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## Creativity in web-based communities

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**Abstract:** While the common sense interpretation of interpersonal meetings mentions cognitive synergy, it is also clear that there is a sepsis on the collective thinking like Salomon's notion (Salomon, 1997) on 'distributed cognition'. The first priority is to understand skepticism on the additive nature of human creativity. The second priority is to understand why vicarious and mediated communication can achieve even better than face-to-face cooperation.

**Keywords:** web-based communities; virtual spaces for fictitious presence; creativity; co-creation; creative industries.

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**Biographical notes:** Piet Kommers is an Associate Professor at the University of Twente. His specialties are advanced learning tools such as concept mapping, virtual reality and mobile learning. His research and teaching stretch from teacher education via the European joint research projects to international projects under the auspices of UNESCO. His recent publications are on learners' preconceptions and representations that express pre-intuitive ideas before the actual learning may start: cognitive support for learning and imagining the unknown. He is the Editor of several research journals and organises conferences in mobile learning, e-society and web-based communities.

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### 1 Introduction

This article aims to bridge this special issue on medical applications of web-based communities and the next coming one on web-based communities for creative processes. The reason to mitigate these two application strands is its virtual antagonism; while the medical sense of community relies on patients' need for existential accommodation, the creative communities long for aggregating mental diversity in order to tackle the unforeseen in digression during gaming and playing. The main question to be answered here is if and how virtual participation contributes to creative solutions. The only way for industries to survive is to make the customer a co-creator.

## **2 From virtual worlds into creative communities**

The central thesis of this special issue is that the web and 3D spaces for virtual presence will gain more momentum the coming years. As 'piece de resistance' we are preparing for the next coming special issue the rationale and empirical underpinning if and how such virtual gatherings can attain a level of collaborative creativity that is normally seen as exclusive to face-to-face meetings. So far we have seen the aspect of creativity as the creation of web-based communities. The next special issue of IJWBC is going to address how web-based communities may enable the reactive factors of design teams even further than its face-to-face equivalent.

## **3 Web 2.0 and virtual presence**

The superposition of 'space' to the web is not a new one; the web is a virtual space with the potential to offer ubiquitous communication on-real life settings and real-time as well. Its location metaphor excels the document metaphor as it offers both episodic and epistemic anchors. The documentary entity inherits connotations from printed documents like integrity (bound to one or a set of connected papers), copy-right and most of the entire document carries the convention of 'consolidated' information. The web typically transcends the physical and leads to the virtual, the vicarious and the fictitious like in gaming and role play. Attributes of absolute location and the real identity of its personal characters become re-locatable and re-assignable. In this constellation the phenomenon of 'presence' becomes transient as well: a person may adopt a fictitious temporary personality and may even act as a stand-in for some-one else. This typically occurs in so-called 'call centres' that bypass the individual difference amongst its employees as much as possible in order to suggest one consistent response body. Essentially the phenomenon of vicarious actions is innate to face-to-face social meetings. One of its participants may act for the group as a whole; and by observing this person several other group members may for instance 'learn' as they see another member learning a certain skill. Mutual awareness arises when visitors to a certain website 'meet' based on the fact that they have a common interest. Virtual presence shows people who are at the same website at the same time. Virtual presence is a fertilizer for web meetings. A good question is whether the Web 2.0 exaggerates the opportunities of linking persons who have a common web attribute, as in common life a large part of social presence is just to pass by without starting any interaction. The evolving web etiquette of the coming years will teach us how the balance between anonymous floundering and actual participation lands.

## **4 Virtual worlds**

As explicit facilities for meeting on the web have come to life, we may ask in how far they promote real human values like cooperation, altruism, open-mindedness, tolerance etc. Systems like <http://www.openvirtualworld.com> for animating avatars that express your mental mood and can be inserted in one's games, <http://www.iosurf.com/> for finding persons who favour your favourite websites and <http://www.xpanity.com/> offering chat

live on any web page. Xpanity ChatPanel is a real-time chat add-on you can open alongside any page you visit. The essence is that each of these tools makes it easier to extrapolate one's web and email behaviour into establishing a social network. It's most widespread implementation of this very idea one can find in systems like Facebook and LinkedIn.

