

In times of geopolitical and economic instability how can innovative technologies drive new revenue opportunities for institutions and research funding in the UK?

This article examines how the emergence of innovative technology platforms, recently introduced by new players in the university services space and public arena, has the potential to open up additional revenue generation opportunities for the university research funding toolkit. How aware are universities of these new technology platforms and their revenue potential? Given anticipated EU funding upheaval (and potential removal/reduction of funding sources), uncertainty surrounding Brexit, and the lack of clarity in the lead-up to Brexit (creating what looks to be a prolonged period of instability and cross-messaging in funding circles), the time is now ripe for university management, financial stewards and library managers to embrace new technology platforms as part of their strategic finance planning in order to take advantage of new emerging revenue models in combination with existing operations.

Background

Brexit has placed UK researchers and the institutions and industries that support them into what looks to be a prolonged period of uncertainty. As the UK Government negotiates exit from the European Union (EU) it is still very unclear how much this will affect the UK's share of EU funding for research, but there is certainly no cause for optimism. The main problem, which has already begun to manifest, is that most EU-funded research projects of any size require collaboration between researchers from more than one country.¹ *Ipsa facto*, UK researchers will become isolated from their peers, and some European universities have already instructed their researchers not to include colleagues from the UK when making bids. In the past UK science in particular has been a major beneficiary from increased EU funding. It is predicted that if EU funding is withdrawn, it will leave a deficit of in excess of £2.2bn that the UK will need to compensate for, but the overall damage will be much greater than that. Researchers from the UK currently punch above their weight in terms of the number of research papers to which they contribute versus the size of the country and the number of its institutions; it is all but certain that this will cease to be the case. The lack of a detailed statement from the Government on how the research sector is to be protected from adversity, or how it believes international collaboration will work in the future, was further compounded by the snap general election in June 2017, demonstrating that no clear short- or medium-term direction will be issued to the research community soon. It has created a nervous research community that is already losing academics to institutions in other countries. So far only a general statement has been made by the Government to acknowledge that funding will need to be generated



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'In the past UK science ... has been a major beneficiary from increased EU funding'

18 to ensure the UK research sector maintains a competitive edge and attracts/retains top researchers. Those who currently receive EU funding will continue to receive funds subject to contractual obligations but there is no detailed knowledge regarding the level of UK inclusion in EU funding programmes. To add to current muddled waters, in May 2016 the Government announced its reforms to funding in the Higher Education and Research White Paper *Success as a Knowledge Economy*, with the recommendation that a new body, the UKRI (UK Research and Innovation)² be created to consolidate the budgets of the existing research funding councils. It will become operational in 2018. As part of this reform of research funding, the UKRI will be a single body that handles strategic research funding choices and is intended by the Government to ensure the UK retains its place as a world research leader and innovator. The impact of the UKRI reforms on funding, researchers and research leaders is still to be played out alongside Brexit negotiations. Certainly, the June election has already raised fears of a slow passing of the Higher Education Bill through Parliament.

'UKRI will be a single body that handles strategic research funding choices'

Innovative digital solutions

Where traditional means of revenue generation are in a period of flux, new digital technologies can provide innovative solutions. New, typically cloud-based digital technologies have enabled the rise of entrepreneurial funding models. Research institution managers, universities leaders, their finance directors and library managers should embrace the new as an opportunity to expand the portfolio of funding generation options. These new, revenue-generating digital technologies do not solve the funding problem, but they do add to the existing 'funding toolkit' for institutions and should not be disregarded without thorough investigation. Often these platforms are at an early stage of evolution, or offer a high level of adaptability, which means an institution can work in partnership with the platform vendor to create an ideal solution for that institution. Many are also cloud based, such that no expensive, time-consuming implementations or complex staff training is required, no service contracts, and often there are no vendor-obligations with expensive licence or termination fees.

