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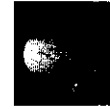
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## Co-creating games: a co-evolutionary analysis

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### Abstract

The phenomenon of consumer co-creation is often framed in terms of whether either economic market forces or socio-cultural non-market forces ultimately dominate. We propose an alternate model of consumer co-creation in terms of co-evolution between markets and non-markets. Our model is based on a recent ethnographic study of a massively multiplayer online game through its development, release and ultimate failure, and is cast in terms of two explanatory models: multiple games and social network markets. We conclude that consumer co-creation is indeed complex, but in ways that relate to both emergent market expectations and the evolution of markets, not to the transcendence of markets.

### Key words

consumer co-creation, games studies, participatory culture, social networks

Media consumers increasingly participate in the process of designing, producing and marketing media content and experiences. Over the past few years we have seen the rise of user-generated content and user-led innovation as a significant cultural and economic phenomenon (Baldwin et al., 2006; Bruns, 2008; Burgess and Green, 2009a; Croteau, 2006; Hartley, 2009; Jenkins, 2006, 2009; Shirky, 2008). In December 2006, *Time* magazine celebrated 'You' as the person of the year, saluting the millions of people who are using and contributing to social networking platforms such as YouTube, MySpace and Wikipedia. These media consumers are now also media producers. Following the work of Henry Jenkins (2006) on participatory culture and convergence culture and Eric Von Hippel (2006) on user-led innovation, we propose that co-creative media culture occurs

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when a non-trivial component of the design, development, production, marketing and distribution of media product proceeds through the direct involvement of consumers or users. In the past decade these consumer–producer interactions have evolved to such scale and depth that they are now an increasingly significant source of both cultural and economic value creation. As Prahalad and Ramaswamy (2004) propose in *The Future of Competition*, value is increasingly co-created by both the firm and the customer (see also NESTA, 2008). Yochai Benkler (2006: 60) also argues that these commons-based peer production networks are moving from the periphery to the core of our economies. But we need to move beyond a celebratory marvelling at the phenomenon of user-created content and to focus on how to think systematically about this phenomenon. How should we understand and model these emerging behaviours, agencies, identities and practices? What are the mechanisms and processes of co-creative culture?

These consumer co-creation relations are of increasing economic and cultural significance in many industries (Foster, 2007; OECD, 2007), including the videogames industry. As an assemblage of media technologies and consumer-participatory culture practices, videogames are right at the generative edge of consumer-co-creation (Green and Jenkins, 2009). The recent commercial success of the Maxis-developed and Electronic Arts-published *Spore*, for example, relies heavily on user-generated content. The puzzle-platformer *LittleBigPlanet*, developed by Media Molecule and released in October 2008 for the PlayStation3 console, also relies heavily on user-created content. Players use editor tools embedded throughout the game to create and edit new levels and objects. They then can share these creations with other gamers through the Playstation Network online service. The particular significance of titles such as *Spore* and *LittleBigPlanet* is that they now integrate the practice of co-creativity as a core part of the gaming experience and the videogame business. *LittleBigPlanet*'s tag 'Play, Create, Share' foregrounds the centrality of these co-creative practices. Taylor (2006a: 159–60; 2006b) argues that players are co-creative 'productive agents' in the creation of videogames and asserts that we need 'more progressive models' for understanding and integrating players' creative contribution to the making of these products and cultures.

The central question is why do they do it? Work on these emergent co-creative relations often proposes that the rise of these new, or at least increasingly powerful, models of production is primarily based on non-market or non-pecuniary motivations (Benkler, 2006; Bruns, 2008; Lessig, 2004; Quiggin, 2006). This portrays a gift-society world in which people work on projects because they want to; because their intrinsic motivations are well-primed with communitarian spirit (Zeitlyn, 2003). Benkler (2006: 19) argues that this new modality of organizing production does not rely on market signals, or indeed the market system, and that the value and innovation potential of these co-creation relations may indicate a genuine limit to the market that is emerging from the market itself. Bruns (2008), for example, in developing his theory and exemplary description of these emergent co-creative relations as 'produsage', tends to oppose these more communitarian principles of organization to those that dominate in the commercial and corporate spheres (although he does maintain that hierarchical, traditional models of industrial production are disrupted). Bruns's description and analysis of these co-creation relations then, much like Benkler's (2006), tends to be structured by an opposition between a supposed social mode of production and the corporate, commercial or

market domains (Burgess and Green, 2009a). Bruns' (2008: 4, 29) comments on the 'blatant attempts by incumbent corporate players to cash in on the rise of collaborative content production without embracing the core principles', arguing that participation in these 'produsage' relations is 'generally motivated mainly by the ability of producers to contribute to a shared, communal purpose', although he acknowledges that there is a possibility of eventually converting this social capital into possible employment outcomes. As such, it follows that commercial endeavours to tap into these actions for market gain are often framed as an extraction of surplus value from the unpaid labour of the consumer co-creators that also contributes to the precarious employment conditions of professional creatives (Ross, 2009: 21–2), a case that would apply squarely to the online video games industry. Matthew Allen (2008) argues, for example, that the model of participatory culture associated with the catchphrase Web 2.0 'validates a kind of advanced, promotional entrepreneurial capitalism that binds users to profit-making service providers via the exploitation of those users' immaterial labour'.<sup>1</sup>

