WIPO Committee on Intellectual Property and Development

Building a Digital Publishing Economy Opportunities and Framework for Development

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About the authors

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Richard Charkin is a former president of the International Publishers Association (IPA) and the UK Publishers Association, and for 11 years was executive director of Bloomsbury Publishing plc. He has held many senior posts at major publishing houses, including Macmillan (CEO), Oxford University Press (MD Academic and General Division), Current Science Group (CEO) and Reed Elsevier (CEO of Reed International Books). He is a former president of The Book Society and non-executive director of the Institute of Physics Publishing. He is currently a board member of Bloomsbury China's Beijing joint venture with China Youth Press, a member of the International Advisory Board of the Frankfurt Book Fair and a senior adviser to nkoda.com and NeuroTech Group AI. He is a non-executive director of Liverpool University Press and Cricket Properties Ltd, and has founded his own business, Mensch Publishing. He lectures on publishing at London College of Communication, City University and University College London. Richard has an MA in Natural Sciences from Trinity College, Cambridge, was a Supernumerary Fellow of Green College, Oxford, attended the Advanced Management Program at Harvard Business School and is a visiting professor at the University of the Arts London.

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Abbreviations and acronyms

AI   artificial intelligence
APC   article publishing charge / article processing charge
AR   augmented reality
CMO   collective management organization
DRM   digital rights management
IP   intellectual property
LMS   learning management systems
NFT   non-fungible token
PoD   print-on-demand
RRO   reproduction rights organization
STEM science, technology, engineering and mathematics

Introduction

The past decade has seen an extraordinary increase in the development of digital publishing worldwide, supported by a strong but flexible copyright framework. The gradual evolution from traditional print to digital creation, production and distribution was accelerated by the impact of COVID-19 lockdowns on publishing staff, the supply chain and readers. The publishing industry was forced not only to adopt digital solutions for its operations, but also to adapt its business models to fit a changed and changing world.

This guide focuses on assisting publishers in less developed countries and small publishers everywhere to improve their understanding of the digital transformation and the opportunities it represents.

Developments were primarily driven by the anglophone world, where the opportunities and threats were perceived to be greatest, and, indeed, where the intrinsic profitability was sufficient to allow the necessary investment in infrastructure. However, the non-anglophone world is beginning to catch up, and it is evident that in many regions the opportunities are even greater and the risks lessened by second-mover[1] advantage.

The five principal user markets in which publishers operate (adult consumer, children's, higher education, research and schools) are highlighted. There is no attempt to address the large but very different financial, legal and regulatory markets. Though many issues are similar, the professional publishing houses that dominate these markets (for example, Thomson Reuters, LexisNexis, Dow Jones and Nikkei) are already essentially 100 per cent digital in their processes and delivery mechanisms.

The transformational process has not been without financial, legal and commercial difficulties. Changing business models means developing relationships with new organizations which frequently have entirely different objectives and understanding. For instance, several of the large global Internet companies view copyright protection as an obstacle to progress, while the publishing industry is utterly dependent on it, fundamentally understanding it as the facilitator of sustainable change.

In parallel with adapting to a post-COVID-19 world, the publishing industry is beginning – perhaps too slowly – to come to terms with the absolute priority of working sustainably to reduce or eliminate carbon emissions, use only paper from environmentally sound suppliers and reduce physical distribution of books to the minimum level required; essentially, to reduce waste at every point in the supply chain.

There has been good progress in all these areas, as this guide will illustrate, but none of it would be possible without the security of a global intellectual property (IP) regime that ensures authors' works are protected and rewarded.

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[1] Second-mover advantage is the competitive edge a company has when it enters the market later than other companies. A second-mover benefits from the first-mover by appealing to its existing customer base and using marketing strategies that have proof of success.

Consumer publishing and digital content

The consumer publishing industry relies on finding commercially viable content and the market for it. This worked successfully in the print world for hundreds of years, but in the past 25 years there have been seismic changes in how consumers wish to access this content. The music industry was the first creative industry to navigate digital transformation, providing valuable lessons to others, including publishing. We are now in a world where digital consumption of media is a regular channel to market, although the vast digital transformation experienced in music has not yet been replicated in publishing, where print is still the dominant medium in most sectors.

Digital publishing changes the society in which we operate, allowing more focus on language than territory, and thus allowing more rapid and effective exportation of non-English-language material to world markets.

Licensing consumer publishing content

Copyright licensing underpins a successful publishing industry, earning revenues for publishers to invest in future talent and technology and revenues for authors to earn a living and continue to write. Licensing content is not a new concept, and the publishing industry has for years found different outlets to license print content, including across languages and other media. However, the advance of technology has opened a swathe of new licensing opportunities for publishers to maximize the use of content to generate enhanced readership and additional revenues; the landscape has changed significantly over the past 10 years, with new supply chain players, business models and players in the market, plus a need for copyright laws to keep pace.

Primary licensing

The author, as the ultimate controller of their copyright, needs to have greater understanding of the digital landscape and what they are prepared to allow their content to be used for. Publishers who have the digital rights are faced with managing these rights, which can be complex, with digital rights management systems essential but not necessarily sufficient. Publishers should, wherever possible, acquire digital rights for a book and publish the e-book and audiobook themselves. It is important for publishers to understand how they can best develop and manipulate that digital content once it is available. An explanation of how digital rights can be licensed to publishers is available in this model contract published by the Authors Guild (USA).

Contracts should also take into account technological advances. A recent clause inserted in this model contract considers artificial intelligence (AI) technology, noting, under the heading 'No generative AI training use', that:

"For avoidance of doubt, Author reserves the rights, and [publisher/platform] has no rights to, reproduce and/or otherwise use the Work in any manner for purposes of training artificial intelligence technologies to generate text, including without limitation technologies that are capable of generating works in the same style or genre as the Work, unless

[publisher/platform] obtains Author's specific and express permission to do so. Nor does [publisher/platform] have the right to sublicense others to reproduce and/or otherwise use the Work in any manner for purposes of training artificial intelligence technologies to generate text without Author's specific and express permission."[2]

Secondary licensing

Secondary licensing, where a rights holder allows a third party to collect revenue on their behalf, is usually managed through collective management organizations (CMOs) in the text and image spheres, the so-called reproduction rights organizations (RROs). The RROs are themselves changing the nature of their licensing arrangements with third parties to include digital rights, usually for part sections of an IP (a percentage or a chapter/chapters). Depending on the national legal framework, publishers can opt into this system, or law may mandate it, and the CMO will operate according to the copyright law and licensing environment of the market. By opting into secondary licensing, you are giving permission for your body of work to be included in a wider bundle of copyrighted materials that is licensed to third parties (government institutions, universities, schools and corporations, for instance), allowing them to copy and make use of excerpts, either in print or in digital format. Revenues from secondary licensing are normally split evenly between publisher and author. While CMOs license content for consumer publishing content, the demand is greater for education content (K-12,[3] higher education and professional), with licenses sold to schools, universities, local authorities and corporate institutions.

The International Federation of Reproduction Rights Organisations (IFRRO) is the international body, with 154 members in 85 countries. Members are primarily the RROs in national markets. Secondary licensing can be a highly profitable addition to a publisher's revenues. The Copyright Agency in Australia, for example, is one of the most well-established and successful agencies, while the Emirates Reprographic Rights Agency is a new agency. The more countries set up robust and efficient CMOs, the more effective global protection of rights becomes, with information more readily findable, retrievable and usable.

The CMO for Indonesia is Perkumpulan Reproduksi Cipta Indonesia (PRCI), which is also a useful resource bank for information about copyright, and for Chile, it is Sociedad de Derechos Literarios (SADEL).

Distribution of finished digital content

Distribution of finished digital content is typically aligned with print models. Publishers control the digital distribution of their books according to the rights they have secured (format and territory). They will create the final product (e-book, audiobook or podcast) and distribute to a wide range of retailers, either through direct relationships or a third-party distributor, to reach the reader. Complex digital management systems have been established by existing companies in the print market as well as new players operating in the digital-only space, together making it more realistic for smaller publishers to operate in the digital distribution

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[2] The Authors Guild. 'Model trade book contract.' *go.authors.org*. Web. June 22, 2023
<https://go.authorsguild.org/contract_sections/2>.
[3] Kindergarten to 12th Grade

space as clients. Given that digital formats have a global audience, it is even more important for publishers to ensure that they have the territorial rights to sell their version of a book globally.

When appointing a distributor for digital content, a publisher will choose between doing so on an exclusive or non-exclusive basis. What is more important, however, is to ensure that the content is distributed to retailers on a non-exclusive basis. Depending on the size of the publisher and the ability to manage multiple distributors, different distributors may be appointed for e-books and audiobooks. Publishers enter into distribution agreements with a third party, noting the territories they have rights to sell to. Distributors will then set up relationships with platforms, often referred to as channel partners, who will sell to the end user.

Ingram Content Group is a leading example of a book distribution company that has successfully integrated the distribution of digital products with its print business. It notes:

"Connecting the entire planet with a catalogue of print and digital books that numbers in the millions is a lofty goal. Ingram has print facilities, distribution centers, sales offices, and more dotting the globe so we are never too far away from anyone looking to read, write, publish, and print, or sell more books."[4]

Ingram's Lightning Source's Print-on-Demand (PoD) operation allows publishers to upload their book files and access their services located in multiple countries around the world, cutting down on shipping and warehousing costs, and achieving carbon footprint savings.

Baker & Taylor in the United States of America is the leading supplier of books to public libraries and a significant buyer of books in English, Spanish and other languages, in print, e-book and e-audiobook (a downloadable audiobook). It has a separate division in the United Kingdom operating as a wholesale business. Both Ingram[5] and Baker & Taylor[6] have US and UK publisher service divisions that operate to sell books globally.

