

BI Radio**Episode 20 (Economics and Freakonomics)**

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Station ID: This is BI Radio

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Montage:

- We're seeing more and more data that we're getting access to.
- The way we do business as usual is not necessarily the right one.
- Behaviour change is always harder than you think.
- And what we need to do is to inject more experiments into it.
- Almost every action has strange, unintended consequences.
- If we get that right, we can get on top of this information explosion and really do some great things with it.

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Ken Seeley: Hi, there, and welcome to BI Radio. I'm Ken Seeley.

On the show today, Economics and Freakonomics. We look at two unconventional approaches to analyzing data and come up with some surprising conclusions. Delaney Turner learns from behavioural economist and Duke University Professor Dan Ariely why humans are predictably irrational in their decisions. And our Technology Soup panel is back to look at smarter ways to process enormous volumes of data for everyday use. But first up, Carrots, Sticks and other Failed Incentives. Kelsey Howarth talks to journalist and author Stephen Dubner about Freakonomics and the dangers of predicting the future.

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Kelsey Howarth: Hi, I'm Kelsey Howarth. In this next segment, you're going to listen in to my interview with Stephen Dubner, the co-author with Stephen D. Levitt, of Freakonomics: A Rogue Economist Explores the Hidden Side of Everything.

Dubner is also a former editor and writer for the New York Times Magazine and has written for the New Yorker, Time and the Washington Post. Currently a regular contributor to ABC News, Dubner appears monthly on Good Morning America and in a segment of World News Tonight called Freakonomics Friday. Here we discuss incentives, the danger of consensus decisions and where we should look for signs of economic recovery.

Kelsey Howarth: Thank you for joining us.**Stephen Dubner:** Thank you for having me.

Kelsey Howarth: Freakonomics has been a huge bestseller, but for those people who aren't aware of Freakonomics, can you give us an overview of the book?

Stephen Dubner: It's a book that is a little bit about economics, but mostly not. It's a collaboration between myself, a writer, and an economist, Steve Levitt at the University of Chicago, based on a lot of research that Levitt and some others like him have done, and they try to use the tools of economics to explain human behaviour in a way that is probably foreign and hopefully a little bit more interesting than what most people think of when they think of economics.

It's very hard to try to talk about the economy per se, the macro economy, so we do something much simpler, probably much less valuable, but hopefully somewhat worthwhile, which is use data and use analysis the way that macro economists do.

When we talk about economics we're talking about incentives, that is the things that make people do the things that we want them to do or don't want them to do and how often even the best-laid incentives backfire. Almost every action has strange, unintended consequences, and that while it's hard to predict these things, we try to at least describe the way they've happened in the past so that people can have a little bit better grip.

Kelsey Howarth: In terms of incentives I want to talk about the carrots and the sticks. You've mentioned you can't change behaviour. Is that why some incentives go astray?

Stephen Dubner: I wouldn't say you can't change behaviour. It's just that behaviour change is always harder than you think. It doesn't mean that incentives don't work, but you know, I think that it needs experimentation really. This is really an argument for experimenting, which is something that firms, companies, corporations, don't do enough of.

You really don't know what works until you know what works and experimenting with different kinds of incentives, different kinds of either carrots or sticks, positive or negative. Sometimes you want to reward, sometimes you want to punish. Not all incentives work the same for the same people.

If you experiment, which is generally pretty cheap and easy, you can find what will work best. The problem is that most corporations, I find, are set up in kind of consensus mode, which is to say we like to be congenial, we like to arrive at consensus; but if you think about allocation of resources, if you think about corporations the way an economist would for a minute, you think, well, this is a little bit odd.

We're going to take 20 really smart people, put them in a room for an hour. That's 20 man-hours you're spending right there. And we're going to come up collectively with one idea that we think is the best idea, the consensus idea, and then devote all our resources to making that idea a reality.