Yet is this really what is going on? Is this fundamentally a 'non-market revolution' and a genuine inversion of all basic economic categories and principles, or is it actually a more complex and subtle story? Approaches such as Bruns's and Benkler's perhaps fail to recognize that co-creativity is generated precisely through a dynamic and co-evolving relationship between the commercial and the non-commercial, rather than a static face-off between these domains in which one side 'wins' by gaining ground from the other. Both recognize this possibility (Benkler, 2006: 127), but it is ancillary to their analysis rather than core.

Our perspective in this article is that all is not as it seems and that there are actually far more markets involved than simply those for labour and final products. Drawing on consultancy ethnographic research undertaken by John Banks throughout 2007 with Auran games (an Australian-based games developer) we explore the front-line practices and motivations involved in online games development. This research followed and informed Auran's online community management and social networking strategies for *Fury*, a competitive player versus player (PvP), massively multiplayer game released in October 2007. Undertaking this research involved working closely for extended periods throughout 2007 with members of Auran's online community relations team, *Fury*'s developers and Auran senior management. Banks also participated in pre-release play testing of *Fury*, joining in extensive play and feedback sessions with the *Fury* gamers, as well as interviewing gamers participating in this co-creative relationship with Auran. This research explored the relationships between Auran's professional developers and a network of game players and testers who provided extensive feedback and design input. The research then both described and participated in the negotiation and making of emergent co-creator relations.

We work from this material to derive two theoretical explanations for consumer co-creation that avoid the either/or distinctions of market/non-market, cultural/economic and intrinsic/extrinsic motivations that have seemingly taken root in this issue. In a critical survey of recent scholarly efforts to explain and theorize the emerging modes of agency in user-generated content, Jose van Dijck (2009) examines many of the assumptions implied in the ideas of participatory and co-creative cultures. She suggests that we need a 'more comprehensive approach to user agency, including perspectives from cultural theory, economics and labour relations' (p. 42). We agree; we certainly need better

models to grapple with the complexity of user agency. But this requires figuring out the dynamics that are in the process of transforming and changing relations between the cultural and economic domains. Van Djick's survey continues to maintain these domains as separate and distinct perspectives without suggesting how we should bring them together as we endeavour to develop more illuminating explanations and models. She suggests that we need a 'multidisciplinary approach to user agency' that should 'yield a model that accounts for users' multiple roles, while concurrently accounting for technologies and site operators-owners as actors who steer user agency' (p. 55). Our explanation of co-creative relations in terms of co-evolving market and non-market contexts draws in precisely such complex interrelationships between multiple contexts, incentives and motivations, and the emergence of markets and dynamics of institutions. This fundamentally involves a co-evolutionary dynamic of both economic and cultural change. We frame this in terms of the theory of multiple games (Page and Bednar, 2007) and the theory of social network markets (Banks and Humphreys 2008; Potts et al., 2008), both of which we suggest as having a partial but still significant relationship to consumer co-creation.

### The co-creative gamer

While contributing considerable value to firms such as Auran, these co-creation relations provide novel business challenges as they unsettle and disrupt a closed industrial model of expertise and move it toward an open innovation system. User co-creation is a destructive force on industrial-era modes of production and associated business practices (Chesbrough, 2003). Auran's effort to involve and integrate the gamers throughout the development process recognizes that the commercial success of *Fury* relies on social-network dynamics and transactions. Will the *Fury* beta-testers recommend and endorse the game to fellow gamers? For example, a high-point for the Auran community relations team occurred when a screenshot circulated through the online networks of competitive PvP guilds showing a high-profile guild play-testing *Fury*. The point here was not that the screenshot portrayed the game's graphical splendour, but rather that the screenshot was significant because it identified members of a high-profile guild supporting *Fury*. If this high-ranking guild were playing *Fury* then that alone might attract the attention and eventually demand of other guilds. In one sense, this might just be considered word-of-mouth online viral marketing. However, the value of the screenshot draws on the credibility and status of those seen posing their avatars in the shot, as many other gamers recognize their skills and abilities as gamers. They are expert players with knowledge and understanding of videogame design and aesthetics – they know a good game when they play one, and can often carefully break down and articulate what makes for a high-quality game play experience. They possess a carefully honed game literacy and competency and other gamers rely on their opinions when making purchase decisions. In the language of Richard Lanham (2005: 17), gamers are 'acute and swift economists of attention'.

