The Future of Scholarly Publishing under Digital Transformation - Data, AI and Token Economy

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The current situation facing scholarly publishing

**OPEN SCIENCE**
GLOBAL INITIATIVE

**PANDEMIC**
REMOTE WORK

**OPEN ACCESS**
TRANSFORMATION

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**SCHOLARLY PUBLISHING STAKEHOLDER NEEDS**

**RESEARCHER**
- Accessible Information
- Funding Application
- Data Collection & Analysis
- Integrity & Publishing
- Dissemination & Recognition

**LIBRARIAN**
- Affordable Subscription Costs
- Rich Intelligence Resources
- Knowledge Service Capability
- Information Technology Support
- Research Skills Coaching

**PUBLISHER**
- Enterprise Vision
- Business Profit
- Technology Innovation
- Meeting Policy Changes
- Business Model Innovation

**FUNDER**
- Policy Development
- Scientific Problem Breakthrough
- Social Responsibility
- Social Impact
- Research Evaluation
OA transformation of scholarly publishers has not been widely recognized by the scholarly community, scholars' first concern is whether their achievements will be widely recognized to gain reputation.

The pandemic looks set to wreak havoc on library budgets, and we are seeing libraries, funders, and OA advocates pursuing a variety of incompatible strategies - including unbundling, transformational agreements, and adoption of publishing platforms.

The mainstream service currently provided by publishers is a packaged subscription model for journal databases, and this database resource-based approach is far from meeting the precise needs of researchers.

The emergence of some publishing platforms for emerging technologies (e.g., blockchain-based scholarly publishing platforms) is far from disrupting existing scholarly publishers due to their popularity and recognition issues, and OA advocates have unrealistic expectations about diamond open access due to sustainability issues.
"It is not the strongest of the species that survives, or the most intelligent, but the one most responsive to change."

-Charles Darwin

Scholarly publishing needs to change, and digital transformation is the best direction for change now, because the original purpose of digital transformation is to improve customer experience and efficiency, and then achieve new growth through model innovation.
What value benefits can digital transformation bring

Experience Enhancement
- Understand users and enrich customer touch points
  1. Analytics-based customer segmentation
  2. Consistent customer experience across multiple channels
  3. Streamlined customer engagement process
- Revenue growth
  4. Enhanced sales capabilities through digital technology
  5. Predictable marketing
  6. Optimized customer handling processes

Focus on customer satisfaction and revenue growth

Efficiency Improvement
- Improved operational efficiency
  1. Shorter product launch cycles
  2. Work from anywhere at any time
  3. Communicate more widely and faster
- Increased efficiency in decision making
  4. Operational transparency
  5. Data-driven decision making
  6. Decision empowerment

Focus on core operational capabilities

Model Innovation
- New business growth
  1. Increase in products and services
  2. Digital Products
- Open, Ecological
  3. Enterprise-level integration
  4. Organizational boundary reshaping
  5. Shared Digital Services

Open, Innovative, Ecological
How Scholarly Publishing Achieves Successful Digital Transformation

Digital Transformation Goals

- Focus on researcher-centric satisfaction
- Focus on publisher operational efficiency improvement
- Focus on the open ecology of scholarly communication

Four Key Pillars

- Pursuing Value Driven
- Reinventing Business Models
- Creating Digital Assets
- Autonomous Analysis Adaptation

Implementation Steps

- Establish the criteria for measuring success
- Identify key stakeholders and priority business scenarios
- Identify predictive analytics and their data sources
- Select the architecture and technology for adaptation

Digital Culture and Organization:
The landing point of digital transformation of scholarly publishing is the change management of scholarly publishing, which needs to accept digital culture change, digital business process change and digital service model change.
1. Researcher Needs

- Accessible Information
- Funding Application
- Data Collection & Analysis
- Integrity & Publishing
- Dissemination & Recognition

2. Valuable Scenarios

- Mastering the current state of research topics and predicting the value of innovation
- What funds are suitable for me to apply and what should I do to improve the success rate of fund application
- Choose appropriate methods and tools for collecting and analyzing research data
- Choose the appropriate publishing platform and comply with scholarly integrity and ethics
- Expand the influence of scholarly achievements and obtain peer citations recognition

3. Required Data

- Citations metadata and industry reports
- Established projects metadata and fund application requirements
- Text and data mining of relevant content in journals and books
- Journal publication information data and publication policy
- Data on high-impact achievement characteristics

Data valuable to the application scenario can be combined and reused through algorithms to form analysis modules, and the more they are used, the more accurate the predictions will be, and the more their digital services will be able to meet the needs of researchers.
How to break down data silos and build an open scholarly publishing system

More high-value services

 Scholarly publishers can leverage their internal data, with external open data and paid APIs, to provide customers with information-worthy insights in real time.

More Open Data

 I4OC and I4OA are highly commendable public service activities under the Open Science Initiative, where publishers are breaking down data silos.

More innovative third-party services

 An open scholarly publishing system requires open data from all stakeholders, but data collection, data governance, data curation, and data preservation all have costs. We want to have free data sources, just like open access, but we prefer to have high-quality, curated, reusable data assets, and provide more customized microservices for customers through Data Fabric, from people looking for data to data looking for people.
How the token economy is breaking down platform barriers to achieve incentives in a digital environment

Token economy is an economy that puts Token to full use. Token economy is an ecology in which there are technical implementations, incentives, consensus mechanisms, role definitions, technical determinations, defined target groups, etc. In this ecosystem, Token economy is quite powerfully effective because of transparency, consensus, algorithmic mechanisms, etc.

- The supply of token is fully market-based and highly freedom, and anyone, any organization, any institution can issue proof of interest (NFTs) based on their own resources and service capabilities. (eg. Publication data resources, expert review service, publication editing services, etc.)
- Token on the blockchain can flow hundreds and thousands of times faster than previous cards, vouchers, points, and tickets, and because of the application of cryptography, this flow and transaction is extremely reliable, disputes and friction will be reduced hundreds and thousands of times.
- Tokens encourage valuable behavior by scholarly publishing stakeholders, who will also be incentivized through the token. Due to the high-speed circulation and trading of tokens, the price of each token will be rapidly determined in the market.
Value benefit is the result of economic and social value and benefits created and measurable by conducting business activities, which is both the starting point and the ending point of digital transformation.

Building a Harmonious Ecology of Stakeholders in Scholarly Publishing

Token Economy

Value benefit is the result of economic and social value and benefits created and measurable by conducting business activities, which is both the starting point and the ending point of digital transformation.
The future of digital transformation of scholarly publishing has come, are you coming?

Thank You!

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