Co-Evolution of a Virtual Experience Environment: The Application of a Business Model to the Machinima Community

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Abstract

This paper reports on research which aimed to investigate the nature and characteristics of a virtual 'experience environment', and examines the perceived benefits of those participating in the value creation process within the network. The experience environment is a subset of the Machinima community, where participants collaborate with each other, often in a virtual space facilitated by web 2.0 technologies, to produce original animated films made in real time using 3D computer games engines as the artistic platform (Academy of Machinima Arts and Sciences, 2008). The investigation used a mixed method qualitative research design (eg., Geertz, 1973; Strauss and Corbin, 1990). Data was collected in three phases: participant-observation (Fletcher, 2002) of a Machinima film festival; interviews with key informants (McCracken, 1988); and, blogging sites to support convergent findings. Content analysis was used to reduce data to key themes (Krippendorff, 2004; Weber, 1990) and develop a conceptual map of the value creation process. Findings show how producers and consumers actively build and maintain relationships with each other to co-create value in a reciprocal learning mode (Vargo and Lusch, 2004) within a virtual community. From one firm's perspective, the approach taken has lead to the evolution of their business model that now incorporates consumers as service developers and providers whereas co-created value from consumers' perspectives enables them to extend their visibility as artists in an increasingly complex experience environment. Implications of the findings suggest how producers and consumers may collaborate to co-evolve the experience environment.

INTRODUCTION

Despite recent interest in the Service Dominant logic, a number of 'central' issues are still '*ripe for further elaboration*' (Vargo and Lusch, 2008:9). More specifically, linkages between value proposition, value co-creation and co-production, value networks and value capture require deeper understanding (cf. Payne *et al.*, 2008; Gummesson, 2008; Sandström *et al.*, 2008). Compelled to explore Vargo and Lusch's (2008) suggestion that a generalised S-D logic '*is a lens through which to look at social and economic exchange phenomena so they can potentially be seen more clearly*' (p.9), this paper draws on the S-D logic, Network and Business Model literature to identify four key components which collectively describe the '*holistic gestalt*' (Zott and Amit, 2008:4) of a value creation and capture model (Chesbrough, 2007). The paper subsequently explores the application of this business model framework within a specific virtual community based context so as to derive a deeper empirical understanding of the relationship between the value themes proposed within the model. To this end, the paper is structured as follows: firstly, in order to present a cohesive account of the research, a synopsis of the salient literature on the S-D logic, Network and Business Model literature is presented. Thereafter, the research methodology is outlined and justified. Findings are presented along key 'value themes' identified within the literature as being pertinent to a business model, namely: value proposition, value creation, value network and value capture. The paper ends with a conclusion.

LITERATURE REVIEW

Interpretations of value and the processes of value production and creation are rapidly evolving away from product and firm centric perspectives frequently embedded within value chains (e.g. Porter, 1980) towards a more phenomenological and experiential orientation associated with 'idiosyncratic' determination (Vargo and Lusch 2008). Primarily based on the emerging discursive power model advocating co-creativity between consumer and firm (e.g. Holt, 2002), this approach implies value is uniquely and contextually interpreted by the beneficiary (Vargo and Lusch, 2008). Indeed, within many contexts the original producer may now be completely omitted from the value producing experience (Plouffe, 2008) insofar as a firm's '*value proposition*' (Grönroos, 2008) is accepted and '*integrated*' (Lusch and Vargo, 2006) with a consumer's '*value foundations*' (Grönroos, 2008:303) to create value disjunctive of the original producer . Such value foundations comprise of skills, information and knowledge which are transformed through value generating processes encompassing physical activities, mental effort and socio-psychological procedures (Ballantyne and Varey, 2008) into value-in-use experiences. Hence, the value proposition offered by the firm merely acts as a '*value faciliator*' (Grönroos, 2008) for the consumer to generate their own '*personalised consumer experience*' (Prahalad and Ramaswamy, 2004) by optimizing their value foundations. Thus, value is considered to reside not in the object of consumption but in the experience of consumption (Pine and Gilmore, 1998). When this value-in-use perspective is adopted, customers may be perceived not only as consumers but also as producers that determine what is of value (Ballantyne and Varey, 2008). Such a perspective is consistent with the concept of '*prosumption*' (Toffler, 1980) insofar as customers *pro*duce products for their own con*sumption.* In doing so, individuals seek self-expression through customising their own products (Cova and Cova, 2002).

