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Virtual Event Series

Who Controls the Internet?

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DiffuseTap: Who Controls the Internet?

Last time on DiffuseTap, **Scott Christianson, Director of University of Missouri Center for Entrepreneurship and Innovation,** talked to us about how different countries are creating and censoring their version of the internet, how companies like Facebook and Starlink could take control of the entire internet, and the role of DeFi in preventing internet censorship.

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DiffuseTap

This networking session is part of our weekly virtual events series. Networking (you'll bump into at least a dozen high caliber fund managers) meets purposeful (you'll tap into brand-new sources of ideas)... straight from your armchair like a boss.

Meet the Speaker

SCOTT CHRISTIANSON is a teacher, entrepreneur, and speaker. As Director of the University of Missouri Center for Entrepreneurship and Innovation, he specializes in AI, blockchain, Internet of Things, and other emerging technologies. Scott has received multiple teaching awards and is recognized as a leader in integrating emerging technologies into education.

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KENNY ESTES: Mr. Scott Christiansen, this is your second time on here so congratulations on being a repeat customer. Do you want to give the folks a little bit of a background and what you're up to down at Mizzou?

SCOTT CHRISTIANSON: Yeah. My name is Scott, or “Prof. C” as my students call me, and in fact, a week from today I will be teaching classes. It always sneaks up to me for some reason, and you think I would have learned by now. I’m a little bit different than my other colleagues in that I have a master's degree, but I ran an IT business for many years. I did a lot of work in emerging technologies, and that is what I teach.

I am very interested in new technologies to connect people to the internet. That was part of my business. It was helping to wire up schools back in the 90s. In fact, just to show my street cred on the issues here about the internet, I found my old email address. It was my student number at UMC VMB, and it didn’t even have a “.edu” after it. The internet was so small, you didn't need to parse it out with a top level domain.

I'm very interested in censorship on the internet and I've been very interested in crypto assets. And I think we all need this layer of open and free internet if we are going to have a distributed exchange of assets. That's far too much, but that’s what you get when you invite a professor on.

KENNY: No, that was good. It was to the point. Brilliant. You dropped a buzzword there, so let's jump into it. Internet ownership. Apparently, you have thoughts on this. Where do things stand? What's your perspective on who owns the internet?

SCOTT: Who owns the internet. We think of it as this network of networks. You go into Wikipedia and that's what it says. It's a network of networks. But in fact, not all networks are the same. When you land or cross a border, you go into that country’s network. And so, if that country runs its own internet services as a government agency, or if it has private ISPs, it may be filtered or censored in different ways.

That is one way that the internet is controlled. We tend to take it for granted here in the US that everybody experiences the internet in the way that we do, but that is not the case. There are different levels of filtering that go on. Also, it matters what you can afford. When I was dealing with some colleagues in Africa, I was very confused because they were very insistent that I message them on Facebook Messenger and I was like, “why does everybody like Facebook so much here?”

I found out later that Facebook had put a fiber optic ring around most of Africa that connects those telecoms up to the internet. And in exchange, Facebook basic is free. And so, for a lot of people, all they know about the internet, this network of networks, is just Facebook.

KENNY: I don't get it. So, you put a ring up there in Africa. Logistically, how are they keeping you from using WhatsApp or other messaging services?

SCOTT: They are not, but what they are doing is, if you use those other things outside of the Facebook network like Telegram or if you just browse the web, you are going to get charged mobile charges. That is because most people there are using a mobile device and they're going through a cellular network.

If I use Facebook, it's all free. It's a free internet, both in terms of cost, and maybe my perception of what I can access. And so, that is why people will prefer or will stick with just accessing the internet as they know it through Facebook.

KENNY: Interesting. So then, that obviously creates a problem because Facebook can just decide what you do and do not see, considering that is kind of what they do.

SCOTT: They do. I think one of the big issues there is that Facebook, in order to keep its stock price going up and up and up, they need to capture new markets. Those new markets are in places that are very poor, and do not have the ability. But if my ISP started doing that kind of stuff, I could just say "screw them" and go someplace else because I have the means to do that.

KENNY: Interesting. So, you presume this as a bad thing. Do you have an idea on what can be done to address this kind of monopolistic control of the internet in entire continents?

SCOTT: Well, one of the things that some people are very hopeful about is this system that has been put up by SpaceX called Starlink, where you can just put up a dish very quickly to access the open Internet. For a community of folks, that would be a relatively cheap way.

It offers real competition in areas where it is very expensive to plow the fiber. Most areas of the world that are easy to connect have already been connected. And so, if you look at the number of people that get connected every year to the internet as a percentage, it is slowing down. It is less than a 2% gain every year. There are about 3 billion people that are unconnected to the internet or only connect on an occasional basis every week or every month.

