Studying Media Usage by Studying Micro Business Models (Stefan Werning)

Introduction

The contemporary media industry is increasingly characterized by small but interrelated micro business models which, in various and shifting constellations, arguably shape the way users experience media content. These applications include location-based services (e.g. *Foursquare* or *Gowalla)*, gamification services (e.g. the *Bigdoor Gamification API* or *Badgeville*), services for the increasingly granular re-selling and re-purposing of media content (e.g. *movieclips.com* or *Lokast*) and services that allow for crowd-funding user-generated content (e.g. *kickstarter.com* or *8bitfunding.com*).

Several examples from media history illustrate that stable business models and, as a result of that, production practices proved essential for producing stable media forms. Economic forms such as the Hollywood studio system in which many elements of the value chain were vertically integrated to some degree added to the formation of representational conventions over time such as the strategic use of celebrities for particular types of characters.

At the same time, those systems promised at least relatively stable audience expectations and interest, providing a financially secure status quo. With regard to micro business models such as the ones presented in this paper, this form of stability does not appear to be the ideal any longer; instead, stability is considered rather as a process than as a state, as a system of decentralized control over audiences, i.e. of benefiting of the increasing instability rather than seeking vertical integration which assumedly ensures constant viewer/user interest.

One important characteristic of the applications at hand is the fact that they are closely interrelated, both technologically and conceptually. While a business plan such as Foursquare, which allows users to 'check in' at their currently visited club, restaurant or other venue, might be considered rather limited, its impact on media usage changes completely in conjunction with numerous related applications that are currently competing for users and market shares. For example, the service *GetGlue* took over the check-in mechanism and applied it to all forms of media entertainment rather than places while *Badgeville* took over the 'badge rewards' mechanism and similarly extended it to very different types of activities. Following the hypothesis of Kevin Kelly that all networked mobile devices will ultimately converge in one compound machine (Kelly 2007), these networks of business models similarly can be regarded as culminating in one conglomerate of rules and requirements.

This convergence makes sense both according to economic logic – for instance a small, specialized social service allowing users to log in using their Facebook account - and the logic of algorithmic compatibility – for example *Badgeville* establishing their badge system as a technological standard that can be licensed to other services.

Despite their increasing number, there are currently hardly any approaches of analyzing these micro business models, not least due to the fact that, viewed by itself, most of them might appear rather

marginal. The paper at hand aims at filling this gap by sketching a model of analysis synthesized from several related fields of studies.

Micro business models as software

Basically, since business models described in this paper are almost always built around a software application, the theoretical framework of 'software studies' should represent a feasible starting point to analyze them. This field of research, which goes back to the early work of Lev Manovich and articles by Friedrich Kittler, focuses on the cultural and aesthetic implications of software technologies on media production and interpretation.

Early studies that revolve around a single application such as Manovich's work on *Adobe Photoshop* and *After Effects* illustrates how particular, algorithmically enabled methods of manipulation media texts as data create conventionalized work routines (Manovich 2006). That is, these studies indeed focus on the level of the interface but also take into account how users create a mental model of a program's functionality upon iterated use. For instance, Manovich illustrates how *After Effects* propagated the perception of moving images as a 2D grid (the layered timeline view) as well as corresponding ways of manipulating video content as data, which could be feasibly implemented using this approach. (15) The study does analyze processes of image manipulation (such as "Layers, Transparency, Compositing", 10) but mostly with regard to the emergent work routines they create.

This approach provides useful categories for better understanding the interaction between one user and one application. However, due to the much more diverse use cases produced by the micro business models at hand, the goal of this paper will be to refine both ends of this relationship.

A second, more recent current in software studies emphasizes the characteristic elements of program code such as loops, interrupts (Fuller 2008) or the principle of transcoding (Chun 2005) and aims at a critical reading of source code. The prospect of 'critically reading' program code still usually focuses on literary or artistic works using program code which may or may not be actually executable but the rather positivist aim is still to 'read' any kind of source code from a media studies perspective (Marino 2006). This radical interpretation appears much less applicable, even though a closer look at conventional elements of programming languages such can still be useful as high-level concepts that will be briefly revisited later on.