Frequently such products are used by individuals to identify their perceived self with their actual self through a self identifying process (e.g. Ball and Tasaki, 1992). As Payne *et al.* (2008) state: "*For Consumers to fulfil their desires, marketers need to empower these consumers to become marketers of their own self-images*". More specifically, Payne *et al.*, (2008) view the role of the supplier as one of providing '*experiential interactions and encounters which customers perceive as helping them utilise their* [operant] *resources*' (p.87). Increasingly, such interactive and 'dialogical' processes (Ballantyne and Varey, 2006) are taking place within the context of virtual consumption communities (Rowley *et al.*, 2007). From a consumer perspective, the construction of social identity through consumption activities within virtual '*experience environments*' (Prahalad and Ramaswamy, 2004) may manifest itself in individuals seeking to identify with communities that are perceived to be attractive to them (Dutton *et al.*, 1994). Indeed, web based technologies have enabled such communities to emerge that may be defined in terms of '*use and interest rather than proximity*'.

The associated shifting of focus by firms from ownership and control to one of openness and shared participation implicit within such a logic requires a reconsideration of the foundations and processes that underlie value creation and value capture (Chesbrough and Appleyard, 2007). Increasingly, there is a realisation by firms that consumer participation in the value creation and production process may provide opportunities for a firm insofar as consumers will often possess a wide range of skills, sophistication, interests and savyness which offer an untapped source of knowledge (Blazevic and Lievens, 2008). Thus, for some firms and indeed most consumers, there is a recognition of the potential of such knowledge to '*increase in value when it is shared*' (Sawhney and Prandelli, 2000:27). Blazevic and Lievens (2008) use the term 'bidirectional creators' to describe the phenomenon of where online communities collectively co-create, co-produce and co-consume information about a shared object of interest.

Whilst much of the literature use the terms 'co-creation' and 'co-production' interchangeable, for reasons of clarity, it is pertinent to distinguish between them within the context of this research. As previously indicated, value 'co-creation' is unique to the individual insofar as it comprises creating value-in-use frequently within an experience environment through the integration of the firm's value offering and the consumer's operant resources. Co-production however, encapsulates "*participation in the development of the core offering itself. It can occur through inventiveness, co-design, or shared production of related goods*" (Lusch and Vargo, 2006:284). Thus, with the adoption of the S-D logic, it may be argued that co-production is distinct but nested within co-creation of value (Vargo and Lusch, 2008). Crucially however, and in opposition to much of the extant literature on co-production, it is not the consumer who participates in the firm's value creation processes but the firm creating "*opportunities to engage itself with its customers' value generating processes*" (Grönroos, 2008:307) that ensure "*positive interventions or further developmen*t" (Payne *et al.*, 2008:27). Thus, firms innovate *with* customers rather than *to* customers (Blazevic and Lievens, 2008: 140) by actively involving them in the innovation process. Knowledge becomes 'self-generative' (Blazevic and Lievens, 2008) insofar as one piece of knowledge creates conditions for subsequent knowledge generation. Hence, value generation within virtual

'value constellations' (Michel *et al.*, 2008) is less likely to occur linearly through value chains but rather it emerges dynamically and often subconsciously (Payne *et al.*, 2008).

Despite these advances in S-D thought, it is acknowledged that studies of such value constellations and networks have generated diverse and varied findings and further elaboration of the S-D perspective is called for (Vargo and Lusch, 2008). It is proposed that the Business Model as a unit of analysis may be an appropriate tool to conduct such research as it has the ability to '*explain and predict an empirical phenomenon*' (Amit and Zott, 2001:511) and hence provide some insights into the phenomena being investigated.

