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## TOWARDS PRODUSAGE

### *Futures for User-Led Content Production*

AXEL BRUNS  
*Creative Industries Faculty*  
*Queensland University of Technology*  
*Creative Industries Precinct, Z2-202*  
*Musk Ave*  
*Kelvin Grove, Qld. 4059*  
*Australia*

*a.bruns@qut.edu.au*

**Abstract.** The increasing prevalence of user-led content production especially in online environments from the *Wikipedia* to open news publications and open source software development communities is indicative of an ongoing paradigm shift from industrial-style content production to what is here described as *produsage*: the collaborative, iterative, and user-led production of content by participants in a hybrid user-producer, or *produser* role. This paper outlines the overall characteristics of produsers and produsage, identifies key questions for the produsage model, and highlights the economic, educational, and democratic potential of produsage.

### 1. Introduction

In recent years, various observers have pointed to the shifting paradigms of cultural and societal participation and economic production in developed nations. These changes are facilitated (although, importantly, not solely driven) by the emergence of new, participatory technologies of information access, knowledge exchange, and content production, many of whom are associated with Internet and new media technologies. Already in the 1970s, futurist Alvin Toffler foreshadowed such changes in his coining of the term ‘prosumer’ (Toffler, 1971): highlighting the emergence of a more informed, more involved consumer of goods who would need to be kept content by allowing for a greater customisability and individualisability of products; this indicated the shift from mass industrial production of goods to a model of on-demand, just-in-time production of custom-made items. Going further beyond this, Charles Leadbeater has introduced the notion of ‘pro-am’ production models (Leadbeater & Miller, 2004) – alluding to a joint effort of producers and consumers in developing new and improved commercial goods. Similarly, the industry observers behind *Trendwatching.com* speak of a trend towards ‘customer-made’ products (2005a), while J.C. Herz has described the same process as ‘harnessing the hive’ (2005) – that is, the harnessing of promising and useful

ideas, generated by expert consumers, by commercial producers (and sometimes under ethically dubious models which appear to exploit and thus hijack the hive as a cheap generator of ideas, rather than merely harnessing it in a benign fashion).

Such models remain somewhat limited still, however, in their maintenance of a traditional industrial value production chain: they retain a producer → distributor → consumer dichotomy. Especially where what is produced is of an intangible, informational nature, a further shift away from such industrial, and towards post-industrial or informational economic models can be observed. In such models, the production of ideas takes place in a collaborative, participatory environment which breaks down the boundaries between producers and consumers and instead enables all participants to be users as well as producers of information and knowledge, or what I have come to call *producers* (also see Bruns 2005a). These producers engage not in a traditional form of content production, but are instead involved in *produsage* – the collaborative and continuous building and extending of existing content in pursuit of further improvement. Key examples for such produsage can be seen in the collaborative development of open source software, the distributed multi-user spaces of the *Wikipedia*, or the user-led innovation and content production in multi-user online games (some 90% of content in *The Sims*, for example, is produced by players rather than produced by the game publisher Maxis; see Herz 2005: p. 335). Further, we also see produsage in collaborative online publishing, especially in news and information sites from the technology news site *Slashdot* to the world-wide network of Independent Media Centres, the renowned and influential South Korean citizen journalism site *OhmyNews*, and beyond this in the more decentralised and distributed environments of the blogosphere (Bruns 2005b).

While there are elements of boosterism in its coverage of such trends, *Trendwatching.com*'s identification of the participants behind such produsage phenomena as a new 'Generation C' is nonetheless useful (2005b). In this context, 'C' stands in the first instance for 'content creation', as well as for 'creativity' more generally (and Generation C appears closely related to Richard Florida's idea of a creative class, therefore; see Florida 2002); if the outcomes of such creativity are popularly recognised this can also lead to another 'C'-word, 'celebrity'. But *Trendwatching.com* also notes that Generation C poses a significant challenge to established modes and models of content production, and importantly, therefore, the 'C' can also refer to issues associated with both 'control' (of the means of production or, more properly, produsage) and the 'casual collapse' of traditional, industrial approaches to production.

## 2. Common Characteristics of Produsage

Across the various domains in which produsage occurs, some common traits can be observed. Necessarily, produsage takes somewhat different forms depending on the object of the producer effort, and the community which is engaged in that effort, but these fundamental traits are nonetheless present in varying balance in each case.

