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# Driving Discovery: Do You Have the Keys to Fair Linking?
# (It's About Knowledge and Library Control)

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*Bruce Heterick, Vice President, JSTOR/Portico*
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## You Can't Browse the Stacks In A Digital Library: Indexed Discovery, Fair Linking, and NISO's Open Discovery Initiative

*Todd Carpenter, Executive Director, NISO*

**Todd Carpenter**: Good morning, everyone. We're going to talk about discovery services and indexed discovery services and fair linking. And I'm going to be touching briefly on the NISO Open Discovery Initiative. I'll start with how many people are familiar with NISO? Oh, fantastic. I love that. This helps to me make a very efficient in getting through 25 slides in 12 minutes.

I'll just start with a short history of library discovery and how we got here. Does anybody still have these in their library? My wife asked if anybody still had one of these. Oh, two, three? I mean, actually in the stacks, not just in an art exhibit. So for probably a century we were using these cards to navigate discovery in library systems. They were very useful when libraries used to look like this. Unfortunately, many of our libraries still have these things, but most of the content that we have in most of our libraries is electronic. There was a transition into catalog services and moving all of the card catalogs and discovery services or acquisitions management and content management and serial circulation management, which became a computer interface to the users in order to access the print stacks. In 2000-ish, early 2000s, we began work on something called a Metasearch Engine Initiative where services would search out electronic resources and then search results would be filtered or represented to the user in the order in which these servers responded, which is probably not the best way to present search results. In the last, say, three, four years, we've moved to a system of indexed search engines where the search engines go out and they collect as much information about resources as they can and create an index in the center of that, which is then queried by the users. And these have become very popular in the last several years to search and discover materials. There is also a small company out in California, but we won't mention them, that has driven a lot of interest in index discovery as well.

As these systems have evolved and developed over time and over the last several years, they're indexing a tremendous range of content. They're accessing both commercial and open access content, all of the journal literature, e-books, as well as nontraditional content, nontraditional web content as well. They've been adopted by probably thousands of libraries worldwide, impacting millions of users. There's also been some significant research results that point to increased usage of resources based on the usage of these systems. So everything's fantastic, right? Well, except for several key problems. Years ago, I don't know any librarian who would purchase an A&I system if they didn't know what was in it, if they didn't know how things were added to it, if they didn't know the content that was included. Unfortunately, that's not always the case with indexed discovery services. There isn't a lot of clarity in terms of what's included in these systems. There isn't a lot of clarity about how things should engaged and what the discovery services would do with that content, how is data exchanged. There's a lot of concern about how things are ranked. Now, a lot of this is proprietary information, but there are also concerns about bias and how things are ranked in this result stack.

Any good business relationship, be that between publishers and libraries, publishers and software providers, software providers and the library community, all these relationships need to be based upon trust. We certainly don't want to be dealing with the used car salesmen of the world. I think it's important that we also not just trust but we also have a sense of verification, that we understand what the information is that we're getting and how and why. And this is where standards of community practice come into play. Standards can be used to, on a functional level, exchange information between one system and another, make sure they work together. They can also be ensured that we're doing things in the same way, that we have a common understanding of definitions and approaches in terms of how things are done, in what ways that things can be done, help the consumer understand what they're getting. Do you know what you're getting when you purchase a product? It builds trust between the suppliers and consumers if they're based on community best practices. This is where NISO came into this space regarding the index and discovery services. I mentioned we've been doing work, obviously, we've been doing work with MARC records back in the 60s and 70s, we were doing work with Metasearch in the 2000s, and work in index discovery was something that seemed a natural evolution of that.

About two-and-a-half years ago, we pulled together a very diverse community of libraries, publishers, and service providers to explore best practices to help people understand how these systems are working and how they can be improved so that we can all trust their work. That large group was broken into subgroups, and they focused on four particular areas. One was on technical recommendations for the data format and the exchange of information between publishers and service providers. Another was focused on communication of the information in those systems to the library community. Another team was focused on the issues of fair linking and how do you exchange information and prioritize results. And then another looking at usage and reporting assessment. We did not have a broad agreement with this particular group. Whenever we extend a working group to work on every

possible issue, we never get anything done. So we focused, we set aside the issues of performance, features, user interfaces. We didn't want to get into the areas of relevancy ranking and define relevancy ranking, because we think that that's best handled by the service providers and best assessed by the library community in their review of the different products. We also think that while it's probably important that there be work done on APIs and automated data exchange, that wasn't something that this working group focused on, so APIs and protocols for data exchange were set aside.

