Creative Commons licenses, for all the materials it creates; and day-one access for students. Having clear nonnegotiables allows them to then engage with the education community to solve for other challenges and work with institutions to identify new business models that achieve institution goals, while keeping Lumen healthy.

Openness also means that Lumen's OER must necessarily be nonexclusive and nonrivalrous. This represents several big challenges for the business model: Why should you invest in creating something that people will be reluctant to pay for? How do you ensure that the investment the diverse education community makes in OER is not exploited? Lumen thinks we all need to be clear about how we are benefiting from and contributing to the open community.

In the OER sector, there are examples of corporations, and even institutions, acting as free riders. Some simply take and use open resources without paying anything or contributing anything back. Others give back the minimum amount so they can save face. Sustainability will require those using open resources to give back an amount that seems fair or even give back something that is generous.

Lumen does track institutions accessing and using their free content. They proactively contact those institutions, with an estimate of how much their students are saving and encouraging them to switch to a paid model. Lumen explains the advantages of the paid model: a more interactive relationship with Lumen; integration with the institution's learning-management system; a guarantee of support for faculty and students; and future sustainability with funding supporting the evolution and improvement of the OER they are using.

Lumen works hard to be a good corporate citizen in the OER community. For David and Kim, a good corporate citizen gives more than they take, adds unique value, and is very transparent about what they are taking from community, what they are giving back, and what they are monetizing. Lumen believes these are the building blocks of a sustainable model

and strives for a correct balance of all these factors.

Licensing all the content they produce with CC BY is a key part of giving more value than they take. They've also worked hard at finding the right structure for their value-add and how to package it in a way that is understandable and repeatable.

As of the fall 2016 term, Lumen had eighty-six different open courses, working relationships with ninety-two institutions, and more than seventy-five thousand student enrollments. Lumen received early start-up funding from the Bill and Melinda Gates Foundation, the Hewlett Foundation, and the Shuttleworth Foundation. Since then, Lumen has also attracted investment funding. Over the last three years, Lumen has been roughly 60 percent grant funded, 20 percent revenue earned, and 20 percent funded with angel capital. Going forward, their strategy is to replace grant funding with revenue.

In creating Lumen Learning, David and Kim say they've landed on solutions they never imagined, and there is still a lot of learning taking place. For them, open business models are an emerging field where we are all learning through sharing. Their biggest recommendations for others wanting to pursue the open model are to make your commitment to open resources public, let people know where you stand, and don't back away from it. It really is about trust.

## Web link

1 lumenlearning.com/innovative-projects/

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