## 2.1. USER-LED CONTENT PRODUCTION

The core object of produsage is to involve users as producers, and these user-producers often take the lead in the development of new content and ideas. Whether instigated by the operators of produsage sites, or out of their own motivation, users create content. In many cases (including the *Wikipedia* or various open news sites), the sites themselves act as tools for content production; in several others (especially where content produsage for computer game environments is concerned), the sites provide or point to useful tools and offer hints, guidelines, and frameworks for effective produsage.

## 2.2 COLLABORATIVE ENGAGEMENT

Producers tend to collaborate rather than work by themselves as individual content producers; indeed, in order to be a produser (rather than producer) it is necessary also to be a user of other participants' content. Use often leads to the identification of opportunities for further extension and improvement of existing material. Produsage environments frequently encourage collaborative engagement by providing tools or informational structures which are preconfigured for collaboration between individual producers; this can be seen for example in the distributed discussion functionality present across the blogosphere, or the placemark sharing and discussion tools available within *Google Earth*.

## 2.3 PALIMPSESTIC, ITERATIVE, EVOLUTIONARY DEVELOPMENT

Engagement with existing content provides producers with a motivation to further improve upon it; this evolutionary development may lead to a new iteration of existing versions (for example, the generation of a new revision of an open source software package) or the remixing of content in the development of a new branch species (whether in the form of a new remixed version of artistic material, or the forking of an open source project in different directions of development). Many produsage spaces also are their own archives, enabling users to trace the evolution of content through its various stages, so that the continuous development of new versions of content leads to the creation of a palimpsest: a repeatedly over-written, multi-layered document. This is evident for example in the *Wikipedia* with its elaborate page history tools, or the ability to trace the genesis of a music track in the *ccMixter* produsage site.

## 2.4 ALTERNATIVE APPROACHES TO INTELLECTUAL PROPERTY

Iterative engagement with content in a continuous process of evolutionary development require new approaches to the recognition and enforcement of intellectual property rights. A strict enforcement of such rights will tend to stifle the ability of later producers to build on the work of their predecessors, and many produsage environments utilise open source- or creative commons-style licencing frameworks. At the same time, a complete release of content into the public domain, amounting to producers giving up their legal and moral rights to be recognised and acknowledged as the creators of intellectual property, would often turn out to be counterproductive, since one of the motivations for producers still remains the ability to be seen as a contributor to distributed produsage efforts. Produsage sites therefore must negotiate a middle path

between IP regimes which enable as far as possible their participants' engagement with one another's content, and approaches which maintain individuals' rights to be acknowledged as content contributors.

## 2.5 HETERARCHICAL, PERMEABLE COMMUNITY STRUCTURES

Sites of produsage flourish if they can attract a large number of engaged and experienced participants who adhere to the ideals of the site. This requires a balance between openness and structure – if sites are seen as being controlled by a closed in-group of participants, they are unlikely to attract new producers into the fold, as these are likely to feel alienated; on the other hand, if anyone can participate without any sense of oversight by individuals or the established community as a whole, then cohesion is likely to be lost. Many producer sites have therefore instituted heterarchical regimes of one form or another – in many open news sites, for example, community members are chosen at random or based on seniority and given the right to moderate their peers' contributions (see Bruns 2005b); in some of the Wikimedia Foundation projects, groups of administrators have been created by vote of the overall community; while some open source development projects are led by a group of 'benevolent dictators' who have emerged from the community (and have limited powers, as development can always be forked into new projects if there is disagreement). Each of these models can be described as heterarchical: showing neither purely hierarchical organisational traits, nor operating simply as a leaderless anarchy.

## 3. Emerging Questions for the Produsage Model

The success of open source software development and other collaborative produsage spaces, such as the *Wikipedia*, point to the fact that produsage models are in the process of being more widely adopted across a number of content production domains. As this mainstreaming of produsage takes place, the model must also encounter a number of significant questions – especially as it attempts to find points of connection and coexistence with existing, production/consumption-based approaches. Answers to these questions have not yet been fully formulated, and may vary depending on a number of other factors, but it is important to foreshadow some of the areas of contestation already.