Over the 24 months of the project, the working group developed a variety of things. There is a standardized vocabulary now, a formal recommended practice for content providers, for discovery service providers, as well as focus on education and conformance. The ODI recommendations were published in June. That's the URL. You can get to it by going to the workrooms section on NISO's homepage. It's free and openly available, as are all of the other resources from this project. I'm not going to go through all of the metadata recommendations, but they exist. Please go look at them. We have metadata recommendations for what a content provider should provide to the library about who they're sharing the information to, we have metadata recommendations for the publishers to provide to the discovery service providers, and we also have metadata the discovery service providers should be providing to the library community. And again, here's just some more examples of what the metadata is. I know you can't read it, but the slides will be posted, I will post them in my slide share, and they will also be part of the record for Charleston. We also talked about the recommended metrics for assessing the work, the performance of these systems, things like the total number of searches per month, total number of unique visitors, unique click-throughs, things along those lines. A very important element of this was not that we define what "fair linking" was, but we thought it was more important to focus on the issue of disclosure.

Discovery service providers should offer affirmative statements of the neutrality of their

algorithms, and they should also affirmatively note any business relationships that they have with content providers that may impact their search results. We didn't want to take a position on these as to whether or not it would be appropriate or inappropriate so long as there's disclosure about that behavior. And the library community can then determine, based on those disclosures, what's in the best interests of the patrons.

Another issue that we spent a lot of time on was the issue of nondisclosure agreements and the worry that some organizations might wrap their contractual relationships up with a nondisclosure agreement that says that there had been some prioritization of content of search results, but we can't talk about it because it's covered by an NDA. So we added an element to the recommendation that focused on this issue of nondisclosure agreements saying that licenses and contracts between publishers and discovery service providers should not have nondisclosure agreements that cover any potential bias in the search rankings.

I want to end here with more of a comment about process and the implementation of these discovery systems. Now, there's certainly technical issues related to how the data exchange is provided. There's certainly technical issues that need to be resolved. I think the ODI work has advanced some of that. But there are also very important social aspects to these systems. There are very important setup issues, how your library is implementing these systems, that can significantly impact the search results that you're seeing. I want to end with the point that not every problem is technical and that some of these issues can be addressed through other social or setup issues that at least the library community should be aware of.

For more information about the project, this is the webpage for the ODI group. We just launched a standing committee that's going to be doing some education and training work on these initiatives as well as further developments related to open discovery as we move forward. So if any of you have any questions or comments, feel free to reach out to the standing committee. They

appreciate your feedback. Thank you, and I will pass it on to groups. And as I said, we'll take questions and discussion, hopefully a lively discussion, at the end of the session.

## CSI: Discovery

*Bruce Heterick, Vice President, JSTOR/Portico*

**Bruce Heterick**: Thank you, Todd, very much. I want to thank Todd and everyone who's been part of the ODI work. When I was on the board at NISO and serving with Todd, that was one of the real important things that I think we got started. I'm glad it's continuing forward. I think he's still got quite a bit of work to do on the disclosures and getting information out to the libraries or to the providers; I can sit here as a provider today, and say that that still needs quite a bit of work.

For those of you who were here last year at this session, I talked a lot about this 18-month Discovery, CSI: Discovery effort I had been under at JSTOR, trying to understand that the power of content was being used. And it brought a whole range of things out that were really quite interesting, and we've been working on those diligently since that time. It's still amazing to me that so many people are still engaged in this topic. It's just says a lot about all the work we have left to do, to do it.

