Broadband for culture, a culture for broadband?

Katrien Berte, MICT Universiteit Gent
Laurence Hauttekeete, MICT Universiteit Gent
Peter Mechant, MICT Universiteit Gent
Gert Nulens, MICT Universiteit Gent

Abstract

The augmentation of cultural participation in Flanders is one of the major cornerstones of the current cultural policy. Digital technologies offer a wide range of opportunities to achieve this goal, as the internet is often seen as a way to augment the number of visitors for arts centres. However, the availability of digital information technologies and the willingness to adopt these new ways of processing cultural material, is a prerequisite for this (r)evolution. This article is based on data collected in three surveys, one for each of the cultural actors; cultural organisations such as museums, arts centres etc, individual artists and art lovers in Flanders. Despite that most artists and cultural organizations are sufficiently equipped with up-to-date technological infrastructure, most websites lack true interactivity with a strong one-to-one relationship between audience, artists and cultural institutions. We therefore conclude that, although there are plenty of broadband connections and other digital tools available to the Flemish art scene, artists and cultural organisations lack a mind-set (or culture) to truly embrace and benefit from the potential of the current digital technologies.

Keywords: Cultural participation, e-culture, Broadband technologies

1. Introduction

The amelioration and augmentation of cultural participation is one of the major cornerstones of the current cultural policy in Flanders. Flanders is the Northern part of Belgium and the home of the Dutch speaking community. The Flemish and Walloon governments determine their policy on cultural affairs autonomously and therefore differ in focal points. Research has shown that the public participation level in Flanders is slightly higher than the European level. Flanders is situated between countries with a quite low participation level such as France, Portugal and Greece and countries with high participation levels such as the Scandinavian Countries and especially our neighbouring countries The Netherlands and Luxemburg (Lievens, Waege, & De Meulemeester, 2005). In order to achieve this goal, the Flemish government has set several objectives for its new cultural policy from 2004 until 2008. Our research focuses on three objectives with regard to audience participation (Anciaux, 2004).

The first objective is 'the enlargement of the audience'. By offering targeted information to cultural participants the government wishes to stimulate the participation in and the discovery of new forms of

culture. Secondly, the government wishes to attract new cultural audiences. This objective is referred to as the 'renewal of the audience' and is focused on drawing in minority groups such as migrants or people with disabilities, who are often excluded from the cultural landscape. The third objective; 'the deepening of the audience' targets the promotion of cultural competence through education and information. Ultimately, this should enhance the quality of the cultural experience and hopefully, lead to a higher frequency of visits (Anciaux, 2004, pp. 9-10; Holden, 2004, p. 3; Nulens, Daems, & Bauwens, 2005).

New information technologies and broadband internet in particular, can stimulate cultural participation and help the Flemish government to achieve its goals. Research confirms that the internet reinforces existing behaviour patterns and is often used as a tool to augment the number of visitors for art centres (Breedveld, 2001, p. 57; DiMaggio, Hargittai, Neuman, & Robinson, 2001). Participation in arts and culture through a virtual space accessed by a computer is often referred to as virtual participation (Nulens et al., 2005), while in general the use of digital technologies in culture can be summarised as e-culture. Virtual participation is described as three different activities: looking for information online, purchasing cultural products (e.g. a CD, a book, a photograph) and online and cultural participation e.g. watching a concert by a live stream or visiting the 3D representation of an art gallery (Nulens et al., 2005).

The introduction of digital information technologies and broadband internet in arts and culture has significant consequences for all contributors in the field. The aim of this paper therefore is to identify the challenges and opportunities of digital technologies for cultural institutions, artists and the audience. It is clear that these contributors nowadays are confronted with many new possibilities which can create an added value to their working processes. In addition, we shall explore these issues on a deeper level by issuing a status questionnaire on the needs, attitudes and desires of these three types of participants with regard to e-culture and broadband internet services and applications. New digital technologies can undoubtedly effect significant change, but how ready or open-minded are the different Flemish contributors for these kinds of innovations?

2. Digital technologies and the consequences for the contributors in the cultural field

In the new e-culture environment, a major shift occurs in terms of access, content and participation. In the e-culture society, access to culture becomes more and more universal. The 'anytime, anywhere' character is accentuated since there is ubiquitous access for everyone (Tsatou, 2009). Moreover, physical and virtual access can be combined leading to a cross-media culture platform. The distribution methods are more diversified and afford the development of various business models (content which is free, low resolution content serving as a type of preview in order to promote an exhibition or theatre show, and so on).