### 3.1 ECONOMICS

As the emergence of software companies formulated around an open source software development model has already shown, produsage and the commercial exploitation of the intellectual property generated through it are not necessarily mutually exclusive. Open source software firms often operate along either one of two related models – 'selling bottled water', that is, selling a convenient package and framework for what is otherwise a freely available resource (such as, for example, Red Hat's ready-to-install CD-ROMs of open source software packages), or offering expertise and consultancy around that resource. Either model has completed a move from selling product to selling service which is characteristic of a post-industrial economy. However, both models rely on and exploit the continued free availability of the core resource around

which services are offered; to ensure this availability, it is important that a portion of the proceeds generated from service provision be fed back into the protection and maintenance of that resource (and many open source software providers do in fact allow and encourage their staff to be active participants in and producers of open source software projects on company time).

At the same time, computer game publishers like Maxis (producer of *The Sims*) do appear to profit more directly from selling the producer-generated resource itself, rather than offering ancillary services. Where Red Hat, for example, sells a useful but not crucial service to open source users (who are always able to directly access the open source package itself from its development site), the *Sims* game package is an indispensable prerequisite for entering the game universe of *The Sims*. In essence, then, *Sims* users pay Maxis for the privilege of being granted the ability to become producers of game content, and as producers subsequently continue to generate games assets which through their richness will attract further potential users and producers to the game. In some cases of such proprietary spaces for produsage, end-user licence agreements (EULAs) even grant the games publisher ownership of and rights to incorporate any content generated by the user during their engagement with the game. Such models could be described more as *hijacking* than *harnessing* the hive, as they lock producer creativity into proprietary environments and deny users any ability to profit from the outcomes of produsage other than as sanctioned by the commercial operator of the environment. (It is therefore incumbent on producers to become more aware of the rights granted to them as a condition of their participation within specific produsage environments.)

### 3.2 SUSTAINABILITY

Such potential commercial exploitation of produsage, without a direct rewarding of producers as the collective originators of content, also points to questions around the sustainability of produsage environments, then. As producers become aware of attempts to exploit their work without reward, their attitudes towards the produsage environment will rapidly deteriorate, slowing the rate of content produsage and undermining further development. Some reported cases of dissent within massively multi-player online role-playing games environments, as players encountered overly restrictive EULA arrangements, are already instructive in this regard, and it is likely that more are to follow. It is possible that such cases might motivate participants to develop alternative produsage spaces operated by the community rather than commercial entities (and some community-run online gaming servers do in fact already exist) – indeed, this would mirror the genesis of open source software itself, which also in good part emerged out of a sense of disenchantment with the poor customer relations in the existing software industry –, but in the case of resource-intensive spaces of produsage (e.g. in online gaming) the cost of community-run development might be prohibitive.

Even where there is no overt commercial exploitation, however, the sustainability of producer communities can be questioned. Community-led content produsage has so far built its success on a classic model where the value of the produced resource is greater than the sum of its parts; on average, any participating producer has been able to receive more value from the collaborative project than they had invested themselves.

However, the time spent contributing to such projects must still be financed somehow, and entirely volunteer-based produsage models may not be able to be sustained in the longer term – this is the case especially in smaller-scale, specialised produsage projects which have a limited producer base to build on in the first place. The model of open source service providers cross-subsidising the resource upon which they depend by allowing their staff to participate in development projects on company time may be able to be extended to other domains of produsage, however.

At the same time, new economic models which are built entirely around produsage as a core practice must also be explored – and some of the ideas gathered on sites such as *Trendwatching.com* may be instructive in this regard (while also indicating potential avenues for further exploitation of producer communities). It is likely that where such new models turn out to be successful we will see a repeat of the bitter battles already being fought between the traditional software industry and its new open-source rivals, and that much rhetoric aimed at undermining the perceived quality of the opponent is going to be exchanged (in a more restrained way, this is now also taking place between supporters of the *Wikipedia* and the producers of traditional encyclopedias).

Finally, a different, but related sustainability question also arises at the earliest stages of produsage projects: as such projects emerge and communities around them are beginning to form, how can they be guided to gather the critical mass and momentum needed to sustain development in this first, crucial phase? At such stages, projects often rely on a small number of highly engaged contributors, and it is crucial for them to both convey a sense of purpose and drive for the project as well as create an environment which invites participation from new contributors.