I'm going to talk a little bit today about a content provider and kind of what I'm seeing and what we've found over that 18-month vigil that went on recently. I will say up front, I have engagement exhaustion. I am exhausted from this work because it's relentless. And I think that's one of the things we all have to come to grips with. In some sense, I think discovery has been the great job creator of the library community here in the last two years because I know, at least at JSTOR, we've added positions, we have added resources. We're probably spending close to half a million dollars this year just on trying to manage our discovery efforts with the big four discovery providers. And as an accountant, we're dealing with Google and Google Scholar and all this other stuff. So it's expensive. I think libraries are starting to understand that in order to not just implement these things but actually maintain them at the

level they need to be maintained, it takes quite an investment. That can't be caught short when you're taking back your total investment in these services. I think it's really important.

I'm from Southwest Virginia, so I tend to think of things in very simple terms. So I'm going to kind of talk about the three-legged stool here. We never figured out how to put four legs on a stool in Virginia, so I'm going to talk about three-legged stools. I've been here the last few years talking about this topic. And at the beginning, we were really talking about the discovery providers and really pushing them to be more transparent and to talk about things in a particular way, and I think that's alright. I think we need to continue to do that. The last year or so we've really been focusing on the content providers: what are they doing? Are they providing the right metadata to the services? Are they doing the things they need to do to make their content function well within the systems that have been created for this so that libraries can help, it can help libraries leverage that investment that they've made. And I think that needs to be continuous, but I know at JSTOR we still have a lot of work to do.

A lot of things that I talked about last year in this meeting, there were a lot of them, and we're trying to implement them as we go along here. But there's a long list of them that we need to do if we're going to actually be really effective inside of the services. I think now we need to begin talking about what libraries' responsibilities are here, and I think it's really important that libraries need to take more responsibility here about not only how these things are set up but how they maintain them in an ongoing fashion. That's not an easy thing to do, particularly for libraries that don't have a lot of staff to actually maintain these things at the level that they would probably like. We have to start looking at that. We have to start. I think libraries can start looking at themselves, saying "What can we be doing?" too, because I can tell you from the work that I did last year, there were a lot of things that we thought libraries could be doing differently to really help these services work better, and frankly, trying to define exactly what they're trying to do with these services. What are you actually trying to

accomplish with them and how are you measuring that? And those are really important questions.

One of the things that came out of our research last year is that libraries are, a lot of libraries are simply putting these things up, and they're not spending a lot of time in the configuration process, either of the discovery service or the link resolver in the space. And one of these became very clear to us at JSTOR is that we need to create something, we're calling them "quick-reference guides," to provide to people who are putting up these services about what steps they need to take within their discovery service and within their link resolver in order for, if they want the content on JSTOR platform to actually surface and be discoverable in these areas. And let me tell you, I mean, I have to say, the discovery providers were across the board awesome in helping us because they're looking for the same thing, quite frankly, I think. They really want to help with this. But it's very complicated. I bumped into a lot of things that were, you know, you'd get down the road and say, "Oh, I didn't realize this was happening. We need to go back to the discovery provider and talk to them about that." So at the end of this, I was really hoping to have these out in March, and we just got these out about two weeks ago. I'm hoping people are going to find them useful. Our goal here was for people who do want their JSTOR content to show up in these services, to give them a guide on how to do that. If that's not what you want to do, that's fine, but we just didn't want people putting services up and seeing that the JSTOR content wasn't showing up and not understanding why. And so we really want to sort of guide that way.

We have these quick-reference guides for EDS and for Primo and for Summon, and we're building one now for OCLC. We also built them for the major link resolvers, because those two things go hand in hand. And people need to understand that sometimes one overrides the other and they really need to understand how these things work hand in hand. We try to build them in a way that you can configure them. If I've got Primo, then I'm using LinkSource, or I've got Summon and I'm using SFX, you can look at these guides in that way. I know IEEE, I think SAGE, I think there's a

number of other publishers who are starting to do this, and I think it's really important that more publishers spend time on this because I think it can only help. But I do think, I hope this is at least a first step for us in working more closely with libraries on how these systems are configured.