## 5 Social creativeness

The emergence of web-based communities has revitalises us to consider social problems as issues for social participation and for social creativity. As coined by C.P. Snow "The clashing point of two subjects, two disciplines, two cultures ought to produce creative chaos." From a technological point of view 'mediated presence' may be the ultimate piece de resistance; a more decisive question is if and how we may envision the optimal blend between synchronous and asynchronous ingredients in the cooperation process.

As virtual presence has manifested through the era of written documents we see a growing interest in extrapolating this metaphor to the multisensory presence as we tend to achieve via multimedia and real-time collaboration through the web lately. Mediated presence and the real-time 'intervening in an ongoing design process' may look the most vital side effect of web-based communities. However it may soon become clear that:

- 1 The power of synchronous interactions are seriously constrained by the fact that each single participant has limited access to his/her cognitive repertoire at that very moment, so that also the interplay among co-designers is hampered as well. It is therefore necessary to resume the role of communities in its role of repository throughout the evolution from one ideational stage to another. External representations and organisational memory have been identified as vital for exceeding the convivial face-to-face sessions.

The notion of 'user' has become critical. In how far is usage still adequate for those who game, play, learn, design, decide etc? Even designers have been classified as using the systems like Pro-Engineer, AutoCAD etc. If the (re)design concerns social issues like societal awareness, safety, altruism etc., there is a need to upgrade the initial idea of design in its technological sense. Technical design starts from available specifications and functionality. The scale from consumers to producers may be clarified even better if we include the dimension of designers into it.

*Passive Consumer ↔ Active Consumer ↔ End User ↔ User ↔  
Power User ↔ Domain Designer ↔ Meta Designer*

By Fischer (1999)

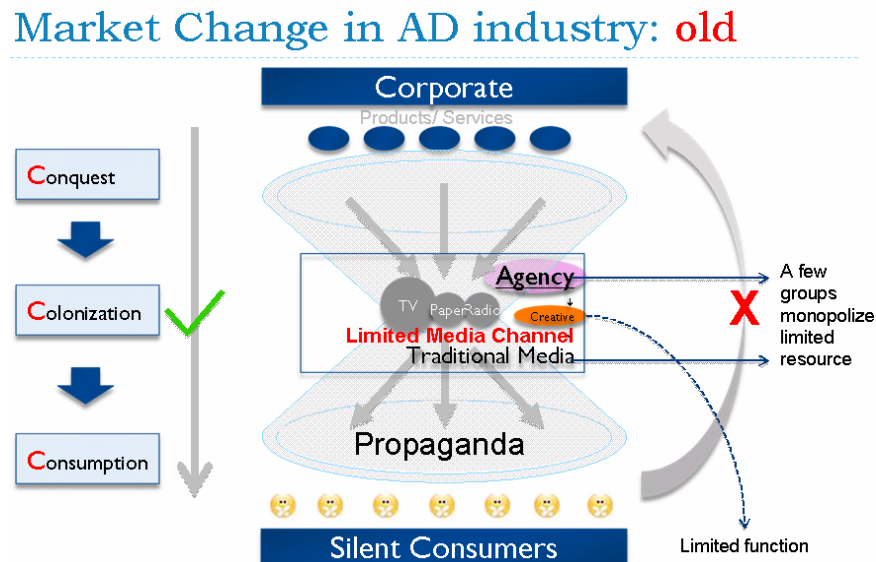
In terms of co-creation the term prosumers has been launched. It reflects the notion of consumers who have a decisive stake in the way products, tools and services are exploited. The term prosumers corresponds with the term 'power user' in Fisher's scale above. Web-based communities are less centrally-orchestrated than industrial design teams. It is our interest to see if for social topics like healthcare and education, Fisher's notion of 'meta designer' can be concretised further. Crucial factor in meta design is how to increase the factor 'discovery collaboration' and how to avoid 'mutual ignorance'. "Meta design allows stakeholders to extend the system to meet the needs of unforeseen

situations” (Fischer, 1999). Crucial in production systems like creative design is the double loop learning as introduced by Argyle (1994).