Micro business models as socio-technical systems

As another conceptual building block for analyzing the impact of these micro business models on media usage, the analysis of *Wikipedia* as a "sociotechnical system" in (Niederer and van Dijck 2010) provides insights into how technologies shape collaborative processes.

The main difference, of course, lies in the fact that neither Wikipedia nor its users have explicit economic interests. However, considering Wikipedia as 'economy of attention' in the sense of Georg Franck – where frequent editors are for instance made visible through edit histories and on-topic forums – users still act according to similar principles.

Compared to the software studies perspective, this approach focuses on the interaction between many users and one application. The fact that this group often refers to itself as Wikipedians (1369) indicates the level of social cohesion that the system instills. An important aspect that adds to these community dynamics is the functional differentiation of roles within the community, for example participants who rather perform 'technical' tasks such as adding images or correction grammar, translators of entries into other languages or members of the "kindness campaign" who help keep others involved by acknowledging their work.

Niederer and van Dijck identify a few mechanisms that, as a system of interlocking rules, allow for decentralized control over the collective use of Wikipedia. The most important mechanism is the reputation system which reflects the various types of usage and, at the same time, homogenizes them into just the given types similar to a census (contributing administrators, registered users, anonymous users, bots etc.), thereby providing orientation within the community. (1372)

Niederer and van Dijck argue with Richard Rogers for the use of 'digital tools' in a humanities framework to take into account the technological aspect of a phenomenon such as Wikipedia (Rogers 2009); these tools could be built on open APIs or use data sets obtained directly from the service providers, even though the latter case is increasingly rare since the market value of these data is steadily increasing. Rodgers himself describes this approach as 'web studies'; it partially overlaps with the notion of cultural analytics proposed by Lev Manovich and Jeremy Douglass but focuses on the analysis of online media phenomena rather than visual media or cultural artifacts in general which, arguably, makes it much more applicable and its results more relevant. However, investigating this method more closely would go beyond the scope of this paper.

To conclude, the way in which structural elements of Wikipedia as a software application help maintain a community and the emerging para-social routines appear reminiscent of the notion of consumer tribes; indeed, the aforementioned label Wikipedians and its use in forum discourse also hint at quasi-tribal self-perception.

'Augmented' Media Usage

The previously discussed constellations still focus on only one application; therefore, the next step will be to consider the use case of one user and many applications.

One useful starting point is the network of bots, in this case small scripts, which automate routine editing tasks, that – according to Niederer and van Dijck – constitutes another important mechanism for the purpose of creating a stable community and ensuring the quality of the content. (1377) The authors argue with Bruno Latour that the interrelatedness of software and operators makes the dichotomy of social framing and technological determinism irrelevant.

In fact, this implied collaboration with AI routines has become surprisingly commonplace in other contexts as well. Clive Thompson provides further examples of how media users are becoming more and more adept at the logic of using programmable technologies (Thompson 2010). One paradigmatic example is the notion of advanced chess advocated by Garry Kasparov; after competing with AI opponents, Kasparov invented a for of chess for two human opponents, each assisted by AI routines, mostly off-the-shelf chess software. Thompson coins the term 'cyborg consciousness' to describe this way of interacting with an AI system; analogously, with a particular focus on media usage, it could tentatively

be labeled 'augmented' media usage. In the same manner, users become more and more adept at using recommender systems to discover systematically new interests rather than mechanically purchasing the top items on the list.

The micro business models studied in this paper fit this description in a particularly clear-cut way, especially since – as shown before – they increasingly converge, generating new functions in the process. Moreover, since – due to the flexibility of having a minimal infrastructure and initially only limited marketing costs – a successful models is usually copied and modified very quickly, users can infer the algorithmically governed characteristics of these applications very easily through comparison.

Thus, media users arguably handle the concurrent use of multiple services in a similar manner that software components add to the core functionality of a programmable system; even though they may not understand the technicalities of the program code, they create and refine a cognitive model of its limits and opportunities in practice.