Okay, well I can't do one of these presentations without putting some data up. So I apologize to all of you in the back. These slides will be available, I'm sure, on the website soon. I want you to see we actually see referrals coming. This is across JSTOR. And you can see JSTOR, Google, Google Scholar, and then you see link resolvers or, we're not quite sure what they are. They're a mix of things. You see serialsolutions.com or exlibrisgroup.com or ebscohost.com or ebsco.com, right? One of the problems we have right now, and I'm going to skip to the punch line. But the thing that says "category gain percentage" is indexed discovery services, and it's at 0%. This is the amount of accesses that we see coming from these referrals. Now, that's not exactly right, all right? Actually, if you look down here at this academic, 22%, some portion of that is indexed discovery services. However, as a content provider, I cannot tell, right? Because when somebody starts an EDS or somebody starts at Primo or someone starts at Summon, they come through the link resolver. That gets obfuscated when it comes through the link resolver, so it looks to us like it's coming through SFX or Serial Solutions or someone else, we can't tell the original origin of that, right? And that's a big problem for us in trying to understand what the impact of these services is on our usage.

Let me carry that forward. We're a not-for-profit organization trying to figure out where we make investments that we're going to make. When I see this chart, when my board sees this chart, they're saying, "Why are we spending so much time on something that's driving 0% to the usage? Why aren't we spending more time on figuring out how to make the JSTOR interface better, or how to improve our indexing on Google Scholar and Google?" It's a little harder to improve your indexing on Google because you have absolutely no control over that. You have a little more control over index discovery projects because

they want to work with you, and that's very encouraging. But I think the real issue, I'm looking at Todd on this because I really think NISO need to get part of the best practice, we need to have persistent referrals that come through that can see as a content provider to understand, because when it comes to making investments, we're data-driven just like you and libraries. Where do we make these investments? And it's really important that we understand that.

I'm going to go back to where I was before. This is the referral domains that we see coming to JSTOR. It's actually a little bit different about which referral domains actually drive actual usage at JSTOR, okay, so they're a little bit different. One of the really interesting things is that the link resolvers have a much higher capacity to drive actual usage. So the referrals that come from link resolvers drive usage, where as Google, we get a lot of referrals from Google, but they don't necessarily drive usage on the JSTOR platform at such a high degree. So it's really important to us that we really work with the link resolver and discovery providers because they do drive good traffic in that regard. Now, are we seeing increasing or decreasing traffic from institutions who have implemented these things? The jury's out. As I reported last year, for JSTOR, it's not all that encouraging, but that may just be a matter that we don't know exactly what is being driven to us from these discovery providers. And until I really have a better sense of that, it's going to be really difficult for us to have a real measured conversation about it because we're just kind of guessing at this point.

I would stop there. I was kind of laying some groundwork for some questions to come up, and I'll turn it over to Scott as I finish off this part of the presentation.

## Fair Linking and Library Choice: A Discussion of Custom Full-Text Link Set Up

*Scott Bernier, Vice President of Marketing, EBSCO Information Services*

**Scott Bernier**: Good morning, everyone. Thanks, Bruce. Hope everyone's having a great conference. I'm excited to be here this morning.

My name is Scott Bernier. I'm head of market research for EBSCO, and this is something that I've been wanting to talk about that I started to dive into quite a bit over the last several months and worked pretty closely with Bruce after having seen some of Bruce's presentations in the past. I'll get into a little bit more specifically what brought me here in a moment, but I want to dive a little bit more specifically into how things work to clarify and to start to get into an understanding of the way the links set up, how can you control them, what can you do to optimize. Again, we have, I think, a lot of work to do as a community to understand best practices.

This is an interesting term. I was lucky enough to be part of the ODI community. The biggest piece in my mind was metadata sharing, how do we do this thing. But then there's the other part, or a large part of what we had was about fair linking. And so I actually have the feeling that maybe the word "fair" isn't so fair. What does it mean? In simplest terms, though, what is fair linking? In my mind, it's the vendors taking a step back and giving the options to what it is that you want to do when it comes to linking to the full text. It's fairly simple. We get out of the way and turn those keys over to you. Hence the name of the session today. It's really about driving. Driving your discovery and having the keys to the car and have control. But I think the key is, then, how do you get into the specifics of it? You have the keys to the car and you drive it, but how do you adjust things? What's the best way to optimize the links and how your users interact with the full text? I think its key, and Bruce touched on this, is that we all want the same thing. Content providers, discovery providers, publishers, libraries all want more usage, more value, repeat customers, greater library experience, so we can continue to move this thing forward. But there's really no driver's manual, per se. There have been studies that touch on some of these things, but maybe best practices on how do we set up these links need to be things that we consider and do studies around. Some of that has been touched on from a user perspective and otherwise. But I think the key thing for me today, and hopefully that folks get out of this is that if we can collectively understand how this stuff works, we're in a better position to

make it work better and all moving in the same direction.