## 6 Communities for co-creation

The traditional mechanism is to reach the public via a top-down approach; be it education, religion or marketing. The final customer or user needs to be convinced via campaigns that have been designed via a way of thought that is closer to colonisation rather than participation. The direct effect is that corporations built monopolies and regard potential customers as actors who have their personal life and agenda. However they obey more global trends that allow marketers to anticipate to large selling results.

**Figure 1** Traditional model for tracing the silent consumer (see online version for colours)



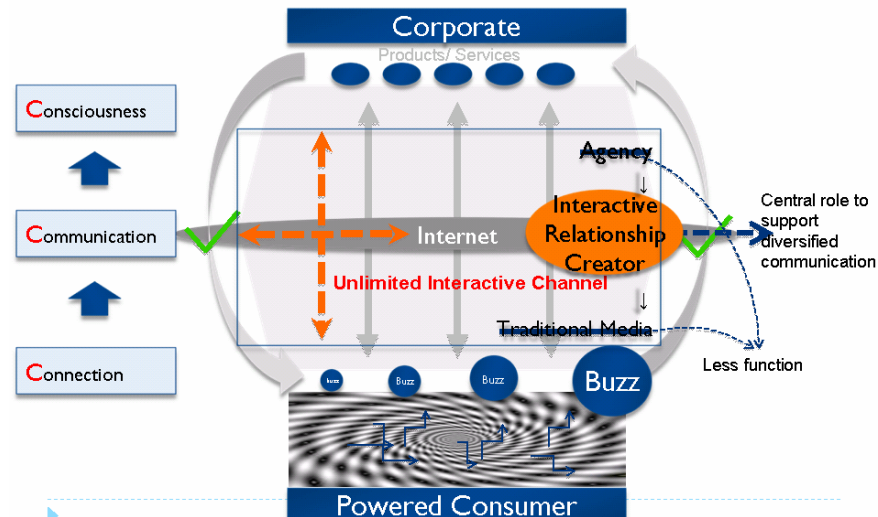
Source: Maekawa (2009)

The contrast from the former top-down marketing with the new situation is the empowered individual. Empowered in many senses: pluriform ideologies, emancipated in the sense of religion, education and intellectual passion. The empowered consumer has access to customer organisations and is tracked as (s)he visits commercial websites and joins web communities. Diversified communication and a developed taste for innovative products that reflect lifestyle and identity; these are input resources for corporations in order to track a much more diversified market than before. The result is that industries develop a sense of what is in the customer’s mind. At the same time the customer gets a higher demand for creative products and campaigns. The only way for industries to survive is to make the customer a co-creator. Most important effect is the free collection of life style profiles and the early detection of trend shifts. A good example is a Dutch beer manufacturer who hosts dance parties where visitors can earn time slots on the party

webcams in order to show off on the party website with which friends they had fun. In this way the beer company started a buzzing process and via social media they had communicated and gained consciousness on youngsters' passions.

**Figure 2** The dynamic role of co-creation in product – and service design (see online version for colours)

## Market Change in AD industry: new



Source: Maekawa (2009)

## 7 Social media

The role of social media in the creation process is the enabling of sharing and discussing. Creation of content should not be understood as creating publications; it can best be understood as self manifestation; or 'exploring one's identity'. A large part of the attention around social media has been going to the history, architecture and future of social media, the Web 2.0 and virtual communities. Blogs, micro blogging, forums, social networks and crowd sourcing underlie the enormous popularity of systems like *Twitter*, *Facebook*, *Myspace*, *Bebo*, *Youtube*, *Flickr*, *LinkedIn*, *Wordpress* etc. Social bookmarking with *delicious*, *digg*, *stumbleupon* and *addthis* seem to go back in frequency as the public's larger attention goes to the question "how to build a community on your blog?" Pragmatic questions are searching the practical tips for using Twitter and Twitter applications. And these media ambitions are not just for entertainment. A large part is focused at job – and financial support, where programs like stock flash and flex play a dominant role. Tools for optimising your web strategy: Google analytics has become strategically more important. Wikis and Podcasting have conquered the field of the institutional players like education and healthcare. RSS feeds and social bookmarking helps both the individuals and the corporate initiators to migrate smoothly from mobility to connectivity. Political parties can now diversify and tune to smaller group identity and