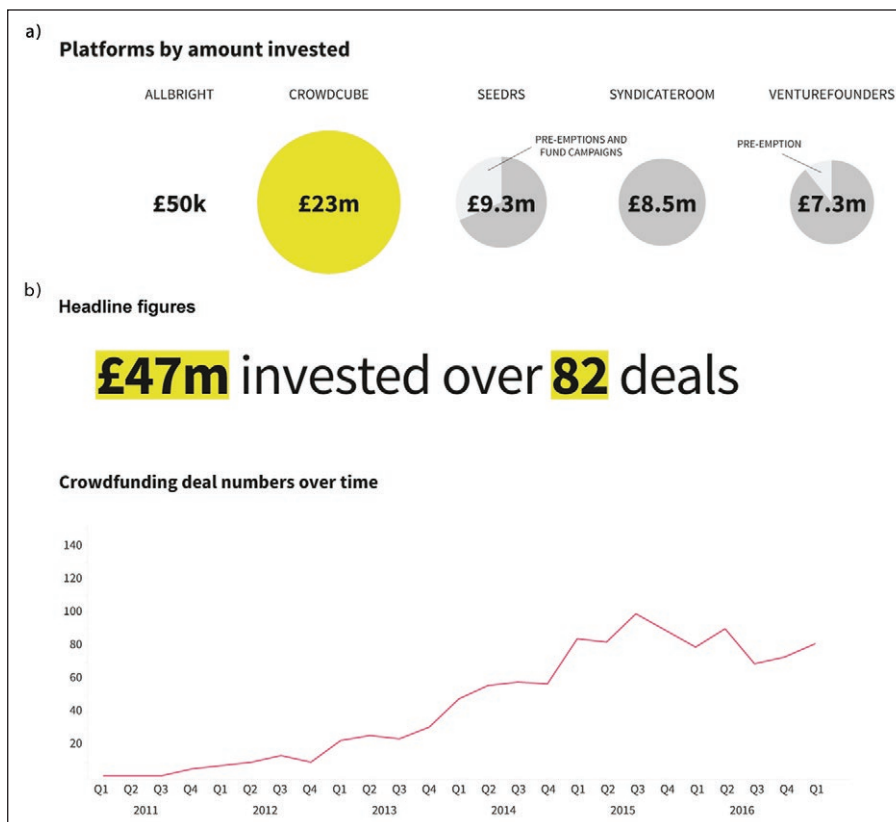
'new, revenue-generating technologies ... add to the existing 'funding toolkit' for institutions'

Crowdfunding

One such well-known entrepreneurial funding model is the crowdfunding phenomenon, which has shown a steady upward trend in the UK according to figures released this month for the first quarter of the year. (See Figures 1a and 1b.)

It was originally born as a revenue generator model in the public sector and, certainly in the UK, it was quick to be explored by innovative publishing start-ups in the trade publishing space. (Interestingly, one of the earliest exponents of the model Unbound was started by authors.) Public crowdfunding platforms like Kickstarter have also encouraged the rise of authors crowdfunding their own individual projects. As this phenomenon grows within the author community, it will be interesting to examine the ratio between crowdfunded publishing and self-financed publishing (or independent publishing). How much of crowdfunding is sourced by donations in comparison with an author's own financial contribution? Is crowdfunding possibly a version of self-financed publishing in disguise? Certainly some of the main crowdfunding platforms recognize the potential cross-over between funding models, often making self-funding difficult if the project fails to raise its target funds by public donation. There is also a great deal of uncertainty with respect to the regulation of this revenue model as currently 'reward-based' (the more you pledge the closer you get to the author, for example) and 'patron-based' (pledged with no expectation of return) pledging is unregulated by financial authorities here in the UK. (Only the investment [loan] model is regulated.)

'Is crowdfunding possibly a version of self-financed publishing in disguise?'