What if it's the wrong idea? What if instead you took those 20 people and told them, as for instance, Google does, Google has something called 20-per-cent time. If you're an engineer 20 per cent of your work time should be devoted to your personal pet project. One out of five days. So what happens if instead of taking 20 people, putting them in a room for an hour, you take those 20 people, say go take an hour, come up with an idea, and work on it for a while. It's probably 15 ideas that will be terrible, five will be pretty good. Three will be really good. Two will be really good and one will be awesome. But if you take the time to develop that and devote

some really small resources into it instead of the one big collectively arrived-at consensus decision, in the end you're always going to do better, always going to do better.

And there are corporations that do this more and more, but unfortunately there are way too many that don't do that.

So especially when you're concerned about what other people think of you, when there's any kind of politics at play, whether governmental politics or office politics, whatever, people are unwilling often, people are often even unwilling to raise a question or make a suggestion that they think might not be entertained seriously, that they think might be considered irrelevant or irreverent somehow. And therefore they tamp it down.

So instead you get the most kind of mainstream, dead horse beaten ideas possible and they often don't work. Whereas a little bit of experimentation could probably help a lot.

Kelsey Howarth: There's a lot of talk about the economy, about the stimulus funding. Are you feeling that we are turning the corner in terms of the economy?

Stephen Dubner: Well, there are still debates, huge debates within the academic community of macro economists about whether the Depression was made better or worse by intervention. This is 80 years later. The fact is that people expect too much or something out of economists that they shouldn't. And economists are not guiltless either. Economists like to make predictions. You know, we're going to see... here's what we're going to see this quarter.

In my view that's manpower that could be much better spent in other ways. Predicting the future in any realm is really hard. Talk about incentives, I feel like people are not penalized nearly enough for bad predictions. It's almost free to make a prediction about anything you want. You find, however, that when people do have skin in the game, that the predictions in general tend to be much, much better.

So, for instance, you will always do better by looking at prediction markets which reflect better information and people who are putting money at stake than by looking at polls or especially pundits. There's just very, very little incentive to not make predictions because it's fun, you get to say what you want, people say oh, that was so bold, but they're typically not held accountable. When economists make bad predictions they're sometimes held accountable, but in the case of this current recession, very, very, very few economists were able to describe the situation we're now in, even eight or ten months ago.

So when you ask me to predict the future I would say, don't listen to me, don't listen to anybody. Look for signs that seem significant. Learn the difference between leading indicators and lagging indicators. The stock market is a leading indicator, typically, scientifically. Unemployment is a lagging indicator, typically, scientifically.

There's an easy reason. It takes a lot less time... The stock market processes information really fast. If I think something good is happening, I can buy right now. If I think something bad is happening with employment, if I'm firing people I'm slow to do it because it's a painful, difficult process. And if I'm hiring people I'm slow to do it, because it's an expensive, time-consuming process. So that's why one, for instance, is a laggard and one is a leader.

So when you're reading your morning paper and you see the market is up, but unemployment is also up and therefore it's a tossup, I don't know which way to think, well, that's not right, you do know which way to think. Those are both indicators that the economy would seem to be getting better. But you know, I'm not a betting man so I wouldn't bet on it.

Kelsey Howarth: Wonderful. Thank you so much.

Stephen Dubner: Okay, thank you.

Kelsey Howarth: For more information from Stephen Dubner and Stephen Levitt, visit their website at freakonomics.com, which has been called the most readable economics blog in the universe.

For more information on how to get Dubner at your next event please, visit the Harry Walker Agency at harrywalker.com.

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Don Campbell: Hi, I'm Don Campbell, Chief Technology Officer.

Andrew Kowal: I'm Andrew Kowal. I'm a product manager.

Meagan Hanes: I'm Meagan Hanes, new media engineer.

Stephan Jou: I'm Stephan Jou, technical architect.