In the months prior to the commercial launch of *Fury*, many of the expert gamers play-tested *Fury* for hundreds of hours, providing the Auran development team with robust and critical feedback. The testers were not just hunting for bugs; they identified

weak game features in need of updating and fixing. This motley crew of amateurs forcefully and persuasively lobbied the professional developers for these changes, posting extensive comments to the *Fury* forum and through direct emails. In response to this feedback, the developers made significant changes and updates. Even over the final few weeks in early October before retail launch, Auran announced significant modifications to core design features based on the consistent requests from these expert gamers. Many of these changes became available for download after the commercial release and this co-creative exchange between gamers and developers continued to shape and remake *Fury*'s design. This is not a top-down industry objectifying their consumer. Here we have an emergent, uncertain and often messy market in which the consumer is an agent, able to make a deal.

On 13 December 2007, however, Auran Developments Pty Ltd went into voluntary administration. Some 50 staff lost their jobs in the wake of the commercial failure of *Fury*, a three-year project costing \$15m. The difficulties of successfully managing the interface between *Fury*'s professional development team and the expert user-testers contributed to *Fury*'s failure. In a post-mortem interview with the author shortly after announcing the voluntary administration, Auran's CEO, Tony Hilliam, commented that the online word of mouth from these networked consumer-citizens 'has been the ultimate killer' for *Fury*. Many of the core player-testers expressed the view that *Fury* had been released too soon and the Auran developers had not gone far enough in responding to their critical feedback.

*Fury*'s commercial success had relied on harnessing the support of these hardcore and passionate gamer consumers. These co-creative consumers are not just a refined form of focus group testing, but now judge companies such as Auran on how well they respond to feedback and on how well they provide and deliver a service that effectively integrates the consumer across the creative development process. Gamer response to changes and updates Auran introduced for *Fury* after the retail release was often negative and hostile. SkinnyG, a consumer co-creator, for example, posted to the Auran hosted *Fury* forum: 'I thought this new patch was supposed to be about listening to the players but, they couldn't give a rat's ass about their players that have been here since beta. AURAN WTF IS GOING ON?' (15 December 2007). In an extended post to the *Fury* forum, a respected community member and long-time *Fury* tester, Republica, criticized the Auran developers and designers for failing to make game design changes that many players had been requesting, and instead taking the game design in a very different direction. Responding to a post by *Fury*'s lead designer, Adam Carpenter, in which he sought to justify Auran's refusal to introduce some of the requested changes, Republica commented:

Please understand that I say this with the most heartfelt respect and compassion to you and your team: you are standing on very, very thin ice. Considering the amount of investment in this game, you need to be very careful with how you treat your players. We loved the idea, but now we're being told that the one thing we really can't stand about the game isn't going to change because you don't want to change it. And I hope you can understand that this is a bit insulting, and doesn't make it a game a lot of us will continue to play. It's also probably a huge reason behind why you're not getting better word of mouth publicity from the PvP crowd. (16 January 2008)

Republica's post received strong endorsement and support from many of the long-standing and committed *Fury* play-testers, many of whom had invested considerable time and effort in the process of testing *Fury* and offering feedback to the Auran developers.

Transactions or exchanges play out here (Banks, 2009): the participation of the gamer consumers endorsing *Fury* through their fan social networks requires Auran in turn to recognize the status and contribution of their expert knowledge in the context of a co-creative relationship for mutual benefit. There are also literacies, skills and competencies evident here as gamers navigate, negotiate and also contest this emergent social-network market relationship. But recognizing the social-network market institution constituted and exercised through these exchanges requires us to take seriously the agency of this critical-creative citizen-consumer.

This attention-seeking and often competitive action can be characterized as a type of consumer entrepreneurialism in that it is both creative and destructive. It creates knowledge, but this distributed network of both professional and non-professional expertise also disrupts industrial-era modes of controlling and organizing cultural production. This entrepreneurialism introduces growth, dynamism and change, and this focus on the agency exercised by creative consumer-citizens requires us to analytically grapple with the processes of origination, adoption and retention of knowledge that characterize entrepreneurship and economic evolution.

The entrepreneurial character and value of this agency is evident in the position of Auran's professional community relations managers working on the *Fury* project, or more precisely, in how they navigated social-network markets to occupy these positions. A focus of the study was Alex Weekes, who started out developing and displaying his skills and competencies as an online social network navigator, or community manager, through participation in the competitive guild-based player versus player fan community forming round ArenaNet's MMOG *Guild Wars* series, published by NCsoft. Collaborating with a fellow gamer, Alex built and maintained a successful *Guild Wars* fan site, The Guild Hall, that attracted significant user traffic. This started out as a fan-based non-market enthusiasm. The motivation, in Benkler's (2006) terms, then would appear at first glance to be non-market and non financial. Alex's motivation to participate is to build and maintain his status or social standing with the player versus player MMOG community. However, his online display of skills and abilities in building and managing online social networks also functioned as a signalling device within the context of the attention economy. Weekes's ability to attract and retain the attention of other *Guild Wars* gamers was quickly noticed by business interests, as his interest in the fan site was eventually commercially bought out. In interviews, he stressed that at no point in the process of establishing the site did he envisage that it would become a business opportunity, or even for that matter a job. The commercial outcome was 'something of a surprise really, we didn't foresee that at all'. Here, enterprise opportunity emerged from passionate fandom. His display of skills as a community manager running the fan site also attracted the interest of NCsoft, the publisher of *Guild Wars*, from which he eventually secured a job in the UK as a community relations manager. Auran then recruited him in mid-2007 to work on the *Fury* project. Similarly Dan Gray, employed as *Fury* community relations support, was an active and talented member of a high profile *Guild Wars* PvP clan. He also