Figures 1a and 1b. Crowdfunding investment in non-listed UK companies between 1 January 2017 and 31 March 2017, with deal numbers over time also shown in Figure 1b³

How useful is the crowdfunding model to academics looking to generate research funding? Is it only useful in generating small funding pots? As traditional sources of funding are in a state of uncertainty, crowdfunding has drawn an increased level of attention from academics as a research revenue generator.⁴ Whilst there currently appears to be no established 'road map tick box' to follow, funding lessons can be learnt from crowdfunding in the public sector. What is clear is that academics must build their 'audience' to interact with and build their academic 'brand'. In reality this means social media presence, so academics need to reach out to the public via multiple social media channels to create the interest to pledge and develop potential funders. The need to reach out, engage and create a broader appeal has been explored on sites like #SciFundchallenge.⁵

'academics must build their 'audience' to ... build their academic "brand"'

This website gives practical advice to academics on how to connect to a wide audience in order to crowdfund their research. This 'education' process for academics is crucial. Via the crowdfund route the academic will certainly spend considerably more time marketing their research and brand than, it can be argued, if published traditionally. Some very valuable lessons can also be seen from charities that have employed this revenue model successfully for years (e.g. Cancer Research UK) to generate research funding and branding. Content dissemination providers to the academic sector like Knowledge Unlatched⁶ are also exponents of the crowdfunding model, combining it with open access (OA) and working directly with libraries and publishers.

This model raises a number of other questions. Does crowdfunding delay or speed publication as the author waits for the correct funding level to be reached? Most crowdfunding sites give a pledge-generator time frame to avoid this issue. However, we also have to acknowledge the argument that a traditionally published piece of research can have its publication delayed by many months or even years, in the worst case such that it becomes irrelevant when it is finally published. Prima facie these new platforms can bring research to market quicker than a traditional publisher. There is also a strong argument to be made that academic authors have for years self-financed their own publishing (or their institutions have financed via surreptitious double-dipping by publishers), the financial beneficiary being the big brand publisher, typically returning very poor royalty rates (as low as 6% or, in the case of articles, none) back to the author.

20 Given the increased concern with quality, fraud, professional misconduct and the need for timeliness in academic publishing, does this imply that a crowdfunded, or by extension a self-funded, self-published book, is in some way inferior, and lacking in integrity compared to a traditionally published book? There is a strong argument within the advocates of this model that a successful crowdfunded project is somehow linked to higher quality, on the presumption that low-quality content will not reach its pledge target. In this debate about quality, it is worth a reminder that the quality of published content from the big brand academic publishers is not above being questioned, and can be published late and out of date. The UK Science and Technology Committee, with the establishment of the concordat to support research integrity, addresses the upward trends in misconduct, mistakes and publication of those mistakes in research results. There is a crisis in the 'reproducibility of research' and currently the Committee is calling for views as to why there is an increase in this trend, describing the extent of the problem, and illustrating what controls should be put in place to address the problem. (Is it the responsibility of the academic community to put these controls in place, or the Government, or both?)⁷

Academic-led publishing

The self-financed publishing model is another innovative means of generating revenue for both academic author and institution. Since the 'academic spring' in 2012 when an angry academic blogger sparked a revolution against the predatory publishing practices of the big brand publishers, criticizing their high charges and charge-backs for access to content for the universities that fostered that content, and low royalty returns, there has been a movement for academic-led publishing, with academics selecting to independently publish and purchase secondary services like peer review, copy-editing, design, illustration, etc. Some of the academics that signed the original petition (The Cost of Knowledge⁸ www.thecostofknowledge.com) against Elsevier have continued to publish with large brand publishers, but their point had been made – the current system is broken and predatory – and the relevant issues have been brought very publically out into the open.

Cloud-based publishing platforms

This disruptive mood sparked the birth of the cloud-based independent publishing platform Glasstree Academic Publishing,⁹ which was originally launched to facilitate academic-led publishing and provide a publishing platform for e-book, OA and print and metadata dissemination based on an equitable profit-share model for the academic (70% royalty vs. industry 6%). Publications can be brought to market quicker and ancillary services such as peer review can be purchased. A crucial requirement for any new independent publishing platform is the ability to demonstrate and maintain integrity, thereby enabling it to refute any potential accusations that might be levelled against it. Glasstree has therefore been careful to partner with industry-recognized dissemination, licensing and conduct partners to offer the same services to the academic as would a traditional publishing house. Cloud-based publishing platforms with dissemination platforms like Glasstree can also be internalized by universities and their libraries to offer publishing platforms where the university keeps control of its content but receives a greater revenue return, which in turn can be reinvested towards the university and research funding reserves.