Other third-party distributors include:

- Bookwire: German company with branches in London, Barcelona, Paris, New York, Mexico City and São Paulo, offering distribution services of audiobooks, e-books and print-on-demand, as well as production, marketing and analytics services.
- Zebralution: German company with branches in Hamburg, Amsterdam, Los Angeles, Barcelona, Leverkusen, Paris, Bochum, London, Berlin and Mexico, offering worldwide distribution of audio products and production, marketing and analytics.
- eBOUND Canada: provides Canadian publishers with digital distribution services and conversion, digital asset management and free resources, including on marketing, publicity, production and industry standards.

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[4] Ingram Content Group. 'Extraordinary reach regardless of format.' *ingramcontent.com*. Web. June 22, 2023 . <https://www.ingramcontent.com/publishers/distribution>.
[5] Ingram Content Group. 'Discover your full-service distribution partner.' *ingramcontent.com*. Web. June 22, 2023 . <https://www.ingramcontent.com/publishers/full-service-distribution>.
[6] Baker & Taylor. 'Publisher services.' *btpubservices.com*. Web. June 22, 2023. <https://www.btpubservices.com/>.

- Ink it: based in Mexico City, works with Spanish-language publishers to produce e-books and audiobooks. Provides distribution services to 85 countries, as well as PoD services.
- De Marque: based in Quebec, Barcelona and Paris. Founded in 1990 specializing in educational software, but in 2008 shifted focus to work with English- and French-language publishers for the distribution of e-books and audiobooks to an international network of libraries and retailers, as well as e-book conversion services. Has online bookstore and mobile reading app, and works with schools in Quebec, loaning e-books through its company Biblius.
- Libranda: a De Marque group company offering Spanish- and Portuguese-language digital distribution to retailers and libraries around the world.
- Libreka: major German e-book distributor offering distribution services to German and international publishers, serving more than 1,000 retail customers and 75,000 libraries. Also offers e-book conversion and marketing services.
- Ebooks Patagonia: Chile-based e-book distributor for Latin American publishers, offering self-publishing and traditional publishing for authors.
- Kitaboo: cloud-based online digital publishing and e-book conversion platform that enables publishers to create, publish and distribute digital rights management (DRM)-protected e-books. Enables secure cloud e-book distribution on all devices and operating systems. Used by 15 million people from 30 countries to access digital content in more than 25 languages.
- Vearsa: distribution platform for e-books providing publishers with access to a dashboard to manage the sale and distribution of their e-books globally (more than 1,000 retailers and 65,000 libraries in 100-plus countries) and to analytics and sales reports.

Optimizing sales of e-books will often require 'look inside' features, as well as being fully accessible, with high-quality metadata to accompany digital marketing and advertising campaigns. It is likely that AI discovery techniques will play a major role in optimizing sales.

PoD

The advent of PoD means that no book is ever out of print, and that it is now possible to print books once the sale has occurred, closer to the location of the sale, rather than ordering a speculative print run and storing books in a warehouse to be distributed globally after a sale is made. This technology is ever-evolving in terms of quality and price, making it an increasingly attractive business model. More print providers around the world are offering PoD options and services.

Accessibility

Fully accessible e-books are essential and feasible. EPUB is the global standard for e-books and the latest versions of conversion to EPUBs ensures that they are fully accessible to visually impaired readers. The Accessible Books Consortium provides a wealth of information about EPUB 3.0, as well as updates on legislation on digital content and accessibility.

Digital trends in consumer publishing

Digital-only publishers were once thought to be the future of publishing at the expense of traditional publishers. The prediction was short-lived, with demand for books in print not abating and traditional publishers embracing e-book technology.

E-books and audiobooks are now fully established in the publishing ecosystem. Many publishers will now publish a book in print, e-book and audiobook simultaneously to be sure of providing readers with the medium of their choice. The benefits of e-books are clear: the production of a single file and the ability to sell access to that file throughout the world, reaching readers you would not otherwise reach with the print book geographically, and reaching those with physical and neuro-disabilities who either prefer or can only access the e-book. Challenges exist with distribution, pricing, piracy and digital asset management of books, but these are becoming superable, with the benefits outweighing the challenges.

Business models for e-books and audiobooks

Publishers should familiarize themselves with the relevant terminology and business models offered by online platforms selling e-books and audiobooks, to learn whether they have the rights from their authors to enter into such agreements, and also to establish the appropriate revenue model, including:

1. Download: the traditional model for selling e-books. Pay a single price and own[7] the books.
2. Subscription and streaming: subscription models are emerging in many markets and increasingly replacing downloads in the Nordic and Hispanic markets.[8] Particularly noticeable in the audiobook market. Models are either unlimited (mainly e-books) or offer tokens or credits towards a number of titles per month (mainly audiobooks). Payments to publishers vary greatly between models and platforms, from a share of the subscription/streaming fee to a pay-per-read model, where token-based systems are in place.

Sales of e-books

The sales of e-books are increasing globally, accelerated by the COVID-19 pandemic, although some Western markets seem to have plateaued. Online platforms for the sale of e-books now run into the thousands, across multiple languages and territories.

Amazon Kindle dominates the e-book market, with its e-book stores (amazon.co.uk and amazon.com), devices and tablet/mobile reading app. Offering e-books in multiple languages – as well as mainstream languages, they also sell books in languages such as Provençal and Luxembourgish – these are often the go-to stores. Kindle offers the two business models of

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[7] Own is a term used loosely in this context. There is some debate as to whether an e-book is owned or licensed by a reader.
[8] Content and Consulting. 'The recent digital growth is here to stay.' *wischenbart.com*. June 20, 2022. Web. June 22, 2023 <https://www.wischenbart.com/en/book-markets-en/the-recent-digital-growth/>.

download and subscription through its Kindle Unlimited program. Its audiobook company Audible is separate and will be covered in this guide's audiobook section.

Apple and Google have their own e-book and audio bookstores but are not as popular as Amazon.

Kobo, owned by the Japanese firm Rakuten, offers both the download model and two subscription models, Kobo Plus Reads for e-books and Kobo Plus Listen for audiobooks (plus an additional combined subscription). Within the subscriptions is the credit/token-based option for premium titles, or the all-you-consume model for other e-books and audiobooks. Kobo works with some retail chains and is, for instance, the e-book and audiobook provider for Chapters Indigo Books (Canada), Walmart (United States) and Booktopia (Australia).

Barnes and Noble (United States) is an example of a successful bricks-and-mortar book retailer that has successfully moved into the e-book market, both with its own e-book store (web- and app-based) and the hardware to go with it. Under the brand NOOK, the store sells e-books in English and Spanish.

Nextory offers e-books, audiobooks, comics, magazines and newspapers, serving customers in English, French, German, Danish, Dutch and Norwegian, on a subscription-based model.

Bookmate, headquartered in Dublin, Ireland, is a subscription-based e-book service (mobile app) in English, Spanish, Turkish, Indonesian, Swedish, Russian and many more languages.

Dreame is a new reading app that caters to female readers under the age of 40 in the English-speaking South Asian market. It features a lucrative episodic model that is performing well for genres such as Romance, Sci-Fi and Fantasy. Readers pay to unlock each episode individually and are charged per 100 words.

24 Symbols is a subscription-based platform offering e-books in Spanish, English, German, Italian, Portuguese and French.

Many countries have e-book stores serving the customers in their own markets, either as a pay-per-read model or with subscription offerings. Many sites will also offer free or very low-priced e-books. Some examples of these include:

- Neelwafurat: Lebanon-based, leading e-book platform for Arabic books, also serves print and audio.
- Abjad: based in Jordan, runs as an app and offers thousands of e-books in Arabic under a subscription model.
- Rufoof: offers e-books in Arabic and English via an app. Based in United Arab Emirates.
- African Books Collective: sells e-books from African publishers.
- Thalia: popular German language e-book platform, also sells English e-books.
- Skoobe: German e-reading app, provides e-books and audiobooks.
- Nemira: sells Romanian e-books.
- Gramedia Digital: leading retailer of e-books in Indonesia.

- [E-Sentral](#): Malaysian company also operating in [Indonesia](#) and Singapore, offers e-books, an education platform for digital textbooks, an e-library and publisher services.
- [Mizanstore](#): Indonesian site offering e-books but only through Google Play.

A large number of domestic e-book and audiobook online stores are gradually coming on stream, not least thanks to [Beat Technology](#), which offers commercial services to publishers and others to create retail solutions.

Special mention should also go to [Scribd](#), an online digital reading platform providing subscription-based access to millions of e-books, audiobooks, magazines and podcasts by self-published authors and publisher content in English and Spanish.

Audiobooks

The growth of audiobooks over the past five years has been one of the most notable trends in digital publishing. The global market size is expected to reach 19.7 billion US dollars by 2028, a market growth of 26 per cent compound annual growth rate (CAGR) during the forecast period.[9] Approximately 95 per cent of the audiobook market has shifted from physical CDs to digital, largely due to smartphones making it easier to download and listen to audiobooks. As with e-books, the COVID-19 pandemic accelerated the take-up of audiobooks, especially in the children's publishing space.

In the same way as e-books, business models for audiobooks follow the single download and subscription/streaming route, with streaming becoming increasingly popular in certain markets. The entrance of new players has expanded easy access to audiobooks, though some markets still lag when it comes to audiobook production, given the costs involved in producing high-quality audio. Securing audio rights as part of a bundle of rights is more common than ever, even if the publisher then sells those rights to specialist audio publishers. An example of the value of audiobook rights is Douglas Murray's *The Madness of Crowds* (published in 2019), which generated more than 100,000 audio sales.[10] There is little doubt that the audiobook market will continue to grow as consumers become familiar with streamed spoken words.