Common practices such as using two or more related services (e.g. music streaming services) with complementary features thereby reflect to some degree the principle of inheritance in object-oriented programming, i.e. the fact that new classes can reuse attributes and methods of ancestor classes. Even without creating actual mash-ups of services using existing APIs, users often find ways of utilizing two or more services in conjunction with each other to achieve a specific goal; if these use cases are common enough, they will even likely be offered by a dedicated service at some point.

Due to the unprecedented flexibility of creating micro business models, this results in a constant cycle of users appropriating new technologies – often in subversive ways (Gitelman 2004) – and service providers trying to anticipate and institutionalize these forms of usage in order to secure a substantial market share before the competition can catch up. In that respect, this new phenomenon appears only partially comparable with previous media technologies.

The motivations to use the applications described are as heterogeneous as their functionality; however, one important common goal can arguably be seen in the fact that users attempt to relieve the increasing intrinsic pressure of using media that comes with an abundance of channels and tools. Mark Deuze uses the label 'media life' to summarize the conditions of living in media-rich societies. Deuze argues that in more and more societies, the overall time spent using media channels and, more importantly, the amount of multitasking between different media constantly increases. (Deuze) Stephen Levy goes in a similar direction describing the "burden of twitter" as well as the expectations created and maintained by other forms of social media such as blogs or social bookmarking in a 2009 column in Wired magazine. (Levy 2009)

As a side note, the type of media usage sketched in this paragraph has been practiced – much more thoroughly – in the context of digital games almost since three decades. For example, Chris Crawford was one of the first designers who repurposed a game's AI routines designed to simulate enemy behavior (e.g. in the case of *Patton vs. Rommel*) to implement a context-sensitive help system – by making algorithms to identify holes in a front line or precalculate move ranges available and visible to the player.

To conclude, the abundance of micro business models currently available arguably produces usage behavior, which, to some degree, reflects the contingencies of algorithmic design that all these applications are essentially based on. At this point, a critical perspective on implications of concepts such

as using components or external libraries - which, however, have not been covered from a software studies angle as of yet - could lead to further insights.

Reading micro business models as media texts

After discussing the first three constellations, this chapter is intended to conceptualize the interaction of many users and many applications by exploring the congruencies of micro business models and media texts.

Unlike media texts, business models are traditionally considered as relatively 'neutral', i.e. the distribution and monetization of media content has often been considered irrelevant for its usage or interpretation. Only in cases where these economic conditions become especially conventionalized and visible – the Hollywood studio system probably being the most prominent example – the way they add layers of signification to the actual media content is being analyzed. For example, the relatively recent field of production studies is characterized by using concepts from ethnography, sociology and cultural studies (Mayer, Banks et al. 2009) to understand the processes behind the scenes of media (particularly movie) production. The fact that the various stages of production are increasingly communicated to the audience – in the form of designer diaries, pre-visualization clips or simply interviews – arguably makes this all the more plausible, since this information is added as para-textual layers to the final product.

The most basic aspect that makes micro business models comparable to media texts is their increasing granularity. Previously, most services - be it music distribution, media rentals, journalistic coverage or other functions – were offered in more or less the same way since they required an infrastructure and marketing budget that were only accessible to very few players, which benefited from economies of scale. In that context, the choice of a service did not allow for much differentiation and, thus, did not add a layer of signification to the actual usage. On the contrary, given the current, almost frictionless flexibility of prototyping, testing and discarding (or maintaining) micro business models, the status of these services arguably shifts from a platform to an actual media text.

One way of leveraging this analogy will be to suggest that – while the study of genre is too broad a topic to be fully addressed in this paper –individual aspects of genre theory can be feasibly adapted to describe the formation and interpretation of business models.

For that purpose, the numerous propositions for extending the notion of genre to digital content by extending existing taxonomies during the early days of web studies – as, for example, seen in (Crowston and Williams 1997) – are much less suitable than attempts to extend the concept to content with less visibly textual qualities. One such example is the perception of communicative practices in organized communication according to genre categories (Orlikowski and Yates 1994) which appears similarly informed by the experience of rapidly expanding corporate and private internet access.