attracted Auran's attention through his ability as a forum moderator for one of the more successful player versus player MMOG fan sites. Auran's recruitment of both these men recognizes and rewards the value of their skills and competencies as talented navigators of social network market relations.

The story of Auran's *Fury* and its complex and fraught interaction with its base of consumer co-creators, including its rise and eventual downfall, raises obvious business strategy questions, but also some fundamental analytic questions. Plainly, the story of one company and of its apparent mishandlings of the complexities of consumer co-creation does not constitute a research conclusion. But what it does signal, and provide clues towards, is the need for better theoretical understandings of this phenomenon.

### **Explaining consumer co-creation (I): markets or culture**

The Auran case illustrates various analytic challenges posed by consumer co-creation. Most obvious are the question of motivations to participate in such relationships, both by consumer co-creators and businesses, and the specific nature of the costs and benefits that accrue to each. But the Auran study also illustrates the difficulties involved in navigating these relationships and how they stand in the context of extant behavioural and social norms, community practices, business models and institutions. There are two distinct lines of modern analysis: either viewing consumer co-creation as an extension of market exchange, and thus a product of incentives associated with existing institutions; or viewing consumer co-creation as the emergence of a new non-market model of production centred on socio-cultural explanations.

The first, broadly associated with economic explanations, centres on recognition that consumer co-creation is a voluntary (rational, incentivized and non-coercive) exchange. It is therefore axiomatic that both sides benefit, or else the exchange would not take place (Boldrin and Levine, 2008; Johnson, 2002; Lerner and Tirole, 2002; Llanes, 2007). Labour signalling and learning-by-doing are presumed to be behind otherwise seemingly altruistic motivations (Lee et al., 2003; Mustonen, 2003).

The economic perspective emphasizes consumer co-creation not so much as a production relation, but as a voluntary exchange relation with often complex and subtle incentives and forms. These extend beyond labour and goods markets to include a more complex exchange of less tangible and fungible goods, such as reputation, opportunity, learning, recommendation and access. These in turn involve future labour markets and options over intellectual property that create additional incentives that mostly operate in shadow markets, such as markets for reputation, that may only be monetized indirectly, if at all, and are difficult to observe. For example, Alex Weekes did not set out to monetize his fandom; rather, that just happened. And the skills he gained in establishing and coordinating fan bases were not a deliberate strategy of human capital investment; it just turned out that way. This shadow market aspect is easily and often confused with non-market motivations and context.

Cultural and new media studies researchers, however, have not viewed consumer co-creation in terms of market exchange, but have instead maintained emphasis on its essential nature as both a production relation on one hand and a non-market relation on the

other. Within this frame, there are many claims of exploitation that derive from a Marxist theory of surplus value creation (Foster, 2007: 718). Ross (2009: 15), for example, argues that in amateur content production platforms such as *YouTube*, *Flickr*, Facebook and Twitter 'the burden of productive waged labor is increasingly transferred to users or consumers'. The humanities-based literature thus seeks to find socio-cultural explanations for the observed phenomenon of voluntary work and social production. Julian Kücklich's (2005) concept of 'playbour', which articulates the blurring of the boundaries between the cultural and the economic domains, may seem a useful approach.

In the enlightened model (Benkler, 2001, 2006), the firm itself is transformed into an organization that works for the public good by abandoning the proprietary model altogether and freely distributing its product, as for example with canonical examples Linux and Wikipedia. There has recently been much discussion of this model and its prospects for generalization across the entire economy (Leadbeater, 2008; Shirky, 2008). Critical attention, however, has largely focused on the extent to which consumer co-creation proceeds as an extension of the old model of consumer manipulation through involvement in product development processes, such as focus groups or reference groups. In this view, consumer co-production is an expression of a burgeoning new era of non-market production and innovation driven by the democratization of the means of digital production and the surpluses it creates (Lakhani and von Hippel, 2000). Benkler (2006: 56) argues that a combination of excess capacity and democratic distribution of computing power, coupled with the public-good nature of information and the modularity of problem-space, is ushering in a revolution in which peer production and 'nonmarket behavior is becoming central to producing our information and cultural environment'. Benkler heralds this as a coming triumph of non-market over market production.