Consumers can enjoy audiobooks either through produced audio with narration or text-to-speech technology, the latter being a game changer for visually impaired people when introduced on e-book readers such as Kindle. [Text-to-speech](#) is a form of audio rights that must be authorized by the publisher, allowing the technology to convert the text into a synthesized speech that can be manipulated by the reader (speed). As publishers have begun producing more audiobooks, however, text-to-speech functionality is often switched off with the aim of encouraging purchase of the audiobook instead. Advancements in AI technology

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[9] ReportLinker. 'Market report', Summary. *reportlinker.com*. Web. 22 June 2023. <https://www.reportlinker.com/p06364333/Global-Audiobooks-Market-Size-Share-Industry-Trends-Analysis-Report-By-Preferred-Device-By-Target-Audience-By-Distribution-Channel-By-Genre-By-Regional-Outlook-and-Forecast.html?utm_source=GNW>.
[10] Publisher Stats – not in public domain

are a major topic of discussion among audiobook publishers, given the high quality of narration that can be generated.

Sweden is a noteworthy example, with digital sales of books now at 28 per cent. Of that 28 per cent, 88 per cent came from audio, with 99 per cent of these sales on a subscription basis.[11]

Major players in the audiobook market

As well as the major players selling both e-books and audiobooks to consumers, there is a range of retailers of solely audiobooks. Most sell them in multiple languages.

Audible is an Amazon company, which again led the way in audiobook sales (as well as in e-books), the first in the English language. Audible operates on a token-based subscription system that allows the reader access to one premium audiobook per month for a fee, plus access to their Audible Plus Catalogue of originals, audiobooks and podcasts. Audible operates in multiple languages, including French, Spanish, Italian, German, Danish, Swedish, Russian and Dutch.

Audiobooks.com provides download purchase models and a subscription model that includes one credit per month, as well as access to a podcast section. Purchased in 2021 by Storytel, the service offers subscription-based audiobook listening in 26 countries, including Indonesia and the United Arab Emirates, mainly on the model of 'listen unlimited' (some country stores offer listening time bundles, such as 15 hours a month for 9.99 euros in France).[12] Other than India, the service has not succeeded in countries where English is a primary language, with many of the larger English-language publishers preferring not to sign up to business models allowing 'all you can access' (see appendix 1 for a glossary on audiobook terms).

Spotify is one of the latest entrants to the audiobook market, selling access to audiobooks under the single purchase model. Audiobooks are not available within the Spotify subscription, and only in Australia, Canada, Ireland, New Zealand, the United States of America and the United Kingdom. Chirp, meanwhile, does not offer any subscription models but download only, including special one-off time-limited pricing deals.

Local audiobook retailers

The above audio retailers operate globally and often in multiple languages but there are an increasing number of local language audiobook retailers. While the sites themselves are aggregating local and national content, they will have global reach.

Akoobooks, based out of Ghana, is the premier publisher of, and a digital streaming platform for, Black/African audiobooks and spoken word, providing African publishers and writers with a platform to transform their books into digital audio consumable products. Akoobooks offers

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[11] Svenska Forlaggareforeningen. 'Förlagsstatistik' (Publishing Statistics). *forlaggare.se*. Web. June 22, 2023. <https://forlaggare.se/forlagsstatistik/>.
[12] As of 2023

a streaming model and also a wide range of audio services, including: audio recording, production and post-production; distribution of African spoken word; original African audio content creation; licensing of Black/African audiobooks; selling and digital distribution of African audiobooks; and casting, narration, writing and translation.

Other retailers include:

- JukeBooks: Greek platform offering unlimited subscription model of titles from leading Greek publishers.
- Arabcast: collection of approximately 5,000 audiobooks in Arabic.
- Iqraaly: popular Arabic audiobook platform offering subscription service.

Self-publishing of audiobooks is a new development that allows authors to select narrators and control rights, pricing and distribution of their audiobook. Findaway Voices offers a variety of services for self-published authors in the audio market, including distribution to audiobook platforms worldwide.

Other subscription services have emerged offering book summaries, mainly of business style and other non-fiction genre books. This form of licensing is generally as a derivative right. Working as publishers themselves, services employ staff to summarize texts and publish them as e-books and audiobooks under a subscription model.

Blinkist and getAbstract are two companies offering this service. As with all rights deals and subscriptions models, publishers must ensure that they hold the appropriate rights and fully understand the business model and remuneration models on offer. These services may soon come under threat with the emergence of AI tools such as Open AI, which has its own service for summarizing books with human feedback, and ChatGPT.

Audiobook publishers

While few stand-alone e-book publishers now exist, there is a rise in focused audiobook publishers, including some attached to distribution platforms. Many of the major publishers will have audiobook divisions and create their own audiobooks, while others may acquire audiobook rights but then sublicense them to a third party. Storytel, Bookmate, Bolinda and Audible are all audiobook publishers creating their own original content or licensing content from authors, agents and publishers. RBmedia is the largest audiobook publisher in the world, publishing under a variety of brands and in different languages. The emergence of sophisticated AI text-to-voice technology will accelerate the market (see appendix 1 for a glossary of terms related to the audiobook industry).

Podcasting

Podcasting is the latest form of audio storytelling to take off across the world and in many countries, podcasts are more popular than audiobooks due to the shorter length and the business model behind them. Listeners can find podcasts on multiple platforms and in multiple languages and mostly free of charge.

What has this meant for publishers? Most publishers are still finding their feet when it comes to podcasting, with this opportunity being developed by creators themselves, who may be able to disseminate their content without the help of a publisher. While quality control is needed to gain and keep listeners, the equipment and skills required to produce a high-quality podcast remain accessible. Podcasting may seem low-cost at the offset, but there are many hidden costs required to disseminate and market podcasts to gain listeners, and because they are mainly free to access, the business model is usually creator funded or advertising supported.

Spotify, Google and Apple are all popular podcast providers, but to reach these platforms, a hosting platform would first be required, then automated RSS feeds[13] would ensure dissemination to podcast platforms. Examples of such hosting platforms include the following:

- [Buzzsprout](#)
- [Podbean](#)
- [Captivate](#)

Larger publishers are funding and using podcasts primarily as marketing tools, building audiences and fan bases for their authors, with the obvious objective of selling more books. This is yet to really take off, given the myriad podcasts already developed by others that talk about books. Examples include:

- Penguin Random House: hosts [16 podcasts](#) promoting its authors, hoping to sell more books.
- [Faber Poetry Podcast](#): brings together voices from the world of poetry.

Self-publishing

The advent of digital publishing – e-commerce and e-book platforms, as well as PoD – has provided the tools for an explosion in self-publishing that now makes up a good proportion of e-book downloads (not necessarily revenues, given that self-published e-books are usually sold for a very low price). Anyone can be an author without having to invest personal money into book production and printing. Kindle has once again led the way in self-publishing with its platform [Kindle Direct Publishing](#) (KDP). It is available in multiple languages and allows authors to upload their e-book to the Amazon e-book and print catalogues (with print being fulfilled by PoD), giving authors control over the copyright and pricing, and a high percentage royalty rate. A small minority of authors have been huge successes through self-publishing in the digital space, with some securing deals with major publishing houses. In self-publishing, the author pays an upfront fee to publish their book, with revenues coming directly to the author, less platform commissions. Major digital retailers offering self-publishing include Apple, Kobo, Google and Amazon.

The COVID-19 pandemic stimulated the growth of self-publishing as many people took to writing during lockdowns. In addition, the quality of service offered by self-publishing

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[13] An RSS (Really Simple Syndication) feed is an online file that contains details about every piece of content a site has published. Each time a site publishes a new piece of content, details about that content—including the full-text of the content or a summary, publication date, author, link, etc., are added.

businesses has improved markedly, as has the ability of individual authors to reach a potential audience through social media. It is likely that AI solutions will further accelerate the growth in the number of self-published titles.

As with most new developments, there are pros and cons. By and large, authors will benefit from having their work edited, promoted and sold through a traditional publisher and retaining the IP to their work. However, the volume of material seeking publication is so vast that publishers simply cannot handle it without abandoning all attempts at gatekeeping and curation. Authors can take back a degree of control but, in the process, they lose publishing expertise and support for the protection of their copyright, whether from piracy or simply inadvertent copying.

Other significant self-publishing platforms include:

- Barnes & Noble Press
- IngramSpark
- Streetlib
- Lulu
- Kotobna

A special mention should be given to Wattpad, an online storytelling platform allowing authors to upload their stories and build a fan base, sometimes leading to book publishing, or film and TV deals.

Children's publishing

Despite its huge size and importance, children's publishing has been slower to adapt to the digital age than its adult counterparts. With the Kindle driving the sale of fiction and non-fiction adult e-books, the device was not seen as the ideal vehicle for children's books and the genre did not emerge in the digital space without experimentation.

For example, Nosy Crow in the United Kingdom, early adopters of digital for children's books, was established in 2011 as a digital-only publisher, building apps and publishing interactive e-books. The business was short-lived, but many lessons were learned, including about consumer attitudes towards pricing and payment, which remain true today:

"The initial plan said that we would publish digital books in the form of apps. When we made this commitment, the iPad had yet to be launched (it was launched May 2011), but we felt that it was inevitable that children would be spending more time with screens, and we wanted some of that time to be reading time. We are proud to have published the brilliant collection of prize-winning, cutting edge, interactive apps that we have made. But each app took our in-house app team around nine months to produce, and as the years went by, it became clear that consumers weren't willing to pay enough – or in many cases, at all – for digital products for young children. And so we closed the business. But the experience left a legacy: the experience of creating audio for the apps made us consider other audio products, and Stories Aloud was born: every Nosy Crow paperback picture book and some of our board books come with a QR code that links to a free professionally recorded reading of the book, complete with

music and sound effects. It's been used millions of times and it's proved a brilliant form of digital marketing."[14]

Screen time

Digital publishing has developed over the past decade, and while e-books have not been the primary medium for selling children's books, the ideology around screen time and parental and educator attitudes to children's exposure to screens has evolved, as have other mediums of storytelling for children. This is particularly true for younger children. However, many benefits have emerged from having books on screen for children, including accessibility and the ability to better recall stories when they have animation, sound and in-built activities.