### 3.3 OMNIVORACITY

Many of the core traits of produsage spaces are organised around practices of repurposing, remixing, and redeveloping existing content. As noted, this requires innovative internal intellectual property schemes; however, beyond this many produsage spaces are also externally focussed and rely on an engagement with materials from outside of their own environment. Open news sites, for example, depend on their ability to cite and comment on news reports which have been identified from other news sources through the practice of gatewatching (see Bruns 2005b); the *Wikipedia* builds on knowledge drawn from an even wider variety of sources; while audio- and video-based produsage sites might also incorporate (or hope to incorporate) external elements into their own creative output.

Operating fundamentally on a principle of iterative content evolution within the produsage space, then, which assumes a right to incorporate available materials in the producing of new content, producers are often tempted to apply the same approach also to materials drafted from outside (and therefore often available under significantly different licence schemes or traditional copyright frameworks). This raises the potential of widespread intellectual property infringements – and indeed, commercial news operators would likely be able to identify a raft of infringements against their copyright very readily, for example, were they to examine the content of the news-related blogosphere or of many open news publications.

### 3.4 LIABILITY

This omnivoracity of participating producers could present a significant threat to produsage spaces, therefore, as they could be subject to prosecution for copyright infringements. Legal responsibilities are yet to be clarified in such cases – and it may be important for the sustainability of produsage approaches to apply a legal framework not unlike that which governs Internet service providers (ISPs) in many jurisdictions: here, the ISP usually cannot be held responsible for content hosted on user Websites as long as it takes down infringing content as soon as it is reported. However, this may also require specific organisational frameworks for produsage spaces (potentially reintroducing a stronger hierarchical organisation once again), which in turn could also affect the feasibility of the space itself.

Such legal questions are not limited only to intellectual property, of course; the quality and reliability of content which has been collaboratively produced must also be questioned. Misinformation in some of this content (for example, in a collaboratively produced self-help site on medical issues) may have some very serious consequences, and it is easy to imagine legal action from those who have been negatively affected by it – in such cases, who should be held responsible?

### 3.5 INCOMPLETENESS

One answer to such questions would also stress that any collaboratively produced content, or indeed any content at all, should always be taken with a grain of salt, of course – indeed, that a caveat of ‘use at your own risk’ should apply to all outcomes of produsage. This may be especially important also because the iterative and evolutionary model of content produsage must by its very nature lead to eternally incomplete outcomes; the point of produsage is that it is always possible to further improve on what is already available.

This realisation should not be seen as undermining produsage overall; instead, it merely indicates a need to further educate participants in produsage as well as users of produsage outcomes: *all* products, whether produced or produced, continue to contain room for improvement, and so it is not produsage with its continuing, ever-incomplete development of content and artefacts, but industrial production with its artificial separation of development outcomes into distinct ‘complete’ product models and editions, which presents an aberration from the norm. And paradoxically, by always presenting the latest update to the artefact (and always enabling users as producers to contribute further updates right then and there), produsage frequently offers a more recent, more ‘complete’ version of the artefact than traditional production models are able to do.

## 4. Cultural, Social, and Political Implications of Produsage

As noted above, today we are experiencing the emergence of produsage models across a wide range of domains of content development and exchange. This phenomenon appears to be part of a wider paradigm shift, which is supported in part also by the rise of new media technologies. Media play an important part in shaping our consciousness and understanding of the world around us, as well as our place within it, of course, and

in this case the very shape of the media as it has shifted away from mostly passive, mass reception to more interactive, individualised modes of active engagement can be shown to have an effect. Advancing even beyond this, especially Internet-based media forms have begun to take on elements of *intercreativity* (see Berners-Lee 1999), and as this mode of collaborative, productive engagement with content is becoming more prevalent it creates the groundwork for the expansion of produsage environments.

While it is too early to predict the full implications of this change, it already seems evident that one key development is likely to be the expansion of grassroots or vernacular (see Burgess 2005) creativity; this will necessarily have a significant effect on the existing structure and position of the creative industries. At the same time, it must also be recognised that the skills and socioeconomic and technological requirements for becoming a produser in whatever domain are not distributed evenly throughout societies, much less global society as a whole; therefore, there is also a risk that a further digital divide – in this case, specifically a participatory or creative divide – might open up between the more and less privileged strata of society. Such trends must be addressed and reversed through government and non-government intervention at as early a stage as is possible; education at all levels also plays a crucial role here, and must prepare its students to become effective produsers in a wide range of environments.