Although these two perspectives – broadly economics, and cultural and new media studies – arrive at very different analytic frameworks and thus explanatory mechanisms of consumer co-creation, they both hew to an exclusivist line of analysis: either consumer co-creation can be understood as a market-based exchange activity governed by extrinsic incentives, or it can be understood as a non-market cultural production governed by intrinsic incentives. It is implicit that only one of these explanations can be correct. Yet that does not fit the facts as outlined in our case study. A central finding was that complex motivations were at work over multiple markets. Weekes, for example, was able to monetize his contributions in secondary markets. This tends to point towards the market-based economic explanation. At the same time, there was considerable conflict between norms, expectations and institutions, all of which implied that cultural factors and emergent institutions also mattered.

As such, we suggest a third explanatory model of consumer co-creation that seeks to integrate both market exchange explanations and cultural production explanations at once. This framework does not simply add these explanations together, *mutatis mutandis*, but rather reframes both into a more general co-evolutionary analytic model in which economic and cultural factors are conceptualized in a dynamic open relationship: each affects the other such that consumer co-creation emerges as an evolved process in respect of practices, identities, social norms, business models and institutions of both market-based extrinsically-motivated exchange relations and culturally-shaped intrinsically-motivated production relations.

## Explaining consumer co-creation (2): co-evolution of markets and culture

A co-evolutionary model of consumer co-creation is neither an economic analysis nor a cultural analysis per se, but seeks to employ both modes of explanation to account for the dynamics of consumer co-creation. This will then occur over multiple dimensions that include market outcomes, practice and identity, institutions and so on. The central aspect of a co-evolutionary analysis is that cultural factors (identity conceptions, received practices, power relations) affect the space of economic outcomes, and at the same time economic factors (implicit contracts, incentives, markets and business models) affect the space of cultural outcomes. This sets up a dynamic co-evolutionary process, in which change in one affects the conditions of the other, which then adapts, in turn inducing a change that affects the other, causing it to adapt and so on. The point is that this approach reframes the context of analysis from a search for single-valued explanation, that is, the economic or cultural factors that are really driving this, and instead shifts the core of explanatory analysis to the study of the interaction between the two domains.

This leads to somewhat different perspectives that override the notion that consumer co-creation is fundamentally an exchange relation or a production context: either a market or a non-market context. Instead, both may be simultaneously true, with analysis then focused on how they mutually affect and continuously transform each other. Our specific concern is the analysis of consumer co-creation in the making of videogames, but the broader analytic point is that the new media context is replete with instances where either economic or cultural analysis approaches not only fail to gather the full set of concerns (because economic analysis tend to ignore cultural factors, and vice versa) but, more important, they also systematically neglect what is often the most important aspect, namely the dynamic (co-evolutionary) interaction between the two domains. Towards explication of this, we now turn to two particular models of co-evolutionary analysis: multiple games and social network markets.

### *Multiple games*

Standard economic and social science models of human action routinely allow complex motivations and incentives, but not complex contexts, for example analysis of consumer co-creation is framed in either a market exchange context or in a socio-cultural production context, but not both. It is of course entirely logical to decompose complex situations into, for instance, economic contexts that induce economic behavioural responses, and cultural contexts that induce cultural behavioural responses. The actual context of human action is rarely so neatly decomposable and commonly consists of situations of simultaneous multiple contexts that do not permit multiple actions (e.g. a separate economic action from a socio-cultural action) but require a single action that plays out across all contexts simultaneously: this is the context of a multiple game. Our argument is that consumer co-creation is a paradigmatic instance of a multiple game.

Multiple games theory (Page and Bednar, 2007) is a recent extension of game theory<sup>2</sup> that analyses choice situations in which an individual agent uses a single strategy to interact in multiple conceptual spaces, or 'games', that are otherwise incommensurable.

Standard game theory<sup>3</sup> allows considerable complexity in the agents, strategies and rules of the game, but always supposes that only one game is being played. A multiple game differs in that a single strategy is played over multiple games, with each game representing a different set of rules, payoffs and even players.<sup>4</sup>

Multiple games theory provides a method to address the notion that not only are there multiple contexts of action in consumer co-creation – such as intellectual property production, future labour market signalling, learning and feedback, equity stakes, cultural identity and opportunity, cultural participation, community norms – but also that these dimensions are fundamentally incommensurable. This is important, because were these dimensions commensurable then it would be possible to sum the costs and benefits associated with each dimension, appropriately weighted to reflect the agent's innate cultural and economic preferences, to arrive at a single rational choice or play.

Yet this was not observed. Our subjects did not display evidence of neatly compartmentalizing different aspects of context and then resolving these into actions that reflected the various inherent trade-offs. Rather, they behaved as if these multiple contexts and distinct tensions were not there at all, that is, they resolved them into a seamless dynamic context over which a single action was played that they identified with in all contexts. This is precisely what multiple games theory would predict, whereas a standard economic or cultural analysis would predict the opposite – namely that the various motivations would be experienced as distinct, and thus inherently conflicted.

