Publishing Research Directions

Interviews with
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&
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KENNEALLY: A novel scholarly publishing model from the oldest publishing house in the world aims to open entirely new territory in the research journey. Welcome to Velocity of Content. I'm Christopher Kenneally for CCC.

After nearly five centuries of printing journals and books, Cambridge University Press has announced plans to invite authors to share early outputs as they move through their research projects. The potential benefits of this move upstream include clearer credit for those involved in specific stages of research as well as encouraging collaboration through community engagement and discussion.

Fiona Hutton is head of STM open access publishing and executive publisher at Cambridge University Press and Assessment. She joins me today with more on CUP's innovative Research Directions project. Welcome to the program, Fiona.

HUTTON: Thank you very much for having me, Chris. It's really nice to be asked to talk about what we're doing at Cambridge.

KENNEALLY: I'm curious. I want to learn a lot more about it. Because what you are looking at is this journey of the researcher. We all know that a journey like that, whether it's in a laboratory or a library or in the field, is never a straight line. The trail of inquiry and discovery leads where it does, come what may. And with Research Directions, that's just fine with you and everyone at CUP.

HUTTON: Yeah. The idea behind Research Directions is a kind of recognition of the researcher journey – that it's not a straightforward, lateral direction. It doesn't always end up in just – you know, we do these experiments, and we get this output.

Actually, when a researcher does their experimentation, they get a number of outputs that they may understand, that they may not understand. That leads to a range of different outputs that other researchers could maybe use, could analyze, could learn from. What we're trying to do here is encourage early research outputs and for the whole community to

come together to collaborate on those items and actually work together to progress research.

KENNEALLY: So, Fiona Hutton, what you're talking about here is really stepping outside of the traditional silos that scholarly publishing has been working in, and you're really about making more clear not just research directions, but research connections as well.

HUTTON: What we're trying to do here is to say what is the initial problem, and who can we bring together to solve those really complex problems, bringing together people that wouldn't normally work together, trying to learn from each other, and trying to get towards the outcome that they all want to get to, but have been limited by either being in particular silos or within particular disciplines.

KENNEALLY: Describe for us what I guess I'll call the editorial process here. Because as I understand, Research Directions will begin with asking researchers questions, and those questions will be generated by key opinion leaders in their fields.

HUTTON: That's right. At the beginning, when we set up these journals, we're going to bring these editorial boards together with key opinion leaders to set the initial questions. Why I say the initial questions – what's really important in this concept is actually over time bringing in the whole community to propose research questions to discuss, to iterate those questions. Any research field is not just led by the main key opinion leaders in those fields. It's everybody that wants to be involved in that. So it's really important to us to bring in those voices and enable that collaboration to happen.

KENNEALLY: And you got to break it all down into three distinct parts, as I understand – results, analysis, and impact. Talk about each of those and how it will all connect together with the final published product as well.

HUTTON: Sure. As we've said, we start out with the research question. So at that point, what we want the researchers in that particular field to do is go away and do the research in order to start answering parts of that question. Different researchers will be able to provide their results and their work. And then others from different research labs might be able to analyze those particular results, or the original lab can analyze their own results. In that way, we're opening up each part of the process.

The impact papers are really to – at the end of the process, really contextualize the certain research and the analysis that's happened in response to the original research question and also looking to what's been published elsewhere in the literature, and bringing all that together to say, what part of that question have we answered? Do we then need to reiterate that question? Has it now evolved? Can the research move on? So it's really about just

breaking down the normal research cycle into actually what happens in research – the different stages of that process – and opening that up, enabling other researchers to see those results and analysis at an earlier stage than would otherwise be normal in a traditional research paper.

KENNEALLY: Of course, CUP has published journals and books in digital form for over two decades, but you've been printing books for even longer, since the 17th – 16th century, excuse me. So I want to ask you about what you see as the limitations of print, that even in this digital age, people still view scientific publishing, scholarly publishing, from within that frame.

HUTTON: That's an interesting point. I suppose I've been working in open access for a while, so for me, the journal article has always been, for the last 10, 15 years, linking to external databases. And what's really important, and the differentiation between a journal article and a print article, is there's links you can click on. You can go and follow what happened before, and you can follow citations, you can follow databases. So in many ways, this is just a natural evolution of that particular process, that instead of just linking between one article and another, we're creating the links that interconnect articles, interconnect also early research outputs that we're going to publish on and engage, which is our open research platform, so that you can follow the journey of a researcher from the initial grant proposal all the way out until the final published output, so that you can see what the whole journey has been.

KENNEALLY: And a publisher like CUP, like so many others, is involved in what we'll call the journey to open – open access, open science, open research. How does all that fit in with the business model? How is Research Directions going work from a business standpoint?

HUTTON: Again, an interesting question. What we want to do at CUP – we don't want to just talk about open research and actually not follow up and say we're experimenting in this area or that area. We want to, I suppose, follow up what we say with actions. If we develop and evolve what journal publishing is, and we develop it in a way that is needed by researchers in particular fields, obviously those researchers will want to publish in the journal, and we will be able to essentially have a business model that works for a research community.

KENNEALLY: Really, this is about embracing evolution and revolution, which is especially exciting for an organization like CUP, which is so proud of its roots going back five centuries.

HUTTON: Sure. Obviously, publishing has to always evolve. It has to keep up with the market needs of the communities that it works with. Cambridge University Press is very much part of the academic community. We work closely with our parent university. And it's really integral to us as a mission-driven publisher that we're creating solutions that our research community wants and needs. It's not all about commercial publishing. It's about actually trying to understand what our researchers need in order to progress towards – in this case, towards open research. So we're trying to understand about how we can have those early research outputs that contribute towards what actually the funders want, which is opening up the research process, opening up to open research.

