

money should be used, there often isn't a lot of flexibility to do so.

But as a for-profit, they'd have to convince educational institutions to pay for what Lumen had to offer. On the positive side, they'd have more control over what to do with the revenue and investment money; they could make decisions to invest the funds or use them differently based on the situation and shifting opportunities. In the end, they chose the for-profit status, with its different model for and approach to sustainability.

Right from the start, David and Kim positioned Lumen Learning as a way to help institutions engage in open educational resources, or OER. OER are teaching, learning, and research materials, in all different media, that reside in the public domain or are released under an open license that permits free use and repurposing by others.

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Originally, Lumen did custom contracts for each institution. This was complicated and challenging to manage. However, through that process patterns emerged which allowed them to generalize a set of approaches and offerings. Today they don't customize as much as they used to, and instead they tend to work with customers who can use their off-the-shelf options. Lumen finds that institutions and faculty are generally very good at seeing the value Lumen brings and are willing to pay for it. Serving disadvantaged learner populations has led Lumen to be very pragmatic; they describe what they offer in quantitative terms—with facts and figures—and in a way that is very student-focused. Lumen Learning helps colleges and universities—

- replace expensive textbooks in high-enrollment courses with OER;
- provide enrolled students day one access to Lumen's fully customizable OER course materials through the institution's learning-management system;

- measure improvements in student success with metrics like passing rates, persistence, and course completion; and
- collaborate with faculty to make ongoing improvements to OER based on student success research.

Lumen has developed a suite of open, Creative Commons-licensed courseware in more than sixty-five subjects. All courses are freely and publicly available right off their website. They can be copied and used by others as long as they provide attribution to Lumen Learning following the terms of the Creative Commons license.

Then there are three types of bundled services that cost money. One option, which Lumen calls Candela courseware, offers integration with the institution's learning-management system, technical and pedagogical support, and tracking of effectiveness. Candela courseware costs institutions ten dollars per enrolled student.

A second option is Waymaker, which offers the services of Candela but adds personalized learning technologies, such as study plans, automated messages, and assessments, and helps instructors find and support the students who need it most. Waymaker courses cost twenty-five dollars per enrolled student.

The third and emerging line of business for Lumen is providing guidance and support for institutions and state systems that are pursuing the development of complete OER degrees. Often called Z-Degrees, these programs eliminate textbook costs for students in all courses that make up the degree (both required and elective) by replacing commercial textbooks and other expensive resources with OER.

Lumen generates revenue by charging for their value-added tools and services on top of their free courses, just as solar-power companies provide the tools and services that help people use a free resource—sunlight. And Lumen's business model focuses on getting the institutions to pay, not the students. With projects they did prior to Lumen, David and Kim