The overarching point is that this frames consumer co-creation as a context of institutional evolution over the populations of agents that have resolved the multiple game into a singular action, and thus institution, against those who have not. In other words, this is not a context of conflicted motivations – for example market self-interest versus cultural participation – and irrespective of whether this plays out in a single person seeking to balance these conflicting objectives, or between groups representing each objective, like businesses versus the communitarians. For regardless of the internal weighting an individual might give to these motivations, or on which side they most strongly identify, in all instances they are operating with respect to a given institutional context in which these objectives and motivations are in conflict and require resolution. Yet what the Auran study highlights, and we believe typifies, is a context that distinguishes those who have resolved these multiple games into a single context, and thus act in such a way that, in effect, presumes this is already an institution, versus those who continue to act in ways that reflect past and extant institutions, regardless of whether these are explicitly market-facing or community/cultural-facing.

This case study highlights what we believe is a widespread misrepresentation of the context of consumer co-creation, best represented in the work of Benkler (2006), that views it as the ascendancy of non-market production and institutions in the market realm, which will then retreat and atrophy. Yet from the multiple games theory perspective this may not be a battle between two existing institutional modes of production, where the gain of one implies the loss of the other, but rather is an evolutionary process that pits new complex behaviours and emergent institutions against all older institutional forms. Again, this co-evolutionary dynamic is subtle, because if so, then this will give rise to new non-market behaviours and institutions (e.g. co-creator cultural communities) as well as new market forms and institutions (e.g. reputation markets, networked business models).

We witness the co-evolutionary dynamic at work in the emergent identities associated with new institutions. The resolution of a multiple game into a single action also implies a new single identity, that is, one that is not manifestly composed of the various parts of the resolution, but that seeks to reflect this wholeness and consistency of action (Akerlof and Kranton, 2000; Kirman and Teschl, 2004). We may observe this, for example, in the evolution of occupations and professions, where as various skills and actions combine into new specializations they also express a new identity. This matters for internal consistency and resolution, but also for social signalling and coordination, so that agents of the same type may recognize each other in order to effectively cooperate, and that agents of different types may understand their respective motivations and expectations.

The consumer co-creators in our study were highly adept at developing such identity mechanisms and in reinforcing community norms. Remember that Weekes started out as an organizer of such community networks. In turn, problems consistently arose when there were failures to correctly identify agent types and relevant norms and expectations, that is, in distinguishing agents playing a multiple games strategy from those who were not (irrespective of whether it was a communitarian or a for-profit strategy). This was apparent in the late stage behaviour of Auran and the outrage it generated, as well as in the behaviour of other gamers when the game they thought they were playing changed. This highlights the potential for a cooperative system of consumer co-creation to unravel very rapidly when other parties act in such a way as to, in effect, change the game they are playing.

Multiple games theory thus provides an analytic window into how complex and conflicting motivations and incentives can resolve themselves via institutional evolution that gives rise to new behavioural norms, cultural practices, identities, and even business models and market types. An exclusively economic or cultural analysis would inherently miss this co-evolutionary dimension. And although there will of course be instances where such co-evolutionary dynamics may be only second-order effects, consumer co-creation illustrates the opposite, namely that sometimes such emergent dynamics are actually central to understanding the proper analytic context. While space does not permit further consideration, we suspect that many aspects of new media analysis are like this.

### *Social network markets*

A further aspect of the co-evolutionary dynamics of consumer co-creation in digital media in general, and videogames in particular, lies in the ongoing interaction between market and non-market contexts. This relates not only to how each provides conditions for the other, but in terms of how they transform into each other. This can be analysed with the theory of social network markets (Potts et al., 2008).

A social network market exists when rational consumer choice is centred not on price information, but on observations of other agents' choices due to uncertainties about product quality arising from novelty or complexity, and the cost of acquiring this information oneself. Agents thus economize on these information costs by making use of other agents' prior and signalled choices and investments: this gives rise to a social network market. The key feature of a social network market is that coordination does not predominantly occur through price signals, as in mature markets, but through the social information signals of the behaviours of other agents.

The role of consumer co-creation through social networks will often play a significant role in shaping demand, a situation that is common in digital media and especially online gaming (Castronova, 2005, 2006; Neff, 2005; Williams, 2006). Recognizing the significance of social network markets helps explain both producer willingness to engage in this business model for marketing reasons, and the indirect benefits of consumer co-producers in terms of social network status (which reinforces the emergent identity dynamics of consumer co-creators, as above). Consumer co-creation in social network markets thus also presents a third option beyond a binary conception of such activity as being either market (economic) or non-market (socio-cultural). The binary conception prevails in much of the social production literature (Benkler, 2006), in which intrinsic motivations centred on self-identity and engagement, as shaped by social norms and institutions, underlies consumer co-creation. In this context, extrinsic motivation via prices, money and markets is assumed to operate against intrinsic motivations, either inhibiting or crowding them out (Zeitlyn, 2003). Yet conceiving consumer co-creation in terms of social network markets avoids assigning behaviour as either intrinsic socially motivated or extrinsic economically motivated, but instead allows a complex interaction between the two motivations and domains (Johnson, 2002).