KENNEALLY: And it's not just about opening up, but it's about accelerating the research. The speed of research as a result of this kind of work should accelerate.

HUTTON: Sure. That's what we hope. Normally, you're writing a research paper. In some fields, that can take up to two years. You don't really know what's going on in a particular research lab for those two years. By opening up and iterating throughout the process, you're hoping that researchers come together to collaborate, to accelerate the progress of that particular research field faster, because they can inform each other where perhaps another lab has done similar work. And they can then see it. It becomes transparent and open.

KENNEALLY: All right. Well, Fiona Hutton with Cambridge University Press, thanks for joining me today on the program.

HUTTON: Thank you very much for having me, Chris. It's been a pleasure speaking to you.

KENNEALLY: Rubem Barbosa-Hughes is head of user experience with Cambridge University Press. He's also a doctoral candidate at the University of Hertfordshire researching the use of machine learning to support user interactions with the consumer Internet of Things. Welcome to the program, Rubem.

BARBOSA-HUGHES: Thank you. Thank you, Chris.

KENNEALLY: Good to have you join us. We're discussing this project at Cambridge University Press, Research Directions, which aims to mirror the process of research rather than reworking results to fit traditional narratives. So in the user surveys that you conducted to shape the project, what did authors and researchers say about why research direction is as important to them as research output?

BARBOSA-HUGHES: That's a very interesting question, Chris. Actually, opinions varied around that particular subject. Certain researchers appreciate the approach of having a

question to which to revolve their research around and contribute towards. Others were a bit more resistant to that model. But in those who embraced that model of contributing to the question and having different levels to which to contribute to the same question, and having the question leading the research and have that visibility of what piece of research is leading to each output, they found it very useful.

KENNEALLY: So it sounds like what they like was the visibility, the transparency that a project like this allows for.

BARBOSA-HUGHES: Exactly. There is that element. And once they are presented with that model, the way they looked into it to say, oh, actually I would find it very useful. I could see myself using that, even outside Cambridge publications. If there is something like this, I would very much enjoy using it.

I think from our perspective, it brings up contributions that otherwise would have been buried into the traditional journal publication model. You might have a dataset or another piece of info that fueled the output in the journal which wouldn't get the same visibility in isolation.

KENNEALLY: You're a PhD researcher yourself as well as a publisher. While you conducted these surveys, what surprised you? What did you learn that you hadn't expected to hear?

BARBOSA-HUGHES: So one of the aspects is the relationship with preprints, for example. Certain researchers don't engage with preprints or non-peer-reviewed publications at all. Others find it extremely useful as a mechanism to get early feedback or put early research out there. It's viewed from very different and sometimes very extreme perspectives.

KENNEALLY: Certainly, the scholarly research journal is the definition of a tried-and-true format. It's been around for nearly four centuries. So why do you think a new model is needed, and why now?

BARBOSA-HUGHES: It's another very interesting question, Chris. I don't see this as something that would come to replace the existing model, but as an alternative – well, alternative is not the right word for it – as an option, a different way of publishing research. As you said, this is a model that's been quite traditional and that's been around for a while. But if you look back, where is this model coming from? It's from a print model. And now, we have all these opportunities with digital channels. Why not take advantage of it? Why not take advantage of the opportunities this channel gives us?

It's going to be very hard to nail down what the next format will be. But I think this is a very good step in that direction to understand how our users interact with this model and learn and iterate into that.

KENNEALLY: Another potential benefit is that this new approach can open up scholarly publishing to greater diversity – greater diversity in contributors, greater diversity in the subjects that it explores. Is that how you see it?

BARBOSA-HUGHES: I guess that is a more editorial question – the editorial team would be more qualified to answer that question. But from a user experience perspective, what I see is that where you can decompose the traditional article, which has everything in one piece, and enabling users to contribute as and when – which contribution they have available to them instead of going through the normal, traditional format of a fully complete paper – I think that brings the diversity you're talking about there.

KENNEALLY: Certainly, another advantage of the digital platform for Cambridge University Press is the data that you can collect from it. And I want to ask you about the role that this data has played – the information you get on user interaction. How has it shaped this new project?

BARBOSA-HUGHES: It was very important, in fact. We updated certain aspects of the way users discover content, the way they navigate. There were a number of meetings, a number of discussions around what should stay, what should go, and we always go back to the data. OK, how are users interacting with that particular thing? We are planning to change it. Does it make sense? What is the mental model of users interacting with that thing? Is it something we can change, or do we need to actually stick to that format, because that's how it's useful for them?

KENNEALLY: Steve Jobs once said something to the effect that users don't know what I want until I give it to them. So it seems to me that you may be sympathetic to that view, yet you are listening. You are responding to what your readers, what your clients are telling you.

BARBOSA-HUGHES: And that approach we took throughout the design process. We prototyped. If you ask users – we actually did interviews with users before having anything – how do you conduct your research? How does your typical research project go? How do you interact with people? How do you engage with other researchers, etc.? And afterwards, we had several iterations of a prototype. That's when we had something in front of them and say, OK, how does it work for you? Would you interact this way? Does that make sense, etc.? That iterative process is still ongoing, and it will continue.

Now, we are in the high-fidelity design phase of it. And once we finally release it, that's just the beginning of what the design process – well, it's another phase of the design process where we're actually going to gather live data from those users and see whether the decisions we made were right and be ready to adapt and change them.

KENNEALLY: Rubem Barbosa-Hughes, head of user experience with Cambridge University Press, thanks for joining me today.

BARBOSA-HUGHES: Thank you, Chris.

KENNEALLY: That's all for now. Our producer is Jeremy Brieske of Burst Marketing. I'm Christopher Kenneally for Velocity of Content from CCC.

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