The Business Model as Unit of Analysis
Described as a '*relatively new, yet rich and potentially powerful concept*' (Zott and Amit, 2008: 1), an increasing number of management researchers, organisational theorists and economists have invoked the concept of the 'business model' in an attempt to address research questions (Tikkanen *et al.*, 2005). Indeed, cotemporary management literature demonstrates a 'surge' in the business model lexicon (cf. Shafer *et al.*, 2005; Amit and Zott, 2008) and it now is considered a '*pertinent notion*' within such literature (Tikkanen *et al.*, 2005:789). Despite this, it is still a relatively sparse concept within the marketing literature being adopted by only a limited number of authors within this discipline (Tikkanen *et al.*, 2005). Initially associated with the 'new economy', the popularity of the concept started in the dot-com era when firms offered 'business models' as a means of eschewing conventional business practices and a means of attracting investors (Shafer *et al.*, 2005). Whilst these early business models focussed on organisational structures and capabilities (cf. Normann, 1977), latterly the focus has been on exchanges with external stakeholders (Zott and Amit, 2008) manifesting in broader conceptualisations '*beyond the legally relevant demarcation of the firm from its environment*' (Santos and Eisenhardt, 2005). However, despite the increasingly widespread adoption of the concept, there is still a diversity of definitions and accompanying multiple interpretations within the literature which pose challenges in determining the nature and scope of what a business model is and what it comprises (cf. Morris *et al.*, 2005; Shafer *et al.*, 2005; Chesbrough and Rosenbloom, 2002). Subsequent to a meta-review of the literature, Shafer *et al.*, (2005) offer a definition which they argue 'integrates' and syntheses' previous work in this field stating a business model is the '*underlying core logic and strategic choices for creating and capturing value within a value network*' (p.202). Implicit within this definition is a suggestion that business models may provide a '*rationale for value creation and appropriation*' and a '*reference to the overall gestalt of possibly interlinked boundary-spanning transactions*' (Zott and Amit, 2008:3). This in turn enables the selection of relevant design themes which identity and orchestrate the firm's interactions with external entities. Further analysis of the literature by Shafer *et al.*, (2005) identified 42 different components of business models. Basing their evaluation technique on the process of constructing affinity diagrams (Pyzdek, 2003), they categorise these into four key components based on their underlying similarities: value creation; value network, value capture and strategic choices.

However, a number of issues are raised by this model. Firstly, whilst some authors include elements of strategy in their definition and construction of business models (e.g.

Chesbrough and Rosenbloom, 2002), most are devoid of a strategic element per se. Drawing on previous literature, it is therefore argued that a business model is a concept separate from strategy but may be used merely to inform the strategic decision making process. For this reason, this component of the model is removed (Shafer *et al.*, 2005). Secondly, whilst Shafer *et al.* (2005) incorporate the notion of 'value creation' within the business model, it does not succinctly capture the often subtle distinction between the value proposition of the firm and how value-in-use may be derived by the consumer entirely disjunctive of the firm. Thus, it is argued that 'value proposition' is included in the business model. Hence, the following four key components are proposed as being intricate to a business model: value proposition, value creation, value capture and value network.

Morris *et al.* (2003) suggest that for a business model to be 'useful', such a framework should be '*reasonable simple, logical, comprehensive and operationally meaningful*' (p.729). It may be argued that this model fulfils the first three of these criteria but to examine whether it is operationally meaningful, application is required. It is anticipated that the application of this business model framework is compatible with the S-D logic insofar as it will provide a deeper empirical understanding of the relationship between value themes within a virtual community based environment and hence '*shed light on the role of exchange among service units*' (Vargo and Lusch, 2008:9) at this level of analysis. The next section of the paper outlines and justifies the methodology adopted for this investigation.

METHODOLOGY
The investigation used a mixed method qualitative research design which enabled 'deep' and 'rich' insights into the phenomena of interest with the focal community (Geertz, 1973; Feyerabend, 1981; Maxwell, 1996). A combined inductive and deductive approach was used to develop understanding of the research context and its complexities. Data was collected in four phases (see Appendix 1). Firstly, extensive documentation was collated based on participant-observation (Fletcher, 2002). Secondly, interviews were conducted with key informants (McCracken, 1988). Thirdly, data was collated from blogging sites and fora to support convergent findings at multiple stages in the research process. Fourthly, interim findings were discussed and further interviews were conducted with identified individuals with particular focus on developing further insight into relevant phenomena. The findings are reported using an ethnographic tradition (Agafonoff, 2006; Sherry, 1995). Content analysis was used to reduce data to key themes (Krippendorff, 2004; Weber, 1990) in a qualitative mode. The data collected was used to develop a conceptual map of value creation by the community and game developers' perspectives of this. Ethics was considered to be an implicit part of the research design (Hair and Clark, 2007). Participant-observation was overt with written consent sought from all participants.