'A crucial requirement for any new independent publishing platform is the ability to demonstrate and maintain integrity'

The emergence of these cloud-publishing platforms, which may be used without any form of long-term contractual obligation, is timely as we see a shift towards university press start-ups here in the UK. They provide a complete platform for publishing and dissemination and can often be white-labelled (e.g. Glasstree, Ubiquity Press),¹⁰ allowing university staff to concentrate on acquiring content for the press. As these platforms are 'content vehicles', this allows the universities to form their own terms and conditions around platform use (e.g. royalty share with the academic, peer-review status, editorial board). The decisions underpinning the move to start a new university press can be varied, but one primary catalyst

21 has to be increased commercial acumen; the need to create a content revenue generator, returning funds back to the university. The university controls its own content and reaps the financial reward for fostering that content. The equitable share of the financial reward for the academic is also in the hands of the university. Equally, for a university wishing to move higher up in the ranks as a research university, the ability to publish research on a cloud-based, non-lock-in, free or low-cost platform with low staff overheads provides a good revenue-generation and revenue-saving solution. By extension, good research publishing output then fosters more opportunities for funding grants, attracts better academics and students to the institution and raises the 'brand' of the institution. Publishing is a revenue generator and more universities are taking the steps towards realizing this and therefore taking control of their own content.

'The university controls its own content and reaps the financial reward for fostering that content'

Where a university is already operating a small university press, these publishing platforms have good revenue potential. University presses only publish a very small percentage of their own academics, which means that there is a great opportunity for the university library to 'upsell' a publishing and dissemination service to academics and students within their own institution, be it the lecturer just wanting 20 copies of their book for students or the academic who needs peer review and open access. This service can be offered at arm's length to the university's main publishing brand, allowing those academics not published via the university's press access to publication and content dissemination. The university can also enjoy a second stream of revenue from the sale of content. Most of these publishing platforms offer global e-book and print distribution, together with a print application programming interface (API), which means the university can service orders direct from its own e-commerce enabled website.

What are the long-term implications of the new digital technology as a revenue generator for the academic sector?

The emergence of these new digital platforms offers opportunities to individual academics, universities and research institutions alike; they are opportunities to look afresh at how and where funding can be generated and support both academic-led and institutional-led publishing. With squeezed funding, funding body requirements for higher-grade research (quality not quantity) and the risk aversion policies of the main funders, these alternatives allow smaller pots of funding to be generated which would otherwise be rejected by a traditional funder. There is merit in the argument that these platforms can also be used to test early stage research, but they are only part of the toolkit. They do not provide the complete solution but over time will, as we have seen with the crowdfunding phenomenon, gain momentum in the academic space and provide a stable funding stream back to the academic or institution. Whilst the main adoption of these new platforms has initially been academic led as a means to drive revenue to fund research, to publish and also to control content ownership, these platforms do adapt very easily to internalization within academic institutions providing the same revenue generation opportunities with the same benefit of control of academic content and dissemination. In terms of academic integrity, a crowdfunded academic publication on a public crowdfunding platform may be harder to impose quality and integrity checks on by the very nature of the platforms and model. The same would not necessarily be true of a university or academic service organization using a platform to crowdfund a project. Both will have better controls in place to ensure academic integrity. Where a university selects to internalize an independent publishing platform and offer it as a service to their academics, there are encouraging signs that the emerging publishing platforms are very much concerned with quality, transparency and integrity and are keen not to be associated with vanity publishing. They share the same focus on integrity as universities do, and understand the concerns they have over their reputation. Certainly, by internalizing

'an equitable, quality-led revenue-generating platform with low overheads'

22 these new publishing platforms within the university, institutional integrity can be imposed, hence providing an equitable, quality-led revenue-generating platform with low overheads.

Abbreviations and Acronyms

A list of the abbreviations and acronyms used in this and other *Insights* articles can be accessed here – click on the URL below and then select the 'Abbreviations and Acronyms' link at the top of the page it directs you to: <http://www.uksg.org/publications#aa>

Competing interests

The author Jean Roberts is the Business Development Director, Glasstree Academic Publishing, UK.

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