That gets me to sort of where or how I came to be here today. As part of the ODI committee, we were right in the stages of being ready to post the file document of ODI. And at the same time, I was behind the scenes with some of my colleagues at EBSCO, pushing and driving for EBSCO to do the metadata share. We need to push that out there for folks to use in their discovery services and take it. So I was excited that that was happening. We got an announcement, yep, ODI was out, and I called someone that I've become closer friends with since then, and I said, "Hey, we're excited about this. I'm thinking we're excited about this." And he says, "Well, I'm just really interested in what EBSCO's going to have to say about fair linking." And I said, "Okay, what do you mean by that?" He said, "You know, EBSCO's biased for their own content." I said, "You know how this works, you choose the links, you choose how it gets to the full text, you choose how it works. The library gets it, does it on their own." And he said, "I've heard it all before." I was kind of peripherally involved, I'm not the linking guru at EBSCO, so I said, "Let me go figure this thing out." So I started to dive into it. I called Bruce and said, "Bruce, I want to learn and I want to get together on this, make sure we're both kind of hearing and seeing the same thing. I'm going to dive into this thing and figure it out and then we'll talk about it because I'd really like to understand maybe what your concerns are, because I've heard you have concerns." And so that's kind of what got me diving down this path. I want to share some of the things that I've learned.

Really, when it comes to discovery records and the discovery experience would be a two-part equation. And the first thing, really, is that the results come up on the list, whatever those results may be. So it's the relevancy ranking of a particular record. That has absolutely nothing to do with the full text that your user might get to from that record. The second part is the full text. How do I set up? How do I go from the result that you just presented to me to the full text? It's completely decoupled. When the results come back, you choose how the user gets to the full

text, how, where, when, how that displays, and so on. I tell you that here so we talk a little bit about both sides of that equation.

First step: relevance ranking. Our search team comes from MIT, and we're really every day pushing and driving towards saying what's the best possible result we can put in front of the user. But I tell you, the search team at EBSCO has one goal, and it's really to make sure that the end users have the best possible results for every search query every time. One thing to note, they don't care at all where that record comes from. They want the best one. They don't care about the provider, they don't care about the source. It's not part of the equation. Now, the level of data that we have is important. We need to be able to make decisions, as a relevance algorithm needs to be able to make decisions, and the only way you can make the most refined, best decisions is to have more information to go on. So think about doing a study. You're going to write a research paper, are you going to study and look at one article and someone else gets the luxury of looking at all sorts of different things, they're probably in a position to make better decisions. So those are just some pieces. I'm not going to drive into all this, but there's some different portions of the relevancy algorithm. It's getting tweaked every day, really, to try and find and improve. We put this stuff out to be as transparent as we can possibly be about how relevance works. So this is the relevance ranking ingredients, matching word frequency, metadata field weighting, value ranking, I'll talk a little bit about. You've probably seen some of this from EBSCO. We care a lot about subject indexing. We don't care necessarily about browsing by subject; we care about leveraging that really rich subject index to push the best possible results in the private screen and other things. This was a slide I put together in a conversation I had with Bruce is that each available data field that we have only improves our sort of response, if you will, to be able to make better decisions. I told the groups that no matter what it is, it's only beneficial to the content provider to make sure we have as much data as we can to base those decisions on. So we do a lot of usability testing, we do a lot of user research. We have a full group at EBSCO dedicated to user research. And one of

the things that we do is we watch the users and we say, "What are they looking for? What makes them click on something? What are they trying to find?" And we learn a lot about that, but it also influences part of how we put results on the screen. We influence or we analyze value ranking, and the value ranking is an additional part of the whole relevancy or painting those results on the screen, but some of the value ranking pieces that flow into things like publication data, for example. If all things are equal, the most recent article may be more valuable to users, especially in assigned research and so on. Plus, of course, they were looking for something from the 1800s or whatever it may be. So just a little blurb on relevance ranking. We hope to put more information out there for you. We have a lot of detail that you can find some of the basics at a high level on the relevance, but hopefully you'll see more from us in that.