FINDINGS
The findings section is structured so as to reflect the value themes identified as being key components to the Business Model. More specifically, value propositions, value creation,

value networks and value capture are all examined within the context of the Machinima experience environment.

Value Proposition
Machinima (pronounced 'muh-shin-eh-mah') is defined as "*film-making within a real-time 3D virtual environment, combining three creative contexts: film-making, animation and games development*" (Academy of Machinima Arts and Sciences, 2008). In essence, it is a technology mediated medium which enables the dissemination of user-generated content through second generation community specific sites or more mainstream sites such as Vimeo and You Tube. Machinima is the process of a player manipulating a computer game by 'integrating' the 'resource base' supplied within the game by the developer with their own 'operant resources' (Lusch and Vargo, 2004) to render animated films (Payne *et al.*, 2008). By such actions, players can "*transform themselves into actors, directors and even camera operatives*" (Lowood, 2005). The value proposition of the developer manifests itself in the games platform and more specifically, the production tools (such as script editors, camera angles, demo recording, games levels etc) and game attributes (characters, avatars, skins, textures, backgrounds) embedded within the game. As Lowood (2005) comments: "*When a computer game is released today, it is as much a set of design tools as a finished game design*" (p15). The online, real-time attributes of Machinima allow third parties to not only view but to modify films further. The implication of this is that once released by the developer, the value proposition is largely beyond the control of the original authors thus mitigating traditional concepts of 'ownership' and 'authorship'.

Value Creation
Reflecting an 'idiosyncratic' determination of value (Vargo and Lusch, 2008), there is evidence within the findings to suggest that consumers create their own unique 'value-in-use' experience within the context of the '*experience environment*' (Prahalad and Ramaswamy, 2004:9). The value proposition offered by the firm comprising of the original games platform and its inherent attributes may be accepted and integrated with a consumer's operant resources (Lusch and Vargo, 2004) and transformed through value generating processes (Ballantyne and Varey, 2008)) to value-in-use . Critically however, it is the real time, on-line participation in the extension of the original games platform through the co-creation of films with other participants that is perceived as crucial to the creation of and indeed, the simultaneous consumption of value. Value-in-use manifests itself in many different ways. For some respondents, value-in-use is evidenced in the socially inclusive and reciprocal nature of on-line participation in the pursuit of 'something better' and the 'constructive', 'non-judgmental' and 'democratic' consumption environment within which such activities take place. The resulting evoked feelings of 'camaraderie' and 'solidarity' (Zillman *et al.*, 1989) are all an implicit outcome of the value creation process. For others, value-in-use relates to enhancing self-esteem (Turner, 1987; Ashforth and Mael 1989) through earning pier recognition of their creative and technical skills as they optimise '*the artistic medium of the digital age*' (Lowood, 2006: 25). In essence, participants exhibit their creative writing skills and technical virtuosity within an experience environment which encompasses an appreciating audience of enthusiasts. For a few respondents, value-in-use manifested

itself in the medium being used to reenact particular incidents or communicate pertinent personal issues that were of concern to individuals in their offline lives through the manipulation of games characters. Frequently, such actions would stimulate advice and /or support from other members of the community.