Accessibility

Digital reading can provide access to content for children who may struggle to read or do not have access to printed books. The digital reading experience has come a long way in the past decade, with screens helping to enlarge and highlight text and characters, and narration embedded, all facilitating the reading, learning and comprehension process. It is important that product managers and designers commit to continuous learning about how children develop and interact, to ensure that enhancements have purpose and are not overwhelming.

More stories in one place

Digital devices have the capacity to store many stories, providing a continuous supply to the child. For voracious readers and learners, this is difficult to replicate with physical books. Platform developers have recognized this, especially for children with poor access to libraries and bookstores but who can read many books in one sitting. Such platforms usually offer subscription models and have in-built gaming, quizzes, animation and audio to help support young readers.

Pickatale is one such app. Founded in Norway, it provides a wide library of digital books, with narration and read-along experiences, book quizzes and in-built assessment data for teachers. Subscription models are available for schools and parents. Publishers can engage with Pickatale by licensing their e-content to the platform in return for advance and royalty fees. EPIC is a similar US-based online reading platform, with subscription models for parents but free for schools, and providing access to a wide range of digital children's books.

Such platforms are always looking to license new content from publishers, with some open to content in multiple languages. Important IP considerations when licensing content, in full or in part, to digital platforms include the following:

1. Are you offering the content on an exclusive or non-exclusive basis?
2. Are you offering the content in the original language or offering the licensor the ability to translate the content (if you have the rights yourself)?

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[14] Nosy Crow. 'Nosy Crow's tenth anniversary.' *nosycrow.com.* Jan. 18, 2021. <https://nosycrow.com/blog/nosy-crows-tenth-anniversary/> Web. June 22, 2023

3. Are you offering images, illustrations, photographs and cover art as well as text (if you have the rights to license these elements yourself)?
4. What is the period of the license? It is advisable to limit it to one year, with the option to then review and renew.
5. Consider requesting an upfront payment and/or a minimal annual guarantee (MAG) on royalties.
6. If royalties are included as payment, how often are royalties paid and what data will accompany your royalty statement?
7. Consider restricting the license to the primary use of the platform, not additional third-party licensing by the platform.

Other free platforms have been beneficial in times of need, including the recent invasion of Ukraine, which left many families and children displaced with no access to books in their own language. Platforms include:

- Storyweaver: powered by Prakash Books in India, has small collection of Ukrainian digital children's books.
- Worldreader: offers open-access books in 43 languages with the aim of bringing reading to children who most need it. Offers digital books for children to read but also for others to use on their own platforms, including for translation purposes.

Licensing children's publishing content

Children's publishers have long enjoyed additional revenues from licensing their IP for the purposes of film, TV, animations and stage, and merchandise. New forms of licensing have opened up with advances in digital technology. As with adult consumer content, it is essential for publishers to have content digital-ready so that it can be licensed and used, as well as having a good understanding of business models, rights arrangements with authors and contractual arrangements with licensors. Having metadata feeds helps with discoverability and supplying licensors with what they require, and having a system for tracking deals and royalty payments ensures that you are receiving what you are owed and can pay the author fairly. Children's books can be licensed as a whole, or in chunks or snippets, depending on the end use and the needs of the licensor.

Distribution of digital children's content

Distributing content, once published, is the same as outlined above, with e-books and audiobooks sold directly to the many platforms around the world.

Children's audio

While children's e-books may have been slow to take off, they are growing in popularity, aided by the emergence of online reading platforms. A recent phenomenon has been the re-emergence of children's physical audio. Devices that accept individual stories on physical objects, such as characters or cards that children can listen to without the need for a screen, are emerging as a popular outlet for stories. Examples of audio players for children include:

- [Tonies](#)
- [Voxblock](#)
- [Yoto Player](#)
- [Storypod](#)
- [Lunii](#)
- [Birde](#)

Hardware

Other hardware is coming onto the market and requires licensed content from publishers to be successful. It includes:

- [Miko](#): an AI robot offering subscription-based learning for children. It works with leading children's brands/publishers to make high-quality content available to access through the hardware.
- [Luka Reads](#): a range of hardware, from robots to talking pens. It works with publishers to get content into its cloud-based system that can be recognized by the hardware to read aloud to children.
- [Talking Pen](#): this enables children listen to books by scanning a pen over the text.

In the digital age, the opportunities for licensing content to third parties are endless, and will undoubtedly continue to expand.

Key IP concerns for consumer publishing

Publishers operating in the consumer market will generally acquire content directly from the author, from another publisher or, in some markets, from a literary agent. Contracts will cover formats, territories, languages and distribution rights (including e-lending), and will be time-limited or print-run-limited. Contracts may include an upfront payment (advance against future royalties), as well as a royalty providing income to the author for every book sold, based on revenues. When dealing with authors, or their agents, aim to:

- ensure that you request IP rights for titles in all formats, and either exploit these format rights, sublicense them to a third party or, after a defined period, revert the rights to the author if you are not exploiting them;
- ensure that you have the territorial rights for the markets in which you wish to sell the book (market and language);
- check any limitations around distribution;
- have an auditable royalty payment system in place;
- avoid exceeding print run or time limitations without seeking a contract extension; and
- ensure that you have licensed the right to use illustrations, photographs, quotations and cover art if intending to use them.

Public libraries

Public libraries have been lending out e-books and audiobooks for more than a decade. E-book lending can be a contentious subject in many markets, particularly in the United States of America where public libraries are well-funded and used. Various business models exist for publishers to sell/license their e-books and audiobooks to public libraries for lending. These models coexist and are continuously evolving.

One copy/one user is the main business model. This means selling one copy of an e-book or audiobook to a library; this copy can only be loaned out to one library user at a time and cannot be loaned to another person until that reader has returned it on their device. The two main business models for this are:

1. annual license after which a new copy must be purchased; and
2. 26-loan model reflecting the lifecycle of a printed book.

There are instances where publishers will sell an e-book to a library for lifetime use, usually on the one copy/one user model.

There is increasing pressure on publishers to provide simultaneous access, so that multiple library patrons might be able to access the same e-book file at any one time. Business models exist for this, with caps on the number of users before a new book would need to be purchased, or time-limits.

Pay-per-use is another business model that libraries are keen to introduce. This allows them to provide a wider range of e-books and audiobooks to their patrons, paying each time a reader borrows the book rather than an outright purchase.

Public libraries are served by wholesalers or aggregators of e-book and audiobook content. They are provided with content either directly by the publisher or via their third-party distribution partner. The publisher will usually set the price paid by the library of the e-book/audiobook, and the aggregator will take a commission from that sale, as will any third-party distributor.

Opportunities exist in the public library space for e-books and audiobooks in multiple languages, especially in the US market.

Major library aggregators

Aggregators are among the most important content providers for libraries. They include the following:

- OverDrive: owned by leading global investment company KKR, this US firm is one of the global leading suppliers of e-books, audiobooks and digital magazines to libraries (and school libraries). Libraries sign up to a contractual agreement with OverDrive, which then supplies e-books and audiobooks purchased by the library for their users through the app Libby.
- Bolinda: this Australian-based firm supplies the general public and public libraries globally. Similar to OverDrive, it provides access to audiobooks through its app BorrowBox.

- [Bibliotheca](): a global library supplier with a long history of working with libraries, it naturally moved into the e-book and audiobook space with its cloudLibrary.
- [Hoopla](): provides a wide selection of digital content, including e-books, audiobooks, video and music to public libraries, in the North American market.

Academic publishing

The term academic publishing covers several fundamentally different processes, with organizations frequently dominant in one or another of these. For the purposes of this report, we address higher education (textbooks for college students), research publishing (for the most part, STEM research papers published in scholarly journals) and monograph publishing (principally humanities and social science long-form books for scholars and students but dealing more with information and research than typical educational materials).

Higher education

The fortunes of higher education publishers have fluctuated wildly since the turn of the century. The traditional model – high-priced, high-production value, typically US introductory books, prescribed by lecturers for students to purchase at college bookstores, with a new intake of students every year – was blown away. With a highly efficient second-hand book market (Amazon and others) undermining new sales, free material available on the Internet and through aggregators, and student unwillingness to pay the high prices necessitated by publishers to cover the cost of design, supplementary materials[15] set against falling print runs created a perfect storm. The value of publicly held corporations such as Pearson crashed, while privately held businesses embarked on a frenzy of mergers and acquisitions, searching for a new sustainable model.

Matters have stabilized somewhat, and slicker, more cost-effective, student-facing businesses have emerged. With consolidation in the market and tough sales conditions, the remaining traditional college publishers have found ways to survive such that the top companies – McGraw-Hill, Pearson, Cengage, Macmillan Learning, Wiley and a scattering of university presses – are now predominantly digital textbook suppliers, partnering with colleges and universities to tailor their publications to a new tech-savvy cohort of students and teachers. These fundamental changes, however, have presented opportunities (and challenges) for research infrastructure in less developed countries.

There has been significant growth in the scope and number of textbook aggregators such as Kortext and VitalSource, where a subscriber (student) accesses the full menu of textbook content, or subsets thereof. It should be possible to curate national higher education resources in local languages with local priorities, to supplement the global resources of the large publishers and aggregators. This will allow predominantly local textbook publishers to have a global presence and lead to profitable licensing deals using the power of global entity sales and distribution muscle to serve the markets.

Textbook aggregators are offering students a range of business models, which can include purchasing textbooks, using textbooks for the duration of the course – sometimes procured by the university with students given access as part of their tuition fees (subscription models) – textbook loans, and sales and loans of individual chapters.

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[15] Supplementary materials means materials used to reinforce, enrich, or extend the basic program of instruction.

A good model is Chegg, which offers students the ability to buy, rent, read, return and sell digital textbooks, as well as a range of other services, including plagiarism and grammar checks, proofreading, course-specific documents and career advice. Chegg actively searches for new content to license for its platform and currently operates in German, Spanish, French and Hindi. Students can also purchase their e-textbooks through the usual online channels, such as the Amazon Kindle store.