From that angle, it appears plausible to group micro business models by 'genre' and assume that users apply the notion of genre that they associate with media texts to these services as well. Since, as Jason Mittell argues, the concept of genre as a discursive frame shapes both audience and industry practices (Mittell 2001), this form of categorization is likely formative from the provider's perspective as well.

Thus, micro business models are handled similar to how brands are managed in parallel with media texts. The fact that they are often primarily web applications and easily reconfigurable illustrates this principle; for example, services like Foursquare have – both as strategic moves and due to the influence of competitors – repeatedly changed key rules and terms of service. In that sense, the users' perception of

Foursquare exhibits some similarities with that of a vast, evolving narrative, both trying to create the impression of a 'living' text.

Pursuing the similarities between brands and micro business models a bit further allows for adapting established approaches such as the aforementioned notion of brand communities or "consumer tribes". Especially in cases like Foursquare, where the service is basically a web application with only a few characteristic features, it appears useful to transfer categories of consumer communities – for example the differentiation between swarms, crowds, mobs and hives (Kozinets, Hemetsberger et al. 2008) – to micro business models as well. The latter similarly represent focal points for community-building processes and can similarly be characterized according to their level of concentration and goal orientation.

Moreover, similar to how a genre evolves through the interplay of authorial views and emergent ways of reading within discourse, the characteristic elements of micro business models as 'socio-technical systems' often crystallize over time through iterated use – particularly in genres with many close copies of the same successful model such as social shopping applications – instead of being preemptively planned. This is due to the fact that users often subvert these elements or come up with emergent forms of usage. For example, the youtube 'thumbs-up' feature, a simple reputation mechanism built into the forum system, is increasingly used to make a very specific claim – more or less related to the actual video – and encourage others to 'thumbs up' if they agree, thus turning the feature into a much more concrete form of polling (while tweaking it to maximize one's own reputation). Another, even more common example is the use of hash tags on Twitter to allow for organizing communication more easily not just by people but also by topics. At the same time, this technique of creating a formal symbol for a specific purpose that could easily be 'processed' using existing functionality (the Twitter search functions) illustrates the notion of 'augmented' media usage, i.e. a form of adopting algorithmic reasoning without actually utilizing program code.

A second form of utilizing the analogy between micro business models and media texts could be to analyze the previously mentioned interfaces between micro business models as instances of intertextuality.

Most basically, as with media texts, the type of relation can vary dramatically from direct references – through APIs and compatible data formats – to rather associative links – minor features or even terminology that is reminiscent of another service. An example of the latter is the initial invitation-only form of building a community, a system popularly used by Google to launch Gmail, which is currently referenced and slightly modified in several crowd-funding services such as Kickstarter (Adler 2011).

Generally, just as many recent media texts often aim for maximizing their intertextual complexity in order to approach as broad an audience as possible, micro business models tend to maximize their compatibility, using existing standards and trying to establish themselves as a standard in the process. For example, the Facebook Deals project – a competitor to the social shopping giant Groupon – is planned to tie in with the Facebook Credits system, allowing users to optionally use the virtual currency to pay for non-virtual items. Apart from supporting the ambitions to extend Facebook Credits into a universal currency for web applications, this intertextual link further decreases the epistemological gap between real and virtual money by creating analogous practices.

The examples in this chapter were intended as a starting point towards testing the usefulness of reading micro business models in terms of media texts. The following chapter shall wrap up the argument by

indicating how – not least as a byproduct of the more and more pervasive use of micro business models – economic rationales increasingly permeate common forms of media usage.

Introducing economic rationales into everyday media usage

The use of biological semantics – for example the assumed 'virality' of media content or the evolution and diffusion of memes – has already been convincingly problematized as a means of explaining the user-driven creation and diffusion of media content (Green and Jenkins 2011). This criticism helps overcome idealized views of the producer/consumer ratio in current content ecologies. (115) Moreover, the alternative concept of spreadability encourages a closer look at which parameters determine the spread of media content rather than assuming inevitable 'infection'. (116-118)

Complementary to these formal parameters, many aspects of the current media experience are gradually being permeated by an economic layer that both 'consumers' and 'producers' are part of. Rachel Rosmarin coined the useful term "economic ecosystem" to describe how MySpace not only represented a structured way of storing and displaying user data but also an economic system that provided many opportunities for users to participate (Rosmarin 2006). Among those were small businesses that customized user profiles, tools providers that facilitated targeting ads on MySpace and services that allowed for automating contact management tasks. More recent social networks such as Facebook offer many of these functions but, again, provide an even bigger ecosystem for small businesses to evolve in.