Value Network

Reflecting much of the literature on 'value networks' (e.g. Sawhney and Prandelli, 2000; Amit and Zott, 2008, 2001), the locus of value creation no longer resides within the firm but is a 'community centric' process (Sawhney and Prandelli, 2000) with an emphasis on 'interactivity', 'connectivity' and 'creativity' (Cova *et al.*, 2007). The Machinima community functions as a complex organic system whose extension and shape are defined by the co-operative and co-evolving relationships that individuals enact with other individuals (Sawhney and Prandelli, 2000) leading to a virtuous and self-reinforcing cycle of value creation (Fleming and Marx, 2006). As one respondent comments: "*what's interesting about it is that it helps users teach other users about the products and they then become more educated about our tools*" (Games Developer). There is a lack of any formalised structure, mechanisms or control. Essentially the community behaves like a complex adaptive system, creatively evolving and self-organising to renew itself and maintain internal coherence (Sawhney and Prandelli, 2000). Collective value creation necessitates 'cognitive and cultural orientation' (Möller, 2008) and this is reflected in the '*shared cultural understanding*', '*dominant community ideology*' and unifying '*esprit de corps*' based around the common '*experience context*' (e.g. Haigh and Crowther, 2005:559-60). This enables a socialisation of knowledge which contributes to a synergistic output that is superior to the sum of individual outputs. Through a spiralling process of interactions between individuals, explicit and tacit knowledge transfer is achieved enabling the 'evolution' of the original games platform.

Value Capture

Community members' operant resources manifest themselves in the possession of a wide range of skills, sophistication, interests and 'savyness' (Blazevic and Lievens, 2008). Their collective value-in-use culminates in the creativity, diversity and agility of community members. Critical to the ongoing and sustainable nature of the community is the dialogical exchange between community members related to these operant resources manifesting in a process of learning together rather than just an exchange of information (Ballantyne and Varey, 2006). As one supplier states: "*one of the things that we love about it is that it is very much about a relationship within a community, its not fragmented into individuals, so they collaborate, they group and work together, they support one another - we love that from a tools perspective*" (Games Developer). Whilst the characteristics of the Machinima community reflect those of other virtual communities insofar as it mainly comprises of '*open, voluntary and collaborative efforts….of enthusiast, tinkerers, amateurs and everyday people*' (Shah, 2006: 1001), an increasing number of members are able to sustain an income from such related activities. This is often the result of an initially ad hoc process whereby the individual, experiences a 'creeping' level of involvement with the Machinima community over a period of time and the hence the switch from amateur to professional is seamless. However, the outcomes that motivate behaviour are not always the same as the outputs generated by the

behaviour. For example, some developers leveraged their efforts into paying jobs but it does not appear that these participants were originally motivated by the hopes of attaining such rewards (Shah, 2006). Indeed, these individuals are still firmly embedded within the community and immersed in its values. As such, there is not only a recognition of the operant resources retained by other members within the community and its potential value to the originating games developer but also the potential of optimising highly skilled individual 'power users' embedded within the community. From the developer's perspective, a key issue becomes the avoidance of 'autonomous knowledge production' (Sawhney and Prandelli, 2000). There is a recognition that the primary value of a piece of software they release is its subsequent manipulation by community members and its potentially rapid development if other community members participate in modifying and manipulating it. This ensures the continued development and evolution of value-in-use experiences by both other users the co-producers themselves thus ensuring novelty and currency of games content (Sawhney and Prandelli, 2000).   As one respondent comments: "*our users really know what the market needs better than we do so they will often create stuff ahead of what we can do*" (Games Developer).

Machinima developers are in effect contending with the management of complex and adaptive open distributed innovation systems that 'spawn' emergent self-organising communities that coalesce into self interest groups based around particular games platforms (Sawhney and Prandelli, 2000). Within such environments, the challenge from a developer's perspective is how to identify, capture and sustain the collective created value of the community without alienating the individuals or the community responsible for the continued development of value. Such contexts negate traditional rational, cognitively based assumptions about management and organisations and instead, embrace 'sociological' orientated approach to value creation and capture (Sawhney and Prandelli, 2000). There are a number of processes and techniques that developers have adopted in an attempt to address these issues. Developers continually 'listen in' (Urban and Hauser , 2004) on the '*experience rich, solution centred conversations of bidirectional creators*' (Blazevic and Lievens, 2008:148) within the community to identify potential development opportunities. Power users themselves will often 'self-select and 'self-signal' themselves as potential value co-producers (Sawhnwy and Prandelli, 2000). In the initial stages of games development, game content is released as a 'beta' prototype version and comments are invited back from 'core' members identified. However, participants must be 'in the know' insofar as they have an ongoing dialogical exchange with the developer and/or other power users to know when and where prototype versions are available, how to access them and how subsequently to participate in dialogical exchange related to the development of the prototype. In essence, developers are placing valuable intellectual property in the hands of other members but appreciate that the only way to protect new knowledge is not to share it. That said, there is a recognition that the implications of such actions would drastically reduce its intrinsic value and negate the core values of the community. Therefore the community implicitly acknowledges that co-production in knowledge creation requires recognition of the property rights of ideas and not just their expressions. Hence, value generation within such a context relies on the 'tightness of relationships' between individuals within the community in terms of trust, reciprocity and an absence of opportunistic behaviours (Tikkanen *et al.*, 2005) . Such an