The Chegg example shows the growing pressure on both textbook publishers and aggregators to offer a wide range of access models, and more than the core textbook itself, to student and educator. Digital technology has made it easier and more affordable to provide tools and content that have facilitated and changed the teaching and learning landscape. These include the following:

- For students, study and revision guides, exam preparation, test papers, homework help, guided videos, and, not least, career advice, on top of more general well-being recommendations, as seen here from Routledge. The textbooks themselves are also interactive, offering the ability to make annotations, edit notes, add bookmarks, listen with read-aloud technology, and with practice and self-assessment quizzes embedded.
- For educators, lesson plans, PowerPoint presentations including video, and sophisticated assessment tools, plus evaluation models to allow success criteria to be measured against peer institutions.

The global higher education publisher Pearson provides a wide range of resources for students and educators, including e-books and print textbooks, as follows:

- For students
- Mylab and Mastering: a collection of online homework, tutorial and assessment products.
- Revel: a blend of textbook material, author content, multimedia and assessment.
- For educators
- Learning Catalytics: a system for student engagement, assessment and classroom response.
- Custom Publishing: this allows educators to design course materials, choosing from Pearson content and adding educator-produced content.

Textbooks do still exist in the print world, but the future of teaching and learning is being driven by digital technologies. Content providers have to either keep up with technology or drive technology. Pressure on publishers to widen access and reduce the cost of digital content is constant, as evidenced in a joint statement by library groups in the United Kingdom.

Augmented reality and AI in higher education publishing

Opportunities for educational publishing companies to use augmented reality (AR) and AI to create personalized learning and assessment, and equality in education, can be expensive and prohibitive for smaller companies and less developed nations. But aggregators, be they

global publishers or niche e-tailers, always want more content, provided it is unique and protected by international copyright.

A. AR

AR has been trialed and tested in consumer books (mainly children's) and education textbooks. Norwegian ed-tech start-up [Ludenso](#) is working with textbook publishers worldwide to enhance their print textbooks by bringing to life complex images, particularly medical images, embedding video and digital text into the print page that can be accessed through smartphone page recognition. This technology is providing seamless print and digital access, and assisting learners, especially those with neurodiverse needs, to remain engaged and motivated and learn in easier ways. This has been particularly successful in the nursing, medical and health education sectors.

B. AI

AI technology is starting to be used to provide personalized learning and assessment for each individual student (also known as adaptive learning). As with any new technology, AI introduces challenges – copyright or validation, for instance – and opportunities. Its reach is illustrated by this composition, drafted by [ChatGPT](#) (a generative AI tool) as an example of the power of AI,[16] in response to a request for an essay on digital publishing in less developed countries:

"Digital publishing has revolutionized the publishing industry in both developed and developing countries. Developing countries, however, have been slower to adopt digital publishing due to a lack of infrastructure and resources. In this essay, we will discuss the impact of digital publishing on developing countries and how it can be leveraged to promote literacy and education.

"Firstly, digital publishing has the potential to significantly reduce the cost of producing and distributing books. This could benefit developing countries, where the cost of printing and distributing books can be prohibitively high. Additionally, digital publishing enables authors to reach a wider audience, beyond the borders of their country, and even beyond the limitations of the physical book. This means that developing country authors have the opportunity to share their work with a global audience, which can lead to greater recognition and financial reward.

"Secondly, digital publishing can be an effective tool to promote literacy and education in developing countries. According to UNESCO, there are 773 million adults worldwide who lack basic literacy skills, with two-thirds of them residing in developing countries. Digital publishing can provide a low-cost alternative to traditional textbooks and educational materials. It can also enable teachers to customize and update their curriculum easily, creating a more engaging and interactive learning experience for students.

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[16] The author asked ChatGPT to provide an essay on digital publishing in less developed countries. The text is the outcome of the request.

"Moreover, digital publishing can facilitate the preservation and promotion of local cultures in developing countries. By providing a platform for local authors to publish and share their works, digital publishing can help preserve the traditions and cultural heritage of a region. This can be an important tool for cultural preservation and can also help promote tourism and economic development.

"Despite the potential benefits of digital publishing, developing countries face several challenges in adopting this technology. The lack of infrastructure, such as reliable electricity and internet access, can be a significant barrier. Additionally, there may be a lack of awareness and training on how to use digital publishing tools.

"In conclusion, digital publishing has the potential to transform the publishing industry in developing countries. It can reduce costs, promote literacy and education, and preserve cultural heritage. To fully realize these benefits, however, developing countries must address the challenges of infrastructure and education. Governments, non-governmental organizations, and the private sector can play an important role in promoting and supporting digital publishing in developing countries."

The learning solution introduced by American publishing company McGraw Hill uses AI to provide a student- and educator-adaptive learning experience through its product ALEKS. It is imperative for publishers, educators and governments to follow AI development extremely closely.

New forms of content licensing

Over the past five years, textbook publishers, especially Pearson, Wiley[17] and Elsevier, have developed secondary uses for their content in the corporate training world, developing online course solutions.

Research publishing

Academic publishing has transformed itself almost more than any other area of publishing. The motivation for change has been the development of the World Wide Web, which began in the university and research sector before revolutionizing the commerce and communications world. Initially, in the 1990s, publishers were able to tweak their business models to suit the new technological environment. In essence, the university librarian paid for everyone on campus to have access, free at the point of use, to whatever journals had been acquired. But a few principled and vocal authors of scientific papers began to challenge this business model. The challenges of the open access (OA) advocates – or ideologues – conflated several issues, including:

1. The rate of increase in the results of research and development has continued apace. Fundamentally, this is beneficial, meaning more research, understanding and technological progress, better drugs and engineering, and solutions for intractable problems such as climate change. The inevitable consequence has been an equally

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[17] Wiley. 'Bringing our solutions to life.' *corporatesolutions.wiley.com*. Web. June 22, 2023. <https://corporatesolutions.wiley.com/case-studies/>.

dramatic rise in the number of papers published, which has increased the subscription prices of journals while funding for university libraries has come under pressure.

2. The conglomeration of academic publishing has resulted in several mega-publishers whose profitability and pricing structures were perceived to be aggressive (sometimes described as monopolistic) and, in some ways, anti-scientist. The publicly quoted academic publishers faced a dilemma, whereby high margins and concomitant high dividends were the clear objectives of their shareholder base, while their customers, both authors and librarians, wanted something cheaper, and controlled by the scientific community not the scientific publishers.

3. Internet technology enabled scientific researchers to reach a much wider audience worldwide, but subscription costs and the necessary firewall protection measures were seen to be obstacles to universal free dissemination of information. As a high proportion of scientific research is taxpayer-funded, why would the taxpayer be required to pay to read it?

The OA advocates have won the moral, if not the commercial, argument and every year a higher proportion of academic research is published under one or other of the various (and variously complicated) business models. It is not clear whether this has reduced the costs of publishing or increased its visibility in a material way, but it is interesting to note that academic publishers seem to be as profitable as ever and the amount of administration of 'transformative agreements' (where an institution pays for its faculty to publish a certain number of papers per annum rather than paying for subscriptions) is increasingly complex and onerous. However, these changes present opportunities, and some challenges, for the research infrastructure in less developed countries.

It is quite feasible for every country in the world to create an open access archive of the results of its research community. The infrastructure required is available: off-the-shelf software technology; a small in-house team of editors, production staff and publicists, supported by a network of referees to ensure high-quality peer review; a manuscript tracking system; links to Crossref to ensure that the resource is deeply embedded in the worldwide academic record; a freelance team to help authors with language difficulties; rigorously adopted facilities for physically-challenged authors (hearing, vision and locomotor disabilities); and creative publicity and marketing support to help authors reach the widest audience for their work. Rather than paying an article's publishing costs – also known as the article processing charge (APC) – to a global publisher, these could be used within the country and for the benefits of its scientific research. The limiting factor would be the degree to which scientists would publish in national rather than international journals.

Of course, alongside the apparent benefits of open access come several issues relating to copyright. Creative Commons has developed a suite of options for authors to declare their preferences for reading and sharing their IP, though there have been cases of unscrupulous use of open access material, either for reasons of ideology or commercial gain. The publishing industry uses its best endeavors to protect authors, but the authors themselves, particularly in the area of scientific publishing, are frequently (and naively) more interested in enhanced readership than IP protection.

Business models for publishing articles in academic journals

Publishers are remunerated for publishing articles in academic journals in two ways:

1. Subscription: the publisher offers subscriptions to institutions to access its collections of academic journals.
2. Open access: the author pays for their article to be published, with the finished article available to researchers/readers to be read without charge.

Open access is becoming more widespread, driven by the research funder policies on open access publications. The APC is often included in the research funding provided to the researcher. In some cases, publishers will waive the APC or offer a discount. Elsevier, for example, states that "when publishing in fully Open Access journals, we fully waive all open access charges for authors from 69 countries (Group A) and give a 50 per cent discount for authors from 57 countries (Group B)".[18]

Open access charges vary in business model and price, depending on the impact factor of the journal and the business models available in that journal. There is a range of open access business models, but the most common are:

- **Green open access**: when authors share a public version of their article, for example, in their institution or funder's repository, which would otherwise be available only to paying subscribers. This enables limited sharing of articles without having to pay an APC, though often with an embargo period.
- **Gold open access**: when the author (or their institution or funder) pays a fee, fixed by the publisher, to have their article published. It is then made available for anyone to read immediately, with no embargo period.

Different licenses will be attached to these articles, which explain how that published article may be used or copied, for commercial and non-commercial use.

The advent of open access has seen a change in the supply chain, and a significant decline in the publisher agent who would sell journal subscriptions to institutions, with a new role for academic librarians managing APC payments and subscriptions. We are also seeing an increase in the role of aggregators and consortium negotiations and purchasing; for instance, Jisc, in the United Kingdom, has a service that institutions can plug into, whereby it negotiates and licenses digital content from publishers.[19]

Research4Life

The platform and website Research4Life works with more than 200 international publishing partners to provide institutions in low and middle-income countries with online access to academic and professional peer-reviewed content at low or no cost.