Part two of the equation is full-text linking. I'm going to use EDS examples. That's what I know, that's what I studied. But to show you, I'll talk about full text. And I think P is the library choice. So I talked to somebody just before here and they said, "Why should the library have a choice? Shouldn't the users have that choice?" That's a good point, an excellent thought. How do we make that work? A different question and other things that got interesting. So full-text links in EDS, we have this notion of customization. And basically that allows you to control the way the links work in three different ways. Which full text displays. You might have three of the same articles in different places, the same article in three different places. Which full text do you wish to display? The order in which the links may appear. I like one, two, three, that kind of range. And then, do you want all three of those, for example, to appear at the same time or do you just want your top preference to appear? I have this record, it just follows through, it says number one is available. Do I want to show one and three, because those are both available, or do I just want to show number one? Again, the library's choice. This is just a mocked up screen just to give you the sense that this is essentially EBSCO and the pieces of administration behind EDS. You go in and you see, what are your holdings, how do I want to

rank them? Then all the way down the list, you have this option at the bottom that says, "Just show the first available text, link only?" We actually recommend that from user testing. User, "Why do I have four options? I just want this article." Silly library, you know? That's the other choice here. You're coming through, you label all, put all your records in or your contact in, and you rank them, and then you decide if you want to show them all versions or a single version.

This is an interesting piece. Because customers choose their links and link order preferences, the provider or source of the record itself has no bearing on which full text link appears. Again, it's that idea of decoupling one from another, and I'll show you what I mean by this. I'm sure everybody likes beer, right? All right, so this is just the result. And in the second one, if you look at the second one, this is actually a business source complete record. And a business source completes a fairly strong index in addition to the full text, but it's a strong index. And we have this in here. It ranks up. In this particular search, it says, "All right, this source is an article for your search," and has the full text there. But if you as a user said, "You know, I know I have the full text in EBSCO, but I'm a library administrator, and I want to suppress that because I prefer JSTOR. If I have the JSTOR, show me the JSTOR." Even in the EBSCO's database, you can do that. You have the full text link to JSTOR. Now, I put that up like that. You could put it up like this or however else you want. We give you the ability not only to customize the link but then how it displays. Bruce said something I thought was interesting and I thought about the night before and somebody said to me again recently: "Well, if those have, a PDF look to it across all the resources that we have, maybe it wouldn't be so confusing for the user. Maybe it would be easy. Maybe they'd click on that more often." Yeah, you have those options. I think part of it is understanding those options and then deciding, "How do I organize this thing?" and then maybe together we can do some of that research to figure out what does the user interact with more, because we're trying to get more usage. They click on a link resolver here and they're used to seeing a JSTOR full text or used to seeing a PDF.

How does that work? What's the best way for me to use that? Questions that still come up for me. Options. Does EBSCO default into their own full text? No, we don't, there is no default for the linking. We don't know what you have. So when EDS gets set up, we don't just say, "Here it is. Have a good time. Here's EDS." This configuration is work that goes into actually pulling in your contact. What do I own? What do I link to? How's it going to work? How do I configure this thing? How do I customize the screens and the interfaces and the links and the whole bit? And that's a process, and I'm sure anyone who's embarked on discovery service knows that there's a process and that they're all probably a little bit different, but they're all probably fairly extensive. But there are no default settings. The idea is that we've got to enter your collection first, then you decide, well, how do I order this thing, how does it appear, and the whole bit. IIf we did include collections in advance, if it's default and you just don't have those things, your users are going to run into paywalls. Don't have this collection. It links to it, now I have a paywall. Probably not ideal. Probably not the user experience you're looking for.