Moreover, while the term has originally been applied to MySpace as a confined system, the concept of the "economic ecosystem" can arguably be applied also to forms of using interconnected micro business models and, thus, the related practices apply to more and more aspects of the everyday media experience.

The (re)distribution of advertising budgets thereby often represents the primary element that governs the ecosystem dynamics and fosters emergent forms of media usage. For example, intermediate services such as linkbucks or URLcash provide a platform for automatically sharing fixed sums with a scalable community of content contributors. Moreover, the intrinsic momentum of both these services and social payment solutions such as Flattr allows for monetizing increasingly granular elements of media texts. The aspect of monetization also gradually alters the reference unit of a media text; if not just a blog post but even every single comment can be paid for in some way or another, forum comments are increasingly established as media texts in themselves rather than para-texts to blog posts – which, in turn, often used to be considered para-texts for articles of institutionalized online publications that they linked to and elaborated on.

Moreover, these developments gradually emphasize that users not only become producers but also sellers of media content. Becoming a seller makes users more aware of managing their online profile as a brand to maximize their potential audience, especially with regard to revenue sharing programs offered by youtube and other platforms. However, users also increasingly resort to similar strategies as corporate entities in an attempt to maximize their view counts and prospects earnings such as creating small series of youtube videos and optimizing their playlists to draw in viewers and encourage them to subscribe. This phenomenon is supported by a growing number of publicly available social media monitoring services such as *twentyfeet*, which enable users and small companies to monitor and homogenize their participation on various social media platforms as well as evaluate community reactions to their profiles. The application is geared towards identifying outliers and, according to the official web page, measures "how your key performance indicators develop over time". Combined with real-time feedback on the

popularity of online content such as individual blog posts, the feature sets of these services encourage a form of de-centralized self-regulation that reflects economic rationales. (It should be noted that this form of convergence works both ways, i.e. companies also tend to form more flexible units and utilize tools originally geared towards individual users such as Kickstarter in an attempt to reach smaller, more defined audiences.)

Many micro business models, particular those with social network elements, tap into these developments to differentiate themselves. For example, the mobile location-based social network *LoKast* primarily allows for users that geographically close to each other to communicate and share music content, i.e. excerpts of songs stored on their mobile device (Rao 2010). Thus, social interaction is organized strategically around the exchange of media content as a 'currency'; while some users might want to 'communicate' selected songs they like, the mechanisms of the service are designed for increase the quantity, not necessarily the intensity or personalization of these local interactions. While only excerpts of songs can be sent, *LoKast* generates profits for example through cooperation with music providers so that users can buy the full song on the fly if they like it.

Outlook

The goal of the paper at hand was to provide building blocks for studying micro business models, which constitute and important filter for understanding contemporary media usage in general. While most of these models appear rather marginal, they are in practice often used in shifting constellations similar to software components to at least partially automate aspects of (social) media use.

Similar to digital games, they establish a small set of rules of play, which can be followed, tweaked and sometimes even applied to other business models to form a kind of meta game. Even the rhetoric associated with emergent practices stemming from these business models occasionally exhibits a rootedness in the logic of digital games. For instance, popular techniques, which users of social shopping platforms such as Groupon developed over time in order to bend the rules to their advantage are called "stacking", "rolling" or "coupon trains" and, both in terms of their terminology and functionality, directly reference combo mechanics and power-playing strategies in video games.

While the paper could only sketch a few ideas, the methodological frame of software studies appears to be most readily applicable; however, there are two main differences, which require adapting these approaches to the phenomena at hand.