those who invest in augmented ideologies. Network revolutions, post-colonial and post-modern societies tend to escape from reality, virtual reality and multi-user games. The estimation is that social media prepare towards alternative ways of presence. Active audiences enable marketers to establish co-creation. Twittering has started to carry viral communication.

## 8 Creative play/learn communities

While commercial advertisers make us believe that their customer organisations are genuine communities, there is a growing sector of playing tools and sharing initiatives that may really resort under creative communities as they have no other agenda than the personal ambition to get even more excitement from their imagination and 'new solutions'. Lego education hosts a web-based academy, activities, communities and a support centre.

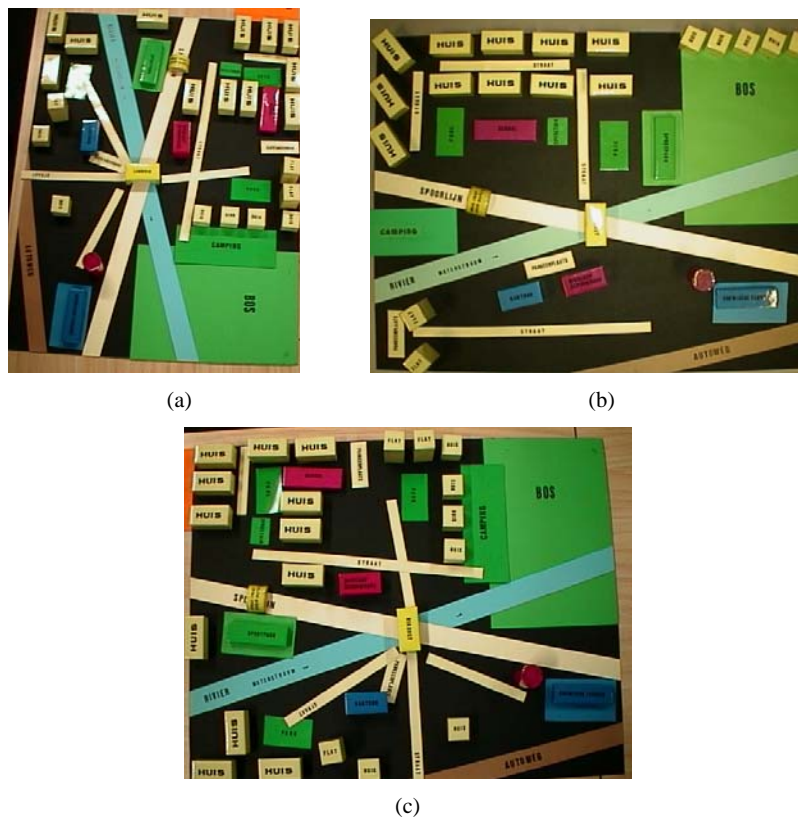
**Figure 3** Web-based collaborative design hosted by Lego (see online version for colours)



The trigger to join and participate the Lego communities is the drive to achieve better in modelling and learn from each other. Education is an important dimension: robotics has enabled didactics to experience and experiment cybernetic notions. A materialised way of implementing such community can be seen in KidsClub at the University of Joensuu where computer science students are coaching primary school learners in how to model complex cultural artefacts. The educational scenario is one of an atelier. There is no fixed curriculum. There is no fixed set of primitives except that natural language and social conventions are there. Even more brilliant of the Kids Club is that it gives priority to learners with partial deficits like ADHD and even students down syndrome (Randolph et al., 2005). In summary: Lego-based playing in social contexts generates many more