One of the things we talked about was what if we look at your collections beforehand? Because right now what we do is our team goes and talks to you and says, "What do you got for collections?" and that's not necessarily that easy or simple of a process. We may not have the resources to do that very well. Everybody's a little bit different. But what if we knew the collections in advance? I talked to Bruce about this. Sorry to keep using him as a reference, but Bruce, well, what if you knew your customers in advance so that when the University of ABC comes to us and says, "All right, we're going to set this thing up," we already know that they have these JSTOR collections and we can say, "All right, I want to continue these things." He said, "I'm not giving you that info." And then he talked to me a couple weeks later and he said, "Maybe that's a good idea." We haven't determined what's going on here. So one exciting thing about it, well, should we provide some type of default? Well, we can't provide a default, but maybe we can provide a sushi menu, if you will. Let's list them all in here, and then you can at least go in and pick and

choose, because right now, you're only going to add them in. Or maybe it would be a little bit easier, just take one step further and say, "Here's a bunch of options that you may have." Maybe it's easier or simpler to go in. We haven't done this yet, though. It's just something to think about.

Now, normally we raise things up differently. We offer these custom links. And if you're not familiar exactly what a custom link is, it's the idea you can go directly from a record to some other spot. And that idea is, you know, maybe I say, "I want to go directly to this publisher." But it also, a custom link is also to your link resolver, if that's what you choose to do. So you could have, in the series of options, you can see link resolver is pointed at the bottom. Some books do this. In the last resort, I'm going to show you my link resolver. But it's not always what's right or why do I send some direct and some to the link resolver, and I chose to only show one link when I have the full text and the custom links, but then when I do the link resolver, they get five. I don't know. We need to take a closer look at that on a customer by customer level and think about what's the best way? How're you going to drive usage and the better user experience? I think everybody's seen this kind of thing. Hey, we brought a new resolver and we just launched a new one, but there are inherent issues with link resolvers, right? If we could bypass it, the experience is better and the end user gets to what they want faster and easier and better and comes away saying, "Nice. The library was great to me," maybe we need to think about that.

When do we use the link resolvers? I think there's some approaches to that. Determining best practices, what the user tells us. They want consistency and familiarity and simplicity. We talked about this. If the link says "full text" versus some custom-branded link resolver that you show, they say, "I don't know what that means as a user," perhaps, etc. Okay. So SmartLinks Plus. This is one thing that I learned, that this is the idea that if you buy journals from EBSCO, you can automatically turn on a direct link. These things don't interact, and I learned through this conversation, they don't, these are sort of legacy.

We offer them for EBSCO Host customers to say, "I can link EBSCO's database to the journal that I purchased through EBSCO. You can automate that." Great. It's wonderful. But in the context of discovery, it works outside the realm of our custom links, which means if you've decided, "I want to show the JSTOR link first," and you have the JSTOR record, if you turn on SmartLinks Plus, they both show up. And so I saw that and go, "Maybe that's why people think we're doing this thing."

We actually have a project right now to change that so these interact perfectly well with your custom links that you can get in the site. I talked to Bruce about a bunch of stuff. We looked at the JSTOR specific links just to give them a sense of how people are setting up your JSTOR stuff. We got 6,000 plus sites using EDS. On the academic side, there's almost 8,000 profiles. And that's where you can look at the specifics of linking, so we looked at those, and we realized that somewhere in the 70% of the customers don't link to any purchased JSTOR records from a customized EDS. They may go to the link resolver, but they don't do it in a custom. Just got to skip through. We looked at some of this. Well, how do they rank them, then? Here's some of the, this is generally where they rank the JSTOR stuff. Of course, there's no links at all over on the right-hand side. But what is this? It's an opportunity maybe for people to review and look at their setup. Maybe for Bruce to say, "Hey, can we move some of those 3,700 over to the higher ranking?" No? That's not EBSCO's game to do that. We leave that to you. But something to consider and think about. So we can look more closely at these things, get a little bit better at it. There's some opportunities for our content provider partners. Providing full-text data for searching. We don't do that. It's helpful. E-book chapter-level detail? If you have it, it's helpful. So Bruce talked about documentation guides that you created, which is great. We're trying to make sure this stuff is as accurate as possible. Then we created a how-to video. So this is how it works. Go dig into it. I appreciate the time.