First, while software studies usually either consider standardized software or, at the other extreme, the source code itself, the micro business models are small, interconnected applications that require a closer look at the transitions and boundaries in addition to the mechanisms themselves.

Second, a characteristic element that has not yet been studied is the very immediate connection between technological and economic aspects, both of which converge to an unprecedented degree in the micro business models mentioned above.

Both aspects could be summarized using the label app(lication) studies as a form of localizing the approach within the broader context of software studies. At any rate, one of the most important

prerequisites for a more detailed inquiry into the forms and functions of micro business models would be a corpus of examples that could be structured using the notion of genre. Each and every example represents a particularly "unstable platform" which nevertheless, in shifting constellations and through iterated use, produce stable media usage practices.

Bibliography

Adler, C. (2011). Brothers of Invention. Wired Magazine. New York, NY, Condé-Nast. **19:** 108-113.

Chun, W. H. K. (2005). "On Software, or the Persistence of Visual Knowledge." Grey Room **-**(18): 26-51.

Crowston, K. and M. Williams (1997). Reproduced and emergent genres of communication on the World-Wide Web. Thirtieth Annual Hawaii International Conference on System Sciences (HICSS '97), Maui, Hawaii.

Deuze, M. "Media life." Media, Culture & Society **33**(1): 137-148.

Floyd, I. R., M. C. Jones, et al. (2007). Web Mash-ups and Patchwork Prototyping: User-driven technological innovation with Web 2.0 and Open Source Software. Proceedings of the 40th Annual Hawaii International Conference on System Sciences, IEEE Computer Society.

Fuller, M. (2008). Software Studies: a lexicon. Cambridge, MA, MIT Press.

Gitelman, L. (2004). How Users Define New Media: A History of the Amusement Phonograph. Rethinking Media Change: The Aesthetics of Transition. D. Thorburn, H. Jenkins and B. Seawell. Cambridge, MA, MIT Press**:** 61-80.

Green, J. and H. Jenkins (2011). Spreadable Media: How Audiences Create Value and Meaning in a Networked Economy. The Handbook of Media Audiences. V. Nightingale. Oxford, Uk, Wiley-Blackwell**:** 109-127.

Kelly, K. (2007). Kevin Kelly on the next 5,000 days of the web. TED Partner Series, TED.

Kozinets, R., A. Hemetsberger, et al. (2008). "The Wisdom of Consumer Crowds. Collective Innovation in the Age of Networked Marketing." Journal of Macromarketing **28**(4): 339-354.

Levy, S. (2009) Steven Levy on the Burden of Twitter. Wired Magazine **17**,

Manovich, L. (2006). After Effects, or Velvet Revolution - part 1.

Marino, M. C. (2006) Critical Code Studies. electronic book review

Mayer, V., M. J. Banks, et al., Eds. (2009). Production studies: cultural studies of media industries. New York, NY, Routledge.

Mittell, J. (2001). "A Cultural Approach to Television Genre Theory." Cinema Journal **40**(3): 3-24.

Napoli, P. M. (2010). "Revisiting 'mass communication' and the 'work' of the audience in the new media environment." New Media & Society **32**(3): 505-516.

Niederer, S. and J. van Dijck (2010). "Wisdom of the crowd or technicity of content? Wikipedia as a sociotechnical system." New Media & Society **12**(8): 1368-1387.

Orlikowski, W. and J. Yates (1994). "Genre repertoire: the structuring of communicative practices in organizations." Administrative Science Quarterly **39**(4): 542-574.

Rao, L. (2010). NearVerse Raises $1 Million For Proximity Based Mobile Social Network. Tech Crunch. M. Arrington. **2010**.

Rogers, R. (2009). The End of the Virtual: Digital Methods. Amsterdam, Amsterdam University Press.

Rosmarin, R. (2006) The MySpace Economy. Forbes Magazine

Schwartz, M. (2010). The Coupon Rebellion. Wired Magazine, Condé-Nast. **18:** 188-193,222-224.

Thompson, C. (2010). Advantage: Cyborg. Wired Magazine, Condé-Nast. **18:** 42.