Conceptualizing consumer co-creation in terms of social network markets draws attention to a demand-driven dynamic in which the agency and choices of creative citizen-consumers and their social networks are fundamental. For example, the purchase of a videogame and investment in its online social networks may be prompted by a group of fellow game enthusiasts (a local social network) that have recommended the title, or by positive reviews posted to fan forums by other gamers on distant but still connected social networks. These social network dynamics can clearly be seen playing out around the success of enterprises such as Facebook, YouTube (Burgess and Green, 2009b), Amazon and MMOGs such as Blizzard's phenomenally successful *World of Warcraft*. Yet these non-market social networks interact and co-evolve with market contexts: they may give rise to potential for-profit businesses in their own right, as well as instrumentally shaping the creation and development of markets themselves (Malaby, 2006).

This co-evolutionary perspective contrasts with Benkler (2006), who argues that the motivations and incentives to participate in peer production are fundamentally intrinsic and social. Drawing on co-operative behaviour research, Benkler argues that attempts to monetize such participation can crowd out intrinsic motivations to participate, implying that intrinsic and extrinsic motivations are non-fungible. Peer production is inherently non-market, he maintains, and will increasingly occur outside the ambit of firms, as agents are presumed to participate for either market or non-market based motivations. Yet this starting point actually detracts from the full implications of Benkler's observation that firm and peer production networks are co-evolving and transforming market institutions. The social network markets perspective suggests that this is not a binary choice between different coordinating institutions, but rather that social network markets are a coordinating institution that shapes the development of markets and even gives rise to new markets (White, 1981).

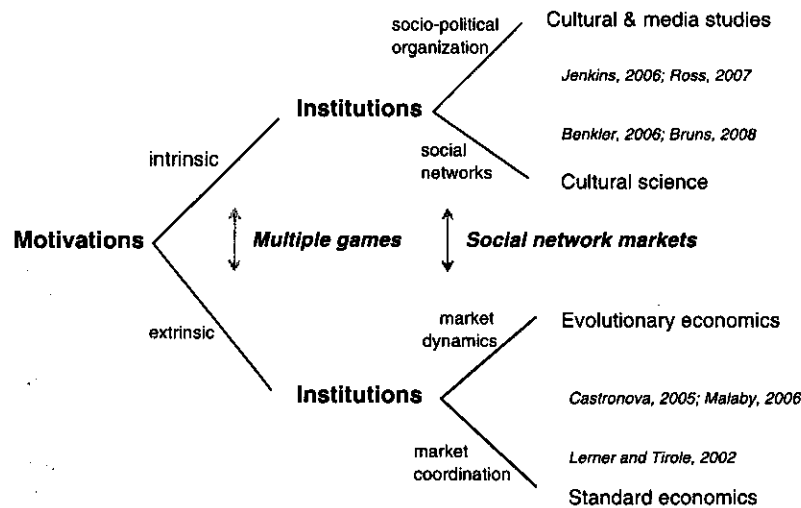
Consumer co-creator agents seek both economic opportunity and the social status and intrinsic rewards earned from participation in social networks as sophisticated navigators of the motivation spectrum of Lanham's (2006) 'attention economy'. Creative

citizen-consumers increasingly transact across these motivation and incentive domains, continually giving rise to new institutional forms about which both cultural and economic institutions then re-coordinate. This social network market approach thus foregrounds consumers as entrepreneurial deal-makers, agreeing to exchanges and negotiating the terms of these relationships based on some level of calculation of self-advantage as well as paying money or attention to the provider in a two-way transaction of complex network choices. This is close to Jenkins's (2006: 20) conception of 'affective economics'. As companies seek to engage consumers as active co-creative participants, this in turn transforms consumers' expectations of how companies will participate and the terms and conditions of that participation. Jenkins argues that these struggles and exchanges around affective economics will shape the nature of co-creative participation. As consumers accept and act on these invitations they demand levels of engagement, collaboration and participation that many companies are not comfortable with, or have not yet adapted appropriate business models with which to successfully engage.

### A new model of consumer co-creation?

We have sought to introduce two new models of consumer co-creation that we suggest may be generalized from the Auran case study. We propose this because the existing models – from both the economic side in terms of extrinsic motivations and market institutions, and the cultural/new media side in terms of intrinsic motivations and participatory culture – did not fit the facts we observed in the case study of Auran games. The context of these two models is represented in Figure 1 below.

First, we observed complex motivations of consumer co-producers that exhibited aspects of both intrinsic and extrinsic motivations and, most significantly, acted as if



**Figure 1** Taxonomy of consumer co-creation analysis

these were not conflicted but, rather, had been transcended. Indeed, much of the observed trouble arose when such agents interacted with others who had not resolved this, and so continued to behave as if either intrinsic or extrinsic motivations were dominant. This led us to the concept of multiple games in which an agent plays a single strategy across multiple contexts (or games, in the language of the theory) and resolves this tension via an emergent identity with new institutional rules and expectations. The theoretical implications of the multiple games model are such that we should therefore not expect to observe pure economic (extrinsic) or pure socio-cultural (intrinsic) motivations and associated actions. Many observed actions, including consumer co-creation, may correspond to the outcomes of a multiple game.

