

The Open Journal of Experimental Review:

Boosting Scientific Productivity for Researchers and Funders

The Company and Vision

In 2012, the US government's extramural R&D grant budget was over \$82B.¹ With Over \$500M awarded to Phase I proposals, alone. Many grants are for novel solutions formed around peer reviewed literature. Increasingly, that literature is unreliable - some sources claiming over 30% - exposing the US government or any other funder to higher investment risk. The Open Journal of Experimental Review (OJER) was founded to increase the reliability of scientific literature which uniquely addresses this problem. With over \$1.4T annually spent globally on R&D we estimate that OJER will generate a value for the scientific community and technological advancement on the order of \$10B to \$100B per year.

OJER is the world's first quantified rating application for scientists. Through our proprietary platform, members can rate a paper's ability to be reproduced, vet possible R&D routes, purchase materials and equipment to replicate a paper, network with other members, and find both career and business opportunities to allow them to be more productive and successful.

¹ SBIR Annual Report: <https://www.sbir.gov/awards/annual-reports>

What Do We Know About This Problem?

This problem goes well beyond our government's budgeting. Through our early user interview process, we have heard stories of investment groups losing large investments (over \$10M) based on poor or inaccurate papers published in some of the most revered journals. This is causing many investors to go through expensive, self-funded reproduction trials that can range from the 10's of thousands to 100's of thousands of dollars, just to validate an investment in a research direction.

This "crisis of reliability" has grown to such an alarming level that it was a cover story for *The Economist*². Unfortunately, due to the systemic nature of the problem and publishers lacking any financial motivation, the system has shown no signs of improvement. Out of desperation, the community has had a large push to make publishing itself open-sourced - competing directly with the existing publication infrastructure. OJER exists as an external entity, working in conjunction with the massive publishing companies and any other private, or open sourced communities, but not in competition with these resources.

The Team: Why Us?

OJER was founded to solve a real problem we faced as research scientists. Our team represents a combined 57 years of R&D experience, with 28 publications, 15 patents and 1000's of experiments replicated.

David Carnahan leads the business development, product development and launch of OJER as a tool for consumer use. He is the founder and president of Nanolab, a successful nanotechnology firm begun in 2000.

Dr. Nolan Nicholas (Senior Sensor Scientist at ABB) and Dr. Tom Morgan (Director of Nanocomposites and Biosensors at NanoLab) are focused on the development of the

² "How science goes wrong." *The Economist*. Oct 19th 2013.

scoring algorithms, user experience and user on-boarding through networking at universities and research facilities.

Dan Esposito owns a web development firm, was a former nanotechnologist at NanoLab, and is the lead developer for OJER. Dan has expertise in ecommerce, membership, and data applications. Notable clients include the Kingdom of Tonga's Permanent Mission to the UN, UMass Boston's Global Environmental Governance Project and the Environmental Convention Indicator Project.

Market Opportunity

The US spends \$455B on R&D annually (\$1.4T globally), and has an active research community of 2M people (14M globally). A majority of these researchers are enthusiastically embracing research based apps; with user bases of 1-10M (e.g. Researchgate at 7M). Additionally, publishers show large amounts of online user activity, with 2-21M page views per month per publisher.

The market is large, the demographic already makes use of a variety of web applications, and even at a conservative estimate there are millions of researchers who would be interested in vetting or reviewing a paper. OJER fills the knowledge vacuum when the user moves beyond literature research and seeks to begin building off the work of a paper.

Competition

There are platforms based around scientific literature like Mendeley (3M users) and Researchgate (7M users), but none directly address the issue of reproducibility or reliability. OJER uniquely fits into this by providing a platform for researchers to easily and quantifiably review methodologies. This allows researchers and funders to understand the viability of a research direction. Additionally, OJER allows researchers to capitalize on the previously undocumented work, providing professional incentivization.

Revenue and Outreach

OJER plans to grow quickly through aggressive outreach, viral marketing, and strategic partnerships with professional societies for rapid user onboarding. We plan to bring on site developers and create a market for online repeatability to provide a strong site with a powerful user experience. Our first year will require a \$100k seed round, with a second round of ~\$2M by the end of 2016. We will invest in marketing, user on-boarding and site upgrades to improve performance and user experience. The business plan scales well, and returns greater profits as we grow our user base continually into Year 3, 4 and beyond. We project by Year 5 OJER will reach a pre-tax net income of near \$7M. With funding, we project the company growth as follows:

Ojer, LLC	2016	2017	2018	2019	2020
income and expense	Year -0	Year-1	Year-2	Year-3	Year-4
NET SALES	\$1,129,590	\$1,807,344	\$2,982,118	\$5,069,600	\$8,364,840
COGS	\$216,379	\$385,473	\$655,962	\$931,856	\$1,280,415
GROSS PROFIT	\$913,211	\$1,421,871	\$2,326,156	\$4,137,744	\$7,084,425
TOTAL EXPENSES	\$506,090	\$1,839,205	\$2,516,087	\$2,986,209	\$3,386,194
NET INCOME (LOSS) BEFORE TAX	\$407,120	(\$417,334)	(\$189,931)	\$1,151,535	\$3,698,231

Moreover, OJER's users are consumers. R&D requires a substantial budget for materials and equipment. An example of a typical user can be found in Nature's Physical Science audience report, where 84% of readers are directly involved in purchasing decisions for their lab, and have an average annual budget of \$105k³. Because of this, hyper targeted advertising, and commissions based on marketplace sales will provide a large portion of the company revenue.

OJER has targeted three primary revenue streams: contextual ads, a marketplace, and subscriptions. Since many OJER users will be assessing a paper's reproducibility, there is a built in need for materials. As such, contextual ads provide advertisers with an

³ Nature's Physical Science: <http://www.nature.com/advertising/media-kit/physical-sciences/>

ultra-targeted and qualified audience. From this, OJER's initial CPM price will be \$3, and scale as the user base grows.

Additionally, OJER will integrate a marketplace through partnerships with material and equipment manufacturers. Through our proprietary "Replicate this Paper" option, users will be able to generate orders with manufacturers to buy all the needed material and equipment used in that publication.

Finally, OJER will use a "freemium" model for membership. Users contributing non-flagged reviews will be awarded free membership. Non-contributing members will be charged a modest fee of \$5/mo, for access. Premium features, such as time-limited privacy through aliasing will be offered at \$5/mo. Finally, key partnerships with professional societies and universities will provide discounted memberships, appearing as a free benefit to its members. This will also aid in user onboarding.

Based on market comparables, at a 5-7 year maturity OJER is estimated to reach 6M monthly page views and generate \$660k in monthly revenue through subscriptions, contextual advertising, and a marketplace.

How OJER Grows With Your Help

The platform is currently at a closed alpha release, refining the scoring algorithm and performing user group testing. The company is currently seeking a business method patent.

OJER is a transformative platform and will become an integral part of scientific research. We are seeking funding to accelerate our technical development and develop outreach and educational materials.

Capital rewards will be spent on app development (~150 hours per \$1k) to push OJER towards the beta release which includes social interactions and user rankings. If possible, 10% of the capital will be spent on user on-boarding and outreach.