fascinations than the bricolage effects. In fact it elicits and demonstrates that social construction is key for a learning culture. Web-based communities rely on this phenomenon. It escapes from the traditional hierarchical view that playing is just an exercise before the 'real world' of 'employing' and 'being employed' starts. It exemplifies that playing is one of the essentials of life itself. One of the examples that can be imagined is the urban planning task as described in Nijhof and Kommers (1985). The outcome of the study is that heterogeneity of the design participants promoted the level of argumentation in communication; revealing a more articulated design rational and is helpful to make group members to make conceptual paradigms more explicit compared to for instance teams that are more homogeneous in terms of domain expertise, ethnic background or age.

**Figure 4** Collaborative urban planning task by homogeneous (a and c) versus heterogeneous (b) teams (see online version for colours)



Source: Nijhof and Kommers (1985)

In summary: from a creative point of view, mediated collaborative design like web-based teams have the potential to benefit from playing and heterogeneity as it allows it members to activate latent notions that may broaden the space of alternatives. Earlier research revealed that novices (Jing, 2009) in an expert design team stimulate a higher alertness to the underlying common sense so that also the spectrum of solutions<sup>1</sup> is

increased. A convincing example in the decision of an almost expired copper mine that decided to publish its most delicate resources, the maps of all detected copper veins and allow youngsters via the web to generate ideas on where to search next. As a result new areas of substantial resources were found and the copper mine could sustain its existence for another few years. See more examples on the Blue Ocean Strategy<sup>2</sup>. Common view is that creative problem solvers need a shared space with conceptual representations rather than just the face-to-face meeting and witnessing the result of the design (Stoyanova and Kommers, 2002). Ideational stages can best be nurtured by allowing designers to return at conceptual levels in order to reconcile solutions with the more generic dimensions in the problem space.

## **9 Creative industries**

Quite often creative industries are perceived as bound to the cultural sector: art, gaming, architecture, advertising, etc. This is an understandable narrowing connotation as attributes as creative and industry are rare. Creative industries rely on recent alternative ideas on economy and human values like sustainability and the need for playfulness in the youth generation. In practice it is much easier to see the industrial metaphor in the creative sector than vice versa. Game designers and artistic labs crumble under deadlines and principals' fear for solutions that ignore their 'real' needs. Once we apply the 'blue ocean strategy' to the creative sector it seems that co-creation is inevitable. Gamers as they blog and react among each other are a rich resource for game developers as they reflect the real user effects all the time. Game community sites like <http://www.destructoid.com> and <http://www.giantbomb.com>. For more reflective blogging gamers <http://www.kotaku.com>, <http://www.ign.com> and <http://www.gamespot.com> have been signalled. Having a line to gamers themselves enables game designers to adapt earlier misconceptions and saves a complex way of searching for players' perceptions.

## **10 Conclusions**

The criterion for a community has become more alert since the arrival of web-based social spaces. One of the questions became if friendship was thinkable in web contacts. Or was it just a vague analogy of earlier 'virtual' communities like the anonymous memberships in the 80s? Web-based communities and its precursors like blogging, chatting and twitting have become catalytically urgent to youth cultures. In reviews we main see its surface language characteristics like terms as player, dushi and chicks. We may expect however that both for youngsters' identity and their feeling of how to express yourself in peer groups, these social media get a much more pervasive role than expected at its early stages. The hypothesis for the next years to test is whether the expressive identity tools in web communities do contribute to a larger set of creativity ingredients. The existential link between the value spectrum in medical / care and in the expressive register of one's social life will become more and more tangible as exactly when life functions get lost, there is the need to excavate one's feeling of being creative. Also at these stages we expect the social web to play a continuous role.



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## Notes

- 1 Novices in One Interface, available at <http://www.otal.umd.edu/UUGuide/jingwu/>.
- 2 China's leading book review journal '*China Book Business Report*' reports that Blue Ocean Strategy has been selected for two prominent national book lists, available at <http://www.blueoceanstrategy.com/>.