The notion that consumer co-creators are an advancing vanguard of intrinsically motivated participatory culture warriors is as wrong as its opposite: that they are subtle and cunning exploiters of faraway reputational markets. Instead, we propose that the proper motivational context, as well as institutional framework, is that of the resolution of complex motivation situations into singular actions, about which new institutions then form. These emergent institutions will have economic dimensions in relation to business models, remuneration strategies and contracts, and market opportunities. They will also have socio-cultural dimensions in relation to new normalized practices and expectations, identity markers and community norms. These new economic and cultural institutions are the outcomes of the multiple game played about consumer co-creation.

The second aspect of our new model was to question the dichotomous distinction between market and non-market contexts, which is a framing that has seemingly taken root in much analysis of consumer co-creation. Our critique here was that the term 'market' is widely taken to mean 'mature market', in which coordination is achieved exclusively via price signals. But all novel goods and services – and innovations in general – develop in a social context as agents observe each other's experiments and results and adopt new ideas in this intensely social and cultural context. These are social network markets, and they are the developmental stage of what may eventually become a mature market. These are markets because exchange occurs, but it is social connections and recommendations, access and attention that perform the coordinating function, not price. Strategies, business models and institutions that work in mature markets do not necessarily work in social network markets. This matters because consumer co-creation is neither a market nor a non-market context, but something that emerges most powerfully in the social network market context.

Consumer co-creation is thus not a context of social and participatory cultures on the one side, and the market and its individual rationality on the other. Rather, social network markets simultaneously engage both domains of motivations and coordinating institutions. Consumer co-creation occurs in this co-evolutionary space. Yet this is a continually transforming space of new cultural practices, new business models and other institutions that govern and regulate these exchanges. These are still emerging and developing, aligning uneasily and sometimes abrasively with existing industrial media-era institutions, as was clearly observed in the travails of Auran and its interactions with its consumer co-creators in the absence of explicit institutions and with confusion about implicit institutions. Auran misunderstood not just the multiple games that it and its users were playing, but also the social network market context in which it was engaged.

Multiple games and social network markets thus occur at the dynamic intersection of situations that simultaneously engage both economic and cultural contexts, motivations and institutions, a context that we think is exemplified by consumer co-creation. What implications, then, does our new model have for further research in new media and games?

First, complex motivations do not necessarily lead to complex actions. Instead, this complexity may be resolved at the level of institutional change. This suggests more attention to how identities, communities and business models associated with consumer co-creation adapt and change, rather than how they dominate or prevail.

Second, economic forces are not necessarily in opposition to cultural forces, but rather both continually accommodate and adapt to each other. Economic systems co-evolve with cultural systems (and with technological systems and political systems, etc.). It is this co-evolutionary dynamic that gives rise to such emergent phenomena as consumer co-creation in the first place, and as it emerges and develops both economic and cultural systems will change and adapt further. Further research into consumer co-creation, and particularly in new media contexts, should aim to be a study of that co-evolutionary process. Both multiple games and social network markets are proposed as key mechanisms in this process.

Third, there are always implicit contracts involved in consumer co-creation, even when not made explicit, and failure to recognize and respect these contracts was central in what went wrong at Auran. Yet the precise nature of these implicit contracts remains a 'black box', and thus an opportunity for further research. What both multiple games and social network market mechanisms point to is that any attempt to unpack these into purely communitarian gift motivations or veiled pecuniary motivations is unlikely to succeed. Instead, models of consumer participation in production and innovation will need to develop more integrated models of human action and institutional co-evolution. Consumer co-creation in new media offers an ideal context for the study of such complex motivations and the co-evolution of cultural and economic institutions.

## Notes

- 1 Also see Jarrett (2008a, 2008b) and Kline et al. (2003).
- 2 Note 'game' as in mathematical 'game theory', i.e. a context with a given strategy set and defined pay-offs. That our subject matter is also multiplayer video-games is unrelated to the formal meaning of a multiple game.
- 3 Formally, a game  $G$  is defined over  $N$  players, each with strategies  $S$ . A game is subject to pay-offs ( $\pi$ ) and controlled by a set of rules. A game –  $G = \{N, S, \pi\}$  – is the study of strategic interaction in which what is best for one player to do depends upon what other players do, and vice-versa.
- 4 The idea of multiple games theory was first proposed by Long (1958) and then Bowles and Gintis (1986). In the Page and Bednar (2007) model of games theory, the rationale for a multiple game is an extension of bounded rationality (Conlisk, 1996) to suppose that strategies are costly to construct (or compute) and so playing the same strategy in multiple games is a form of satisficing (Miller and Page, 2007).

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