#### 4.1 EDUCATING PRODUSERS

This will require a significant rethinking of traditional approaches at all levels of education, but especially in higher education environments. Currently, higher education especially in popular disciplines mainly continues to follow a pattern which is firmly rooted in an industrial, mass media age – teaching frequently takes place in large classes and cavernous lecture theatres where lecturers broadcast instruction to the student audience, while assessment usually requires individual students to produce one-off, completed, and ultimately disposable assignments. Such approaches to teaching reinforce a hierarchical, instructor-led, and non-collaborative environment which encourages students to produce ephemeral work; they fail to prepare learners for a future where they may be required to work in heterarchical, self-determined, and collaborative teams of content produsers.

It is important, therefore, that education begins to embrace alternative modes of learning and teaching which focus more on a collaborative engagement between teachers and learners as well as between learners themselves, and provide opportunities for learners to work on groups and on ongoing, longer-term projects which will produce assessable artefacts at several stages of their iterative process. While not inevitably requiring the use of new teaching technologies, such curriculum development projects may profit from the use of common systems which are utilised in real-world produsage environments, including blogs, wikis, and other collaborative content authoring tools. (See e.g. Bruns & Humphreys 2005 for an example of the use of wikis in higher education.)

#### 4.2 PRODUSING DEMOCRACY

Finally, then, if a widespread adoption of produsage approaches can be engendered across society, this could also come to have a profound effect on civic participation and democratic engagement as a whole. Again, we might note that the media affect our consciousness, and our understanding of the world as well as of the societies we live in, and the mass media traditions from which we have emerged may have also had a significant impact on our understanding of democracy – and so, in many developed countries citizens relate to their democratic environment much as they do to the mass media: democracy has become a spectacle produced by political parties and interest groups and moderated and distributed by journalists and pundits, with citizens as audiences who occasionally switch channels by voting in elections (or generally tune out and regard politics as nothing more than background noise).

If prodused media become a credible and wide-spread alternative to produced media forms, however, then this might ultimately also have an effect on citizens' understandings of how they relate to their local, national, and global environments – and as regards democracy, it could rekindle a desire on their part to once again become active *producers* of democracy, rather than mere passive audiences. Governments concerned about flagging participation rates of citizens in democratic processes would do well to explore the principles of produsage in their engagement with the populace. So far, exactly what form this produsage approach to democracy might take remains yet to be seen, as does whether the transition can be a smooth one – but the potential for change which it enables makes produsage an important phenomenon to follow.

### 5. CONCLUSION

It is self-evident that the paradigm shift away from industrial-style production models and towards produsage is only in its first stages at present; however, the significant early successes in such diverse fields as software production (through open source), knowledge management (through the *Wikipedia* and other wikis), and news (through open news sites and the news-related section of the blogosphere) already indicate the potential for change which produsage holds. The significant attention from commercial operators which is indicated for example through the coverage of produsage phenomena by sites such as *Trendwatching.com* further underlines the increasing influence of users-turned-producers, and highlights the need for a systematic engagement with produsage by educators, the economy, and governments.

That said, we should expect anything but a smooth ride ahead for the produsage model: the history of open source and other challenges to the traditional, industrial model of production and distribution indicates a great reluctance of established operators to modify their practices; similarly, the new models of user-led citizen journalism which have emerged through open news sites and news blogs have been met with a significant degree of hostility both from the established journalism industry and from those newsworthy figures and organizations whose actions have come under increased scrutiny with the emergence of this new breed of independent news organizations. Additionally, especially at a time where a range of governments in the developed and developing world alike have adopted more autocratic styles once again,

the political climate in many nations may not necessarily be predisposed towards a greater involvement of citizens as self-determined actors in political and societal processes.

However, even such obstacles may not be able to prevent the gradual transition from production to produsage, simply because produsage in open source, wikis, blogs, and a number of other environments has already reached the critical mass of participants which it requires to be self-sustaining; in turn, this success is now beginning to encourage the adoption of produsage models in additional fields. What will determine the eventual balance between produsage and production approaches, then, is likely to be determined less by external factors than by the question of how models of produsage can address their own internal problematics – especially as regards operational sustainability, intellectual property issues, and quality control.

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