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[18] Elsevier. 'Open access', *elsevier.com*. Web. June 22, 2023. <https://www.elsevier.com/en-gb/open-access>.

[19] Jisc. 'Jisc licensing team', *jisc.ac.uk*. Web. June 22, 2023. <https://www.jisc.ac.uk/jisc-licensing-team>.

Monograph publishing

Monograph publishing was once the preserve of university presses, which saw it as their responsibility to offer scholars the opportunity to have their works appear in handsome hardback editions. Not so long ago, the market for such books was approximately 2,000 copies worldwide, the largest market being university libraries in the United States of America, followed by Western Europe and Japan. Commercial publishers such as Macmillan, Sage and Springer Nature realized that while the units sold were not large, the profit margins could be adequate and sustainable, particularly as new markets such as Eastern Europe and China were building their university sectors.

However, print runs fell as university librarians were compelled to divert more of their budget to scientific journals, where they could better measure the impact of any expenditure. Average print runs are now in the low hundreds and, as PoD technology is widely adopted, the first printing is essentially one copy. Parallel with this decline is the huge growth in digital delivery of monographs via collections in specific subject areas – fashion, design, medieval history, for instance – sold via aggregators and individual publisher platforms and sales forces. There is some momentum towards open access business models as for scientific research, but it is less vocal and slower to take root.

These developments greatly reduce the costs of establishing university presses for monograph publishing and there is a significant opportunity, not only to serve national scholars better but also to enhance the prestige and value of national universities.

Business models

There are as many ways of funding digital publications as there are in the world of print, but switching between models and developing new income streams has become significantly easier, provided the intrinsic copyright of the publications is respected and protected. Listed below are examples of some of the most used business models.

Transactional digital sales

This is the customary route for digital products for the consumer. A typical e-book or audiobook is created by a publisher, held in a digital storage resource, and then sold, typically through intermediaries/aggregators such as Amazon, Apple, Google and Kobo, and some traditional retailers such as Barnes & Noble. The publisher generally fixes the recommended retail price and grants the retailer a wholesale discount. The alternative – and the agency model first adopted by Apple – is where the retailer acts as an agent for the publisher rather than a distributor. After many initial skirmishes, the reality is that neither is particularly better than the other for consumer or publisher.

Publishers are increasingly investing in their own websites and platforms to sell their digital content. Cambridge University Press has developed its offering, Cambridge Core, to provide library access to its digital collection. Additionally, it has several partner publishers, including other university presses, whose content is also accessible via the platform. There is a variety

of purchase models available for the different journals, e-books and textbooks in print and digital format, including annual lease models with concurrent access, individual title purchase and a try-before-you-buy model known as Evidence Based Acquisition (EBA). Publishers will offer benefits through their own websites and platforms that may not be available through aggregator services.

Other providers include the following:

- ProQuest: owned by Clarivate, partners with more than 9,000 publishers and content providers to offer a range of journals, e-books, databases, company reports, conference proceedings, newspapers and dissertations to businesses, libraries and universities through a variety of products and business models.
- JSTOR: part of the non-profit ITHAKA, provides access to some 12 million journal articles, books, images and primary sources for individual, high-school and university researchers.
- EBSCO: has a range of products and services for libraries, schools, health-care providers and corporations to access databases, archives, journals and books, including relatively new academic audiobooks.
- Al Manhal: a leading aggregator of Arabic scholarly and scientific publications from the Middle East, Asia and Africa.

Advertising-funded business model

The notion that information should be free, at least at the point of access, is obliterated by the huge number of free websites living entirely from advertising, Google being the prime example.

Wisden is a typical sports information website. Its income comes almost entirely from advertisers wishing to reach the global cricketing community. The advertising comes in several different forms. The most common form is programmatic, where a third party finds the advertisers and automatically presents the ads on the website. This is easy to administer and generates significant income. The downside is that there is effectively no control over the ads being served and a (high) risk of inappropriate material appearing via clickbait. More controlled but more overhead-intensive is to employ ad salespeople who can not only ensure appropriate advertising but also offer advertisers more sophisticated options, such as sponsorship of podcasts or direct mailing to users who have agreed to be contacted.

Subscription academic websites

While scientific research papers are moving from a university subscription model, academic books in digital form have shifted from a transactional (the librarian deciding to buy/not buy a book) to a subscription model for large collections of books. Payment is either annual, or of a larger amount for permanent access but with an annual service charge and further charges for new material being added to the collection.

One of the most recent and successful entrants has been Bloomsbury Publishing, with a range of products containing its own content and products where Bloomsbury acts as aggregator for several publishers. Perhaps the most successful is Drama Online, which offers students and

professionals access to play scripts from all the major drama publishers worldwide, and to audio plays, video performances and a raft of educational materials. Participating publishers receive substantial royalties, literature departments have affordable access to a wealth of relevant and authoritative material, and students can study at home or university.

Audiobooks and podcasts

Most academic publishers have not moved into the audiobook space, though some are leading the charge where they have book collections suited to the audio medium and aimed more at the general consumer. Princeton University Press has a collection of 136 audiobooks that it sells directly from its website and from other retailers.

Podcasts are also being created by some publishers to promote their books, including:

- Bloomsbury Academic: a range of podcasts discussing topics relevant to its books. Includes a discount on books.
- *Nature*: a leading Springer Nature journal, it launched its own podcast in 2017.

Open access books

Hot on the heels of the open access movement in journals came the impetus to publish open access monograph books. More than a decade after piloting open access publication for books, Springer Nature has now published more than 2,000 open access books and chapters across a wide range of subject areas.[20] Books and chapters are published through a book or chapter processing charge (BPC/CPC), which covers the publisher's costs of commissioning, copy editing, proofreading, production, dissemination, promotion, online hosting and indexing of an author's work. Pricing varies depending on the length and type of chapter or book.

Machine-generated books

AI and its impact on research and scientific publishing is a fiercely debated topic. It is now possible to easily create and disseminate machine-generated books. In 2019, Springer Nature published its first machine-generated book about the latest research on lithium-ion batteries, automatically compiled by an algorithm.

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[20] Springer Nature. 'Open access books and chapters', *springernature.com*. Web. June 22, 2023. <https://www.springernature.com/gp/open-research/journals-books/books>.

K-12 schools market

This schools market has been slowly adapting to digital change over the past 20 years. As with other sectors of publishing, the COVID-19 pandemic accelerated the transition. With an immediate need to switch to remote teaching and home learning, many publishers provided access to their digital resources at low cost or, in many cases, free of charge, to ensure that school education could continue with the least possible disruption. The pandemic highlighted the need for an enabled environment for successful digital education. This is why much of the digital change in schools has continued, though there has been a regression to print-based learning in some countries.

Many large technology companies have entered the education space, either offering their own products and services or partnering with publishers. For example, tech companies are providing resources for distance learning, after-school tuition and language learning, and services to support educators.

Digital infrastructure

Content providers in this space are only one part of the picture. Other factors are essential to the effective use of digital in the classroom. Publishers are central to this, providing support and advice in many areas, as well as delivering content.

Successful digital implementation in school publishing requires, among other things, a clear vision and strategy for digital implementation. Schools must have a plan for professional development and training of teachers. They must have access to digital resources and technology, and a plan for digital content creation and good curation, including:

- **Clear goals and objectives**: schools and publishers must understand what they want to achieve through digital implementation. This should Include identifying the most appropriate digital resources for each subject area, ensuring that these align with curriculum standards, and evaluating their effectiveness in improving student outcomes.
- **Infrastructure and resources**: robust technological infrastructure and adequate resources are essential, including high-speed Internet, sufficient bandwidth, hardware and software, and technical support. Schools must have adequate bandwidth to support multiple devices and users accessing digital resources simultaneously, and sufficient space to store digital resources such as e-books, videos and assessments.
- **Devices**: access to laptops, tablets and smartphones is required but devices are useless without content. Schools must ensure that they have access to a wide range of digital resources, such as e-books, videos and interactive activities that can be accessed on these devices.
- **Quality digital content**: successful digital implementation requires high-quality digital content aligned with the curriculum and the needs of students and teachers. Content should be engaging, interactive and accessible to all students, including those with disabilities or affected by language barriers.
- **Professional development and training**: teachers and staff must be trained to use digital tools and resources effectively in the classroom. Professional development

programs can help educators to gain the necessary skills and knowledge. Training should cover using digital tools, integrating digital resources in lesson plans, and assessing student progress using digital assessments. Teachers should receive ongoing support and professional development opportunities.

- **Partnerships and collaboration**: successful implementation requires that schools, publishers and other stakeholders work well together. This helps to ensure that resources are adequate and implementation is sustainable.
- **Data-driven decision-making and ongoing evaluation and assessment**: digital implementation should be based on data and evidence. Schools and publishers should regularly collect and analyze student outcomes, engagement and usage data, to inform decision-making and continuous improvement. These are essential for monitoring progress, identifying improvement areas and adjusting as needed.
- **Support and maintenance**: schools must provide ongoing technical support and maintenance for digital resources, including troubleshooting and updates. This will ensure that digital resources remain accessible and functional for students and teachers.
- **Data privacy and security**: schools must prioritize data privacy and security when implementing digital resources. This must include policies and procedures to protect student data and ensuring that digital resources comply with relevant privacy laws and regulations.

Overall, successful digital implementation requires a holistic approach that considers the needs of students, teachers and the school community. By addressing these specific factors, schools can effectively implement digital resources to enhance teaching and learning.

Singapore is a model country with its Ministry-led Educational Technology Plan,[21] which aims to "guide the development of the technological ecosystem and key platforms for learning in primary schools to pre-university institutions". The EdTech plan addresses the approaches and enablers, including all the conditions listed above.

