in democracy and work on so many sectors, you know, health, civil society, democracy, discrimination, education. I think it is, you know, we are at a dangerous time where misinformation is quite likely to

proliferate now that the companies themselves are regulating less. We've seen that with X, now we see it with Meta. And partnering, I think, with universities and with research organizations in general is going to be really important to use strategies that have been proven and that we know can work to counter misinformation.

And a lot of those strategies, actually, and I'm citing work from the lab in Cambridge where a lot of the misinformation strategies that we've been using have had effect have originated, but there's so much great literature across the board that we should pull from. But a lot of what we've seen works is jumping ahead. And so seeing where the seed, the match is starting is, is following, you know, the trail of gasoline. And before it's like a full explosion of misinformation, of a certain type of misinformation really, diffusing and just lighting everything, addressing it upfront. And so communicating to people: there is this misinformation that's floating around, you might be targeted.

There's a reason, they call this sandwich method, so like saying like first, what is the misinformation? What is the truth? What's the misinformation that's being targeted? Why would you be vulnerable? Because what's so hard about this is that with misinformation in general, is that it goes so deep into our psyche, into a self-perception of people who are clever. We all think of ourselves as clever, or at least not fools. And so things countering misinformation, fact checking. is that someone's trying to tell me I've been a fool and I don't like that. That's very uncomfortable for me and for my self perception. And so saying why anyone could be vulnerable to this piece of misinformation and what are the intentions of the people behind it.

And then finishing with what is the truth. And so this in terms of the aspects that are most vulnerable, I think in North American, Europe, vaccinations, the functioning of democracy, education, different health elements. I think it just jumping ahead and doing this preventive misinformation work will be really important and relevant. And yes, I do hope that if it's not coming from the side of the operators anymore, that it will come from the side of civil society and foundations that have been, have an interest in these topics and have been sending the and have, yeah, the power to prevent the spread.

APPELT: Yeah, absolutely. And what you were saying was really striking a chord because I was thinking about how a lot of times with the misinformation, like you said, if people are feeling that they've been made fools and they're, you know, no one wants to feel that way, and so they're resistant. But, you know, we don't treat people who were the victim of a burglary, ideally, we don't make people feel bad or blame them. So if there can be a shift, like you said in the messaging, so people aren't made to feel like it was their fault or you know, that they're to blame or that they are outliers who have fallen prey. Changing that messaging, I can see how that could be really powerful. That idea of like, you were targeted, makes it also seem like that, I think that helps with that as well. So this work sounds really fascinating and hopefully it will have really big impacts because yeah, I agree this is a really big issue, especially if platforms are not doing as much moderation.

Well, this has been such a great deep dive. I feel like I know there's many more layers we could dive down, but this is a great kind of like overview of this space and some of the great work that's being done. So maybe I'll transition to our last questions and ask if you have a message for our BI practitioners and training, folks who are new to the BI space.

BELLATIN: Just that welcome. Like, I'm so glad you're all entering this space because I think there's so much great work to be done. I'm especially excited about new generations that are digital natives joining this space, because I think the field is moving forward so quickly and in tandem with all the new technology developments, like especially the intersection between BI and AI, about the use of data science. Like, there's a lot of things that we used to think, like tailoring messages to the specific user. Like, these are things that we used to think like, would not happen in our careers, in our lifetime. And it's so exciting that we're seeing it happen now.

Yeah, I guess my main message would be that I suggest people still read the seminal works of this field, because I think there's so much richness within it and then can spark so many great ideas. And also to have a big open mind, like I think replications are great, but should also we should include-- you know, the world is so different than it was 15 years ago. It's even so different than it was before the pandemic. And so we should try to include all these really new, exciting methods from other disciplines into behavioural science. And I think some of the most exciting work that I'm seeing from colleagues at different organizations and researchers at universities, is when they're including these different disciplines, just creating this new wave of behavioural science that new doesn't just look at individual behaviours, but also potentially looks at society as a whole and how different interactions with different systems within technology, within communities. And, yeah, I think it's, I mean, this is such an, an interesting moment to join this space.

APPELT: Absolutely. And I totally underscore the point about the intersections and the more kind of approaches you have, like the folks who are trained not only in BI, but also data science or systems thinking and those intersections, they're going to be so well positioned, because, like you said, some of the things... I remember maybe 15 years ago at this point, I was working on a project where we were trying to tailor things to people, and just the tech wasn't there, and we were like, well, we could get people into very broad categories, but it's still not going to be tailored to them. And now, you know, so easy to do. So like you said, lots of great opportunities.

I think the online space, the digital space has so many opportunities. But it's also sometimes daunting to contemplate how to do good online in the face of so much online harm, but having folks like you tackling it project by project, and hearing about all the work that BIT is doing, it gives me a refreshing sense of optimism. So it's been really great, and I'm excited to hear about more of your projects in the years to come. So thank you for joining today, Paloma.

BELLATIN: Thank you, Kirstin.

APPELT: And thanks to our listeners for joining another episode of Calling DIBS.