KENNY: Interesting. Is that a case of "Meet the new boss, same as the old boss"? Because in that case, we would have stopped using Facebook and would be using Starlink and SpaceX instead. Would that be a concern?

SCOTT: Well, it depends on what you think about a private company being a planetary ISP. Some people look at it as a brilliant thing. For instance, in Iran, people can sneak in these terminals to actually access the internet and get information out. Over here in the West, that is actually good because we hate the government that is in Iran.

However, you may have noticed that Elon Musk had bought a social media company a little while back. I think it's called "X" now. And that company, under Musk's ownership, actually took down a BBC documentary about Prime Minister Modi in India, because they complained about it.

And also, Musk wants to sell a lot of cars through one of his other enterprises there. You are exactly right, Kenny. We would now just be going from one situation or walled garden into another situation that would have the same controls put on.

KENNY: This feels like a tragedy of the commons issue, which theoretically, is the entire purpose for governments. The end solution presumably would be some form of global bureaucracy that has an open Internet, which amazes me. What does that look like long term?

SCOTT: I have no idea. I am just an observer of these things that go on. If I did, I would probably be out building a business instead of here at the university studying around it. But I think it is a discussion we need to have, and I think it is going to be very difficult to deal with these planetary-wide ISPs that have other plans.

I think that Starlink is going to be the only planetary ISP for probably a decade or more, just because of some of the barriers to entry and other problems. How should a planetary ISP be regulated? Should they change the way they act based on where the end user is? For instance, Google will censor certain results in certain countries like Germany. If I want to find Nazi paraphernalia in Germany, even if it's pointing me to a different site outside of Germany, it's going to be blocked.

That's because it is considered part of holding social cohesion. You cannot search for pornography if you are in certain countries because it's a government restriction that is seen as a means of social cohesion. Things are filtered all the time depending on where people are.

KENNY: Fascinating. You have not even touched on China, which I imagine is one of the biggest defenders. They have the Great Firewall of China as we're calling it these days, right?

SCOTT: Yes, and you see that through their existing communications. When this came out, people thought "oh, this great firewall will not hold." But it turns out it worked very, very well. Last year, I believe that people were using a white paper protest, to protest against the Chinese government. If you are on your zoom call, you could hold up a white piece of paper that does not say anything on it.

The algorithm would not flag that because there is no text saying the Chinese government is bad, but you knew exactly what it meant. There are other ways that people are still able to use these communications channels, but it is very heavily censored. That is one of the big issues when we get into crypto assets and central bank digital currencies, which is what I was talking about last time that we were on here. That is because China could use those as a means of control as well.

KENNY: Fascinating. You started down the digital asset road, so maybe that helps here. Tor Browser, Monaro privacy, and other things like that are very much tied with the concepts of digital assets. Is that a potential mitigating factor to this censorship issue?

SCOTT: I think it can be. It was very interesting. I just got back from DEF CON. I was there last week in Vegas, and I got to meet some of the people that run the Tor system. They said one of the problems they had, which had not occurred to me, was that Tor is the only game in town. How come there are no five different alternatives to Tor? Once again, it becomes a problem of centralization.

If there is a vulnerability in Tor, if there is an inability to block, that becomes a problem. They are doing some very sophisticated things to get around blocking. But if when governments figure this out, or when Google figures it out and blocks on behalf of the government, then you are going to see this one means that everybody relies on being wiped out.

The internet in many ways is very centralized. It has become very centralized. Cloudflare is a big system that most websites use. If that goes offline, probably 70% of websites are going to go offline. I think Tor is a great product. I love it, and I teach my students about it. But also, I think we have to look at why there is no diversity in anonymous systems for browsing.

KENNY: Interesting. So even in this massive, decentralized, anonymous network, you still have centralization. I had not really thought about it before. Digital assets, privacy coins — how do those things enter the conversation, especially when you're talking about CBDCs?

SCOTT: As I was telling that small breakout group, I am against central bank digital currencies for many, many different reasons, but I know you guys are more experts on this. I try to keep up on this, but I can't keep up on everything. So, I will be very interested to hear what the rest of the group has to say in the breakout rooms.

KENNY: Okay, fair enough. This is great. And so, this is an area of active research for you, trying to figure out what the implications are for society or the world overall, and also what the socio-economic impacts are. Are there any early theories other than "yes, this is something that we need to be aware of"?

SCOTT: Well, it seems that as we have moved more to these commercial systems, they do bow to the wills of different governments. Freedom House puts out a very good report every year about freedom on the internet, and ever since I had my first email address, it has been going down and down. It is not trending in the right direction. I think there is a lot of potential for new technologies to be disruptive in this way, but the trend lines are not looking good.

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