Don Campbell: And we're seeing trends in technology that are quite outstanding really, in the last few years, around bringing more people together and bringing information together across this vast planet of ours. And as we see more things connecting to each other, more people connecting to each other and information that can travel the globe in microseconds, it's making a big difference in how we communicate and the opportunity that technology brings to people. Today there's a billion transistors for every person on the planet and that's pretty outstanding kind of numbers. By 2010 about 30 billion RFID tags will be embedded in our world and across the entire ecosystem. So if we're seeing more and more, essentially it's more and more data that we're getting access to. And now our job is to really get on top of that data and understand what we can do with that data and essentially be much smarter around the decisions that we make with that data.

So what are some kinds of examples that are going on in how technology is being used to help people be smarter?

Stephan Jou: Well, one example that comes to my mind is that you mentioned RFID previously and I know in the health care system they're doing a lot of really interesting things with RFID. Because of all the manual processes involved, there's been historically many problems associated with the wrong doctors showing up at the wrong surgery rooms in some cases and not having the right equipment and so on. So they've actually... (Laughs). And those stories are unfortunately not uncommon. They can often be quite scary once you actually dig down into it. But they have started embedding RFID systems, I almost said embedding patients, but really they're just tags, so they tag patients with RFID chips. Doctors wear special wristbands that also identify them, and the equipment for each surgery is also tagged. And that ensures that basically the right doctor shows up with the right patients in the right room with the right equipment and that's just the number of successful surgeries that result from that simple procedure is outstanding. You know, I can't remember the exact statistics offhand, but I remember it was close to something like 50-per-cent improvement.

Don Campbell: You have to really take advantage of that information. The information is multiplying so fast. There's a stat here that says 15 petabytes of new information is being generated every single day, and an average company with about 1,000 employees spends around \$5.3 million a year to find the information that's hidden and locked in its servers. So while we can generate information at very rapid rates, how do we get on top of it? What kind of techniques can we really use to understand that information and extract the signal from the noise?

Andrew Kowal: Well there's some interesting stuff that's been announced recently and it's had quite a bit of hype, frankly. I don't know if you guys have been following the Wolfram|Alpha Project, but that's basically using search in a lot of these databases that are growing rapidly to make it really easy to query and actually get answers. Similarly there is, although it's in a lighter vein, it's the same idea, is there's advantages to all this data because you can actually make the systems smarter leveraging it, and IBM is creating a system that will actually play Jeopardy like a human, supposedly, and being able to parse through one of these, I guess, answers and come up with a question. And perhaps it's able to leverage this amount of data to solve some pretty tough problems. I mean, it's going to have to understand double entendres and sarcasm and puns, much like a meeting with Don.

(laughter)

Meagan Hanes: The sheer scope of the Jeopardy project is actually very interesting because it's taking our computing to the next level where we can start using actual language to query things and we don't have to conform our own requests to what the computer wants, but we can make our own requests and the computer can conform to us. I think this is a little bit symbolic, almost, and it reminds me very much of when IBM created Deep Blue and when that beat the reigning grandmaster, and I think a lot of interesting things will be coming out in the future from the results of this Jeopardy match which I am very much anticipating.

Don Campbell: So there's a depth to the information analysis that you can do with newer technologies. I think there's also a breadth as well, reaching people that aren't experts in technology or in making a query that's suitable for a database to extract a valid answer, trying to do it with speech is one way to reach common users.

Andrew Kowal: Aardvark, have you seen Aardvark where people can basically issue a query but it's tied to all the instant message system. So you make Aardvark your friend on whatever IM system you happen to use globally and then you say I'm an expert in these things. So for me it's changing diapers and home renovations, or something like that. And okay, let's call it parenting, but it's really changing diapers, let's not fool ourselves. And then someone will just ping the system and you're pinging the cloud and saying, can someone tell me how to install a kitchen island? And then Aardvark will ping you and say, hey, you said you were good at this. Can you answer this question for Bob? And Bob's, you know, 25 and lives in Lithuania and he has this question. And then you can either say pass or you can actually attempt to get an answer from that person.

It's pretty interesting, because you're networking these people completely live and it's questionable how successful this will be, but it is an interesting project, for sure.