orientation reflects the concept of the 'economy of participation' where *"value is based more on relationships than on possession and more on partnership than on ownership"* (Sawhney and Prandelli, 2000:71).

CONCLUSION

Compelled by suggestions that the linkages between value proposition, value co-creation, value co-production, value networks and value capture implicit within the S-D logic require deeper understanding, this paper argued that the business model concept may provide an appropriate unit of analysis for investigating these foci of interest and the inter-relationships between them. To this end, the paper identified four value themes which collectively described the holistic gestalt of a value creation and capture model. The paper subsequently explored the application of this business model framework within a specific virtually community based context so as to derive a deeper empirical understanding of the relationship between the value themes proposed within the model. Whilst the proposed framework is simplistic, its strengths lie in its ability to potentially identify, prioritise and communicate key value themes and the inter-relationships between these at an operational level. The model also provides considerable scope for flexibility and innovation within each of the components identified and provides a framework for the assessment of value creation and capture for both individuals and firms involved in this process. That said, there are clearly limitations. For example, this study only considered the application of the model within a virtual experience environment. Also, the context of this study was primarily within a social rather than a commercial network. However, within the context of this particular study, the application of the model confirmed the phenomenological and idiosyncratic determination of value by consumers. It also highlighted how experience environments, where value-in-use is determined by consumers, may manifest themselves as complex organic systems whose parameters are defined by the co-operative and co-evolving relationships that individuals enact with other individuals. This paper also provides insights of the challenge firm face in identifying, capturing and sustaining collective created value without alienating the individuals responsible. The investigation of the processes and tactics firms adopt to meet these challenges within other, perhaps offline contexts using the model proposed in this study would be an interesting direction in which to take further research.

Finally, firms need to identify and understand the priority and interrelationships of value themes identified within this study to their own particular contexts. It is hoped that the business model proposed in this study will provide a more integrative, flexible adaptive and practical framework to achieve this.

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APPENDIX 1: DATA COLLECTION PROCESS

Data	Description	Data Collection Period	Analytical Methods Employed
Machinima Europe Festival 2007	*Phase 1:* Researcher directed festival in October 2007, UK. Data collated comprises: • extensive correspondence with community leaders (Academy of Machinima Arts and Sciences and Machinima Europe Board and includes email and telephone call notes); • film-makers about film-making (83 festival entrant documentation); • network collaborations and film content (156 films – videos ranging between 30seconds and 1:40minutes); • distribution (resources used) and technologies employed (software and hardware) and film review panel (35 individuals, includes email and telephone call notes).	March to November 2007	Participant observation; content analysis of documents and films; conceptual maps of community and individual member involvement
Key informant interviews	*Phase 2* Semi-structured interviews with 10 key informants lasting between 1 and 2 hours.	April to Sept 2008	Content analysis; conceptual maps
Virtual fora	*Phase 3* 6 virtual community for a; 1 blog aggregation site; 1 upload portals for developed content (includes 98 blogs of machinima community members) - Machinimafordummies.com; Machinima.org; Machinima.com; mprem.com; moviestorm.co.uk; roosterteeth.com; machinifeed.com; machinimods.com	May 2008 to January 2009	Content analysis; conceptual maps
Key informant interviews	*Phase 4* Semi-structured interview with 4 key informants lasting between 1 and 2 hours	November 2008	Content analysis; conceptual maps