The ed-tech market

Education technology is a thriving industry, with companies entering this market from large multinational technology providers such as Google with its Classroom offering, to myriad start-ups in both the hardware and software space. The global education technology market size was valued at 123.40 billion US dollars in 2022 and is expected to expand at a CAGR of 13.6 per cent from 2023 to 2030.[22]

Ed-tech works only if it helps improve student performance, saves teacher time (especially around administrative activities, freeing them up to teach), and provides automated and accurate assessment. Otherwise, it can be a huge distraction, often leading to expensive mistakes.

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[21] Singapore Ministry of Education. 'Educational Technology Plan.' Dec. 14, 2022. Web. June 22, 2023. <https://www.moe.gov.sg/education-in-sg/educational-technology-journey/edtech-plan>.

[22] Grand View Research. 'Education technology market size and share report.' Report Overview. *grandviewresearch.com*. Web. June 22, 2023. <https://www.grandviewresearch.com/industry-analysis/education-technology-market>.

How are publishers using technology to make content more accessible, interactive and personalized? Educational publishers employ digital technology in a variety of ways to enhance and transform the way educational content is delivered and consumed, including:

1. **e-books**: educational publishers are shifting from print to digital books that can be accessed from any device, including tablets, laptops and smartphones. E-books reduce costs and make learning more interactive. There are many advantages to using digital textbooks in schools. As noted here, you can[23]

   – engage learners more deeply;
   – teach learners 21st century skills;
   – personalize and differentiate instruction more easily;
   – save money to use in other high-need learning area;
   – ensure that students are learning with current information;
   – keep students from getting injured; and
   – give students the chance to learn anywhere, at any time.

E-books are sold through regular e-commerce stores via aggregators serving national education needs, such as eKitabu in Kenya

2. **Digital resources that accompany textbooks**: these additional resources are designed to enhance the learning experience, provide additional support and resources, and engage students in new and exciting ways. They include

   – Online quizzes and assessments: these can be used to assess student understanding of textbook material. Many publishers provide digital assessments that are automatically graded, providing immediate feedback to students and saving teacher time.
   – Interactive activities, including games, simulations and virtual labs: these can be used to engage students and provide a more hands-on learning experience. Activities can be accessed online and are often included in the textbook.
   – Video resources: many textbooks now come with video resources, such as instructional videos or video case studies. These can provide additional explanations of concepts, demonstrate real-world examples and engage students with different learning styles.
   – Audio resources: resources such as podcasts or audio lectures can provide alternative ways of accessing the material, particularly useful for students who prefer to learn by listening.
   – Online discussion forums: many textbooks now have online discussion forums where students can ask questions, share ideas and collaborate with classmates. Teachers can moderate these forums and allow students to interact with each other outside the classroom.

3. **Adaptive learning**: publishers are using digital technology to create personalized learning experiences for students. Adaptive learning technology can assess a student's strengths and weaknesses and adjust the content accordingly.

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[23] Hāpara. 'Classroom management software from Hāpara.' *hapara.com*. Web. June 22, 2023. <https://hapara.com>.

4. **Online learning platforms**: many educational publishers and schools have created proprietary online learning platforms. These provide students with access to educational resources, such as e-books, videos, interactive lessons and quizzes. Platforms can also communicate with teachers, track progress and receive feedback. Examples include
   - Sanoma Learning (Finland): supports the education of 25 million students.
   - Alef Education (UAE).
   - Boost (UK): from Hodder Education.
   - ActiveHub (UK): from Pearson.
   - Santillana (Spain and Latin America): has a range of platforms covering various audiences and subjects, including adult training, language learning and teacher training.
   - Ruangguru (Indonesia): focuses on education-based services in south-east Asia with various products, including for self-study, distance learning, English language learning and technical skills.
5. **Digital assessments**: these have become more prevalent in schools. Digital assessments can be automatically graded, providing instant feedback to students. This saves time for teachers and allows them to quickly identify areas where students need help.
6. **Learning management systems**: LMS software allows schools to manage educational content, track student progress and communicate with students and parents. Systems are becoming more sophisticated and provide features such as personalized learning, adaptive assessments and student analytics. Tech companies are developing LMS[24] to help teachers manage their classrooms, assign and grade homework and track student progress. Some publishers are working on their own LMS (see Savvas Realize), while others are developing content that can be integrated into a range of LMS software.
7. **Open educational resources**: digital technology has made it easier for publishers to distribute open educational resources (OER), freely available materials that can be used for teaching, learning and research.
8. **Virtual reality and AR**: educational publishers and schools are starting to use virtual and augmented reality technology to enhance learning. Such technologies provide students with immersive and interactive experiences impossible with traditional methods. Can be used to simulate real-world scenarios and provide hands-on learning opportunities.

Digital school libraries

OverDrive (previously mentioned in regard to aggregating e-books and audiobooks for the public library market) is a major supplier of books and audiobooks for school public libraries. Schools can curate their own collections and make them available to pupils through its Sora app.

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[24] Brown, Daniel. '18 learning management system examples.' *Edapp.com*. EdApp. Mar. 1, 2023. Web. June 22, 2023. <https://www.edapp.com/blog/10-learning-management-system-examples/>.

Where does digital really enhance teaching and learning?

Digital enhances teaching and learning in several ways. Digital resources can provide students with access to a range of information they may not otherwise be able to get, plus opportunities for collaboration and communication with their peers and teachers and for personalized, self-paced learning. They can also provide teachers with opportunities for formative assessment and feedback. Specifically, the benefits of digital tools and technology include the following:

- **Personalization**: personalized learning experiences for students can be enabled by providing tailored content and activities that meet their needs and interests.
- **Engagement**: interactive simulations, games and videos can help to engage students, making learning more fun and exciting, and for longer periods.
- **Collaboration**: student collaboration on projects can be facilitated, they can share ideas and provide feedback.
- **Access and flexibility**: resources can be accessed anytime and anywhere, which can help to ensure that students have access to high-quality educational materials regardless of location or schedule.
- **Assessment**: immediate feedback can be provided to students and teachers, allowing for a more timely and accurate assessment of learning.
- **Efficiency**: technology can help streamline administrative tasks, such as grading and record keeping, allowing teachers to focus time and energy on teaching and supporting students.
- **Creativity**: resources can enable students to express themselves creatively, using multimedia such as video, audio and graphics.

Overall, digital technology can enhance teaching and learning by providing new opportunities for engagement, collaboration, personalization and creativity. It is essential, however, to ensure that digital technology is aligned with educational goals and objectives and is integrated into the classroom thoughtfully and effectively.

Where is there a need for more digital content?

Increasingly, schools are demanding more digital content that can replicate, enhance or replace printed content. Providing such content also requires additional resources for teachers, including lesson plans, teacher notes and books, and continuous professional development (CPD), to support use in classrooms.

Content is required across a range of subjects and grade levels, including the following:

- **Science, technology, engineering and mathematics (STEM)**: with growing demand for STEM skills in the workforce, digital content that supports such learning is needed. STEM subjects are particularly suited to digital content as they often involve complex concepts and processes that are more easily visualized and understood through interactive simulations, animations and other multimedia resources. Online labs and digital textbooks can provide students with hands-on experience.
- **Literacy**: there is a need for digital content that supports literacy development, particularly for students struggling with reading and writing. This should include digital

books, reading comprehension activities and writing prompts that provide students with targeted support.

- **Multilingual education/English language learning**: with increasingly diverse student populations in many countries, digital content is required to support multilingual education and language development, such as resources that help students learn and practice languages. This should include interactive vocabulary and grammar exercises, online language labs and digital textbooks providing targeted support for students learning English as a second language.
- **Social studies**: digital content that supports social studies learning, including digital maps, interactive timelines and primary source documents can provide students with a deeper understanding of historical events and cultural practices.
- **Special education**: digital content is required to support students with special needs, including resources that provide visual and auditory support, interactive assessments and adaptive learning activities.
- **Social and emotional learning (SEL)**: this is an essential area of focus in education; digital content can play an important role in supporting SEL by providing resources that help students develop self-awareness, social skills and other essential competencies.
- **Global education**: digital content can support global education by providing resources that expose students to different cultures, perspectives and ways of life, helping them to develop a broader understanding of the world around them.

Overall, there is a growing need for high-quality digital content across a variety of subjects and grade levels to support student learning and engagement. By effectively creating and implementing these resources, schools and publishers can improve outcomes and prepare students for success in a rapidly changing digital world.

Distribution of digital educational content

Digital educational content can be distributed through traditional routes, including e-commerce platforms, proprietary platforms, licensed content to third parties and through dedicated distributors.

[ODILO](), for example, partners with publishers globally to provide high-quality collections of titles.

IP concerns with digital content in the classroom

Publishers must bear in mind several IP considerations when it comes to schools, ed-tech and developing and distributing digital content.

Copyright

Publishers need to ensure that they are not infringing copyright laws when creating and distributing digital content for schools. This includes making certain they have the necessary licenses and permissions for any third-party materials they may be using and are not violating

fair use or other exceptions to copyright law and copyrighted materials in their content, including text, images, audio and video.

Fair use
Publishers should be aware of the principles of fair dealing or fair use,[25] which allow limited use of copyrighted materials without permission for purposes such as criticism, comment, news reporting, teaching, scholarship or research.

Ownership
Publishers need to establish ownership of their digital content and ensure that they have the necessary rights and licenses to distribute it through ed-tech platforms. This includes making sure they have obtained any necessary permissions from authors, illustrators and other creators, and from publishers or other rights holders.

Attribution
Publishers should give proper attribution to any sources used in their content, including copyrighted materials, to avoid potential infringement claims.

Trademarks
Publishers should avoid using trademarks or copyrighted logos without permission, as this can result in legal liability and damage to their reputation.

Patents
Publishers should be aware of patents related to the technologies or methods used in their digital content and should ensure that they have the appropriate licenses or permissions to use these technologies.