Meagan Hanes: That reminds me a bit of Twitter in that you have again a lot of people distributed over a wide area and a lot of their content is mundane and trivial, important to their own friends and family. However, you can start really identifying trends rapidly.

Stephan Jou: I really like the scaling out of technology that seems to be happening, you know, in order to serve these greater needs. We've already mentioned some of the technology and algorithmic changes. There also seems to be an interesting sort of reaching out to humans in interesting ways. We're involving more society as input devices or as interface devices into technology to make it more reachable.

I think there's also been a lot of interesting innovations just on the pure interface side. You know, we've talked in the past about things like multi-touch and making visualizations more easily consumable by ordinary people. Taking all that really confusing data and making it something that you can understand at a glance and then navigate that information space. I think there's a lot of stuff happening just in how we touch and interact with society and humans. It's very interesting to see what's happening.

Don Campbell: So lots of information making its way around the world, touching lots of people, touching technology assets as they can communicate better to each other, creating great volumes of data. Now our next challenge is trying to be smart about what we do with that. And if we get that right we can get on top of this information explosion and really do some great things with it. So thanks very much and we'll talk to you all next time.

Andrew Kowal: Thank you.

Meagan Hanes: Thank you.

Stephan Jou: Bye.

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Delaney Turner: Hi. I'm Delaney Turner with IBM. Today, I'm speaking with Dan Ariely. Dan is the James B. Duke Professor of Behavioural Economics at Duke University and the author of *Predictably Irrational*.

Dan, welcome to the show.

Dan Ariely: Thank you very much. Nice to be here.

Delaney Turner: Could you, before we get into the actual content of the book, could you describe what actually behavioural economics is and how it differs from what most people are familiar with, i.e. classical economics?

Dan Ariely: So behavioural economics is interested in the same type of questions as standard economics, about why we buy and how do we make choices and what are the implications for the economy. But instead of starting from the assumption of rationality, we're starting with observation.

So often we do lab studies, or sometimes field studies, and we try to see how people behave. And then we take these behavioural results about how people actually behave, and we plug them into the model that gives us prediction about what we should be doing.

Delaney Turner: To me predictable and irrational suggests sort of a complete opposite of each other, but you show how the two concepts could coexist. Could you explain how they work?

Dan Ariely: Yes, so a good example here to think about is visual illusions. You must have seen a lot of visual illusions, and they're irrational in the sense that we make mistakes and they are predictable in the sense that we all make the same mistakes across people and within ourselves. We do the same thing over and over.

And what we show in decision making are exactly those cases. We show the cases where people make the same mistakes themselves and they make the same mistakes across people. And maybe a good thing to think about is emotions.

So emotions are kind of interesting. It turns out that they don't start from within us, they start from outside. And once it starts it creates almost automatic reactions within us. And all of us are behaving the same way and we ourselves will behave in similar ways.

And it turns out that we all understand that we will fall to temptation a little bit, but we don't understand is how much we will change, how much different people would be.

Delaney Turner: Let's look at some examples in the book that you go through. Now one of my favourite findings is actually that people don't seem to have a clear understanding of what objects or anything to buy is actually worth, that they seem to make their decisions based on relative value. Could you explain how you came to that finding and why you think people behave that way?

Dan Ariely: Yes. So we have a lot of experience with buying things, for example, cups of coffee. And because we have so much experience with it we think we're actually good at it. But if you think about it, how would you actually rationally figure out what is the right amount to spend on a cup of coffee?

You would have to think about the utility it gives you and you would have to think about all the possible ways that you could use the \$2.50 in other things. Not just now, but also in the future. What will happen if you saved it for five years? What happens if you save it for ten years and added it to the money that you had elsewhere? Would you be able to buy a slightly better stereo system?

So thinking about money is actually incredibly complex. So how do we do these things? How do we make these decisions and at the same time we realize how difficult it must be? So what we came up with the model of self-herding. And herding is basically the idea that we look at other people and we do whatever they do. And that, of course, explains market bubbles and stuff like that.

Self-herding is the idea that we behave in a certain way once and then we assume that this was a reasonable, rational behaviour and we follow it up and we continue behaving in the same way. It means that if we behave once a certain way, there's a chance that we will make this into a habit.

Delaney Turner: So you spend your days looking at the mistakes people make and poor decisions. Doesn't that get you down from time to time?

Dan Ariely: Sometimes it does, but I actually think about behavioural economics as being very optimistic. In general we start from the perspective that people are not rational and that's kind of depressing. Our view of human nature is less like Superman and more like Homer Simpson. But the good news is it also means that there are good things to do. And ironically there are actually ways to think about how we use human weakness to get things to be better.

And so there's the problem with medical compliance. Very few people take their medications on time or to a complete level and it's a very bad thing. So the question was how can we use human irrationality to get people to behave better? So one of the things that economists think of on lotteries is that this is a tax on stupidity, that the expected value is very low, nobody should buy lotteries, but nevertheless people do.

So in the first version of this experiment, people were given a pill box that is connected to the Internet. So every time they opened the compartment for the day, it registered on the Internet and they got a lottery ticket, for \$10, not for much money. And this was done in a medication for

strokes. There's a medication that is based on Coumadin and that is very good to take. It basically reduces the chance of a second stroke from 23 per cent to about 3 per cent. And if somebody has a stroke, they should really want to take that because they know how bad strokes are.

Nevertheless, compliance is slightly below 50 per cent on this medication. And you really have to take it regularly for it to be effective.

So this small effect of giving people lottery tickets actually improved compliance. So it's the first step of using people's irrationality to get them to behave better.

But actually there was a second step that was more interesting. It turns out that none of us want to feel like a sucker, and regret is a huge motivator of human behaviour. So in the next version of the study what George did was he gave everybody a lottery ticket, whether you open your box or whether you didn't open your box. And then he would call you up and he said, congratulations, it is your winning day, you're the lucky winner. Regrettably, I see here that you did not open your box today, so you're not getting the money.

So now he gave this really strong counterfactual thinking to the people who did not open the box. They would say, my goodness, I'm stupid. If only I opened this thing I would have gotten my \$10. And it became very apparent to them that one action would have made them not feel this regret. And you know what? Compliance rate went up to 97 per cent.

And this is basically the beauty of the whole thing is, look, we're designing our environment and if we understood how where we are irrational and how it works we can actually use these irrational tendencies to help us rather than just to hurt us. And that's why I'm optimistic, actually.

Delaney Turner: Let's look at decisions in the business world. Given what you've seen in your experiments, how do you think companies should use data and information in their decision-making processes?

Dan Ariely: So here is the issue, so I think data is very important. The problem is that much of the data that we have in businesses doesn't give us enough variance. You can study about how things are in the current state, but you can't really study how they would be in a different state, what will happen if you change something?

And this is actually one of the problems I see. So one of the lessons we have is that we have flawed intuitions, we have irrational tendencies and we're not aware of these irrational tendencies.

So that means that the way we do business as usual is not necessarily the right one, and what we need to do is to inject more experiments into it. I think that's, for me, one of the main usages for data in businesses is to say what are our intuitions and let's test the extent to which these intuitions are correct or not correct. And how do we force ourselves to test our assumption is a more rigorous and systematic way?

Delaney Turner: Well, there we have the link between behavioural economics and business performance. Dan Ariely, thanks for talking with us today.

Dan Ariely: My pleasure.

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Ken Seeley: Well, that's a wrap. I'd like to thank our guests today; from Duke University Dan Ariely; journalist and author Stephen Dubner; and our Technology Soup panel, Don Campbell, Stephan Jou, Andrew Kowal and Meagan Hanes. Thanks as well to our segment producers Kelsey Howarth and Delaney Turner, and to our producer and audio engineer, Derek Schraner. If you have a question or care to comment about anything you hear on BI Radio e-mail us at biradio@ca.ibm.com. I'm Ken Seeley. I thank you for listening. See you in about six weeks.

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Station ID: Performance management you can listen to. This is BI Radio.

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