Privacy
Publishers need to be mindful of data privacy and security issues when collecting and using data from students and teachers through ed-tech platforms. They should make sure that they have appropriate policies and safeguards to protect user data privacy and security.

Licensing
Publishers must ensure that they provide schools and educators with transparent and fair licensing terms for their digital content. This includes making sure that the licensing terms are transparent, easy to understand and aligned with the needs of schools and educators.

Distribution
Publishers must ensure that they have the appropriate licenses and permissions to distribute digital content in different markets and regions, including copyrighted materials.

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[25] Fair use is the US-style concept and is used only by a handful of countries outside the United States of America. Other countries have fair dealing systems or a closed list of exceptions and limitations (as is the case in Europe and most civil law countries).

Digital rights management (DRM)

Publishers may use DRM technologies to protect their digital content from unauthorized use or distribution, but they should be mindful of the potential impact on users' rights and the accessibility of their content.

New technologies

Blockchain technology

Blockchain technology is a digital ledger of transactions that links sets of data together in a chain. This chain then creates reports for the users of the chain.[26]

In the academic publishing world, the volume of scientific information is so great, and increasing so rapidly, that several companies have been set up to apply blockchain and identify, authenticate and link scientific papers. The journal *Frontiers in Blockchain* reviews the various options.

An article in *Nature* sums up the opportunities as: (1) transparency of journal management workflows; (2) storing and curating data; (3) connecting researchers to funding opportunities; (4) managing intellectual property; (5) establishing identity and preventing fraud, including the need for reproducibility; [27] (6) transparency in scientific decision-making; and (7) transparency to data sources and methods behind journal metrics.

NFTs (non-fungible tokens)

Creaktokia, built by Bookwire, is a platform that makes it possible to buy Digital Originals (e-books, audiobooks) and to mint, trade and collect NFT books. Authors have the opportunity to publish their works and receive a direct share of the sales revenue. Publishers will be able to publish books as special, limited editions, in addition to publishing them on the usual e-book and audiobook platforms. The difference is that Digital Originals are limited or even unique. Readers will be able to collect works by their favorite authors and profit from exclusive benefits.[28] E-book or audiobook files, as well as any respective cover art, will be available for download after the purchase of the Digital Original. For selected books, there will also be a one-time opportunity to order a physical book.[29]

Book.io is an NFT book marketplace that offers NFT e-books and uses blockchain technology to provide sales reports. It relies on a cryptocurrency (converting US dollars to purchase cryptocurrency). More information on Book.io can be found here.

One copyright issue being debated around blockchain and NFTs is the role of DRM, and whether blockchain technology can help make DRM more secure.[30] In August 2022, Pearson announced that it would start to use NFTs and blockchain technology to track the ownership

[26] CoinGeek. 'Blockchain basics: Key things to know as a beginner.' *coingeek.com*. Web. June 22, 2023. <https://coingeek.com/bitcoin101/blockchain-basics-key-things-to-know-as-a-beginner/>.

[27] Knight, Lucy. 'Pearson plans to sell its textbooks as NFTs.' *The Guardian*. The Guardian Group, Aug. 2, 2022. Web. June 22, 2023<https://www.theguardian.com/books/2022/aug/02/pearson-plans-to-sell-its-textbooks-as-nfts>.

[28] McIlroy, Thad. 'Ingram backs book.io, an NFT book marketplace.' *Publishers Weekly*. Oct. 14, 2022. Web. June 22, 2023. <https://www.publishersweekly.com/pw/by-topic/industry-news/bookselling/article/90625-ingram-backs-book-io-a-nft-book-marketplace.html>.

[29] Creatokia. 'The next big step in digital publishing.' *creatokia.com*. Web. June 22, 2023. <https://www.creatokia.com/en/s/what-is-creatokia>.

[30] Weinmann, Alexander. 'eBooks in the blockchain.' *medium.com*. Feb. 25, 2019. Web. June 22, 2023. <https://medium.com/coinmonks/ebooks-in-the-blockchain-500f3778d4c7>.

of a book even when it changes hands, allowing the publisher to participate in and benefit from sales of the book on the second-hand market.

Generative AI

AI has been mentioned a few times in this guide, especially with regard to the publication of machine-generated books and the use of AI to create personalized learning and assessment.

At the 2023 Association of American Publishers AGM,[31] CEO Maria Pallante described AI developments during the year as nothing short of astonishing. She said:

"AI developments have been nothing short of astonishing this year. Technology is nothing new for society. But AI is in a category by itself. It's not about a shift in delivery models. It's a paradigm shift. Meaning we can't go back to the world before AI, any more than we can go back to a world before the Internet."

Pallante noted that the publishing industry will need to examine how AI tools will help and how they will hurt, looking at both principles and policies. Publishers are recommended to read this analysis of copyright challenges in the area of generative AI.

At the same AAP annual meeting, Kumzal Bayazit, CEO of Elsevier, said:

"We have 2,000 technologists who work at Elsevier, and we've been using 'artificial intelligence' and machine-learning tools in our business for two decades now.

"Generative AI is going to bring significant opportunities for mining data and content, driving analytics, and summarisation as well as efficiency and openness, and potentially greater inclusion as well.

"But there are also profound, profound risks around the responsible use of these technologies. We like testing how we introduce technologies, and we start small group zones so that we can ensure them being used 'in a responsible way'.

"And I think we're going to have a lot of policy and regulation debates to think through, considering the real impact of solutions that use artificial intelligence, taking actions to prevent the creation or reinforcement of unfair bias, disinformation, ensuring there are no black boxes and creating accountability of human oversight.

"Those are going to be the challenges. And that's also going to reinforce the value of publishing of trusted sources and curation of high-quality information."[32]

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[31] May 8th, 2023.

[32] Anderson, Porter. 'AI and the book business: AAP's annual general meeting.' *publishingperspectives.com.* May 8, 2023. Web. June 22, 2023. <https://publishingperspectives.com/2023/05/ai-and-the-book-business-association-of-american-publishers/>.

The impact of ChatGPT is already adversely affecting publishers, with a spike in students using the technology and devaluing the share prices of education companies such as Chegg and Pearson.[33]

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[33] Milmo, Dan. 'AI race is disrupting education firms – and that is just the start.' *The Guardian*, May 3, 2022. Web. June 22, 2023. <https://amp-theguardian-com.cdn.ampproject.org/c/s/amp.theguardian.com/technology/2023/may/03/ai-race-drives-down-stock-market-valuations-of-education-firms>.

Appendix 1 Do's and don'ts

Building a digital publishing infrastructure is essential for every country. The precise nature of this infrastructure must be determined locally, based on national and regional priorities and resources, but these do's and don'ts might prove useful.

Do's

- Invest in vocational educational programs for all aspects of publishing, including technology, editorial, rights, production, design, sales, marketing, publicity, accounting and logistics.
- Recognize that IP is not media constricted but the building block of all communication, education and research.
- Determine the markets to serve locally, and those to address globally. K12 education is largely local, research is largely global and literature is both.
- Create a digital library infrastructure for schools, universities and for local communities. Physical libraries are vital but will progressively need to support digital IP or risk losing relevance.
- Work with global publishers in the areas of law, tax, governance and risk to ensure that government statutes, among other things, are available nationally and globally.
- Create a platform for the publication of nationally funded research in science, medicine, engineering, social science and the humanities.
- Create a platform for the publication of local language IP to enhance the reach of local language(s) and protect them.
- Support the local RRO (reproductive rights organization) to facilitate use of IP.
- Be ever-vigilant about piracy and act where necessary.
- Support a strong copyright regime. Digital is no different from print in this regard.

Don'ts

- Don't be afraid of licensing IP to third parties, providing that contractual terms are fair.
- Don't be afraid of open access. Free at the point of use is desirable in many instances, the only question being who pays for the cost of publishing.
- Don't be afraid of the dominance of the English language. Most digital initiatives have emerged from the Anglosphere, but the next iteration will be in many languages, and with AI technology developments, translation will become less burdensome.
- Don't anticipate an easy or universal ride moving from a print-dominated environment – investments may fail, take longer to succeed than anticipated, adopt the wrong technology – but do recognize that acting with speed is essential whatever the risks. Prevarication carries the highest risk of all.
- Don't allow the concept of free information to undermine the essence of copyright protection for authors and publishers.

Appendix 2 Audiobook glossary

à la carte (or download) services: services and platforms that will allow the user to download a file at a fixed price for that file. A copy of the file is transmitted (fully) from the service's server to reside on the user's device of choice.

subscription services: services and platforms that allow users or family groups to pay an agreed monthly/quarterly/annual fee in return for streaming access to content. The user is at liberty to choose files to play at will, with no additional payment or obligation to complete a title.

all-you-can-eat: subscription service normally comprising a vast collection of titles to consume for the user's regular subscription payment. This has no cap and allows unlimited usage.

flat rate: as above, with the phrase relating to the fact the consumer only ever pays the same amount per month regardless of how much they listen to or read.

credit-based (or token-based): while the service may consist of a huge choice of titles, the user's payment (usually monthly) is for a credit or token that they use against a title of their choice each month. Audible's original model is the leading example, although technically it is also a subscription service.

streaming: a collection of files the user can access in return for a payment. No files reside on the user's device. The file streams from the platform's server to the user to listen to or watch via their mobile data or Wi-Fi connection.

download to own: the actual file is downloadable to a user's device where the user is at liberty to play it at will.

revenue share model: typically this remuneration model looks at how many times a file has been listened to proportionately from the total pool of titles available. This means that an audiobook has no fixed value but a fluctuating value based on its popularity within the pool in a given time frame.

pay-per-book model: a remuneration model where the platform pays the publisher against a pre-agreed price for any given title. Often the publisher will grant the platform a discount against this DLP (digital list price).

time-based model: a relatively new model (popular in Scandinavia) where the publisher is remunerated based on the amount of an audiobook that has been consumed. Typically, this is based on the number of hours listened to.