Secondly, the content changes: there is more digitally born material available or existing artworks can be digitalised. Furthermore, digital art can be contextualised in a very precise way, i.e. completed with metadata and related to other cultural content and distributed across different cultural organisations. Visitors even have the opportunity to select the content they need, customised to their profile. Finally, the participation in culture differs: it becomes virtual. This leads to a degree of empowerment enabling the composition of an individually designed programme, a personal interpretation or creation of culture; it takes on an important social aspect by creating relationships between artists and visitors or establishes contacts between cultural neighbours (De Wit & Esmans, 2006).

2.1. Cultural organisations

The first stakeholder heavily influenced by the e-culture paradigm is the cultural organisation. Taking these changes into account, the cultural organisation may become a dynamic institution, interacting with the audience, artists and other organisations. It should transform itself from a local institution to a more global institution. The opportunities and challenges for cultural organisations in this e-culture environment are very diverse.

Cultural organisations possess different types of material that need to be preserved and archived in a well-structured way. The increasing amount of digital or digitalised products can be stored in an electronic database, enriched with metadata and shared with the sector (both domestic and foreign) and the audience. A sizeable amount of research has already been done on information retrieval systems and user interfaces in order to optimise the 'opening up' of an archive. Different metadata systems exist for the cataloguing of written material, but in particular it is also used for audiovisual data. In the process of 'opening up' the archive, different user aspects are taken into account, which is a necessary condition for easy access (Haefner, 2001; Hodge, 2001; Seeger & Chaudhuri, 2004; Wallace, Avirithis, Stamou, & Kollias, 2005).

Furthermore, the presence of digital material or infrastructure within the cultural organisation allows for new types of creation. For example, a cultural organisation with a Web 2.0 website can stimulate the public to develop user-generated content. The public and the artists are therefore confronted with new challenges and fresh ways of creating content.

Importantly, this content can be presented in an innovative and interactive manner using audiovisual technologies.

Related to this, the communication of the cultural organisation can be more diversified: point-to-point communication, point-to-many communication, or many-to-many communication. Different audience groups are involved: artists, the government, other institutions, universities etc.

As the content is distributed in different forms, the various audience groups can be addressed through one website, receiving small amounts of data. Alternatively, cooperation of the cultural organisation with universities or research centres is an additional option allowing the distribution of cultural material in high resolution via a large broadband network (Boon & Nulens, 2007).

However, in their efforts to reach the previously stated goals, art centres must have access to and knowledge of these new information technologies. Most museums, art centres and festivals in Flanders are represented online. Unfortunately, studies show that, in general, their presence is far from interactive. They provide practical information, but in terms of community building, interactivity and multimedia, they only use a fraction of the range of current information technologies (De Wit & Esmans, 2006).

2.2. Artists

Artists are also affected by digitalisation. Digital technologies facilitate the creation process, therefore opening up a wide range of affordances for artists. However, there are still some challenges that lie ahead.

Digital technologies offer opportunities to create new forms of artwork and provide an experimental platform where artists can interact with the audience. Extended collaboration with other artists from all over the world has never been easier. The artist can create a community of cultural neighbours, art enthusiasts or artists with similar cultural preferences, and receive immediate feedback on their work. Artists can also reap economic benefits from digital technologies characterised by revenue generated from 'the long tail'. In essence, the distribution of online content does not require any physical carriers. As a consequence, digital technologies can distribute a vast amount of niche content to a targeted audience with negligible distribution costs. In this case, the aggregated revenue derived from the sales of niche content is considerably higher than revenue derived from the sales of a single mass product (Anderson, 2006; Mechant & Berte, 2008). Despite recent critiques with regard to this concept, the economical logic of the long tail can also be applied to artists and their audiences (Elberse & Oberholzer-Gee, 2008).. In order to survive economically, cultural organisations are forced to book artists who attract large audiences thus refusing 'the stage' to artists who target niche audiences that are less 'profitable'. The internet however allows artists to skip the cultural organisations and to address the audience directly. Combined, these smaller groups of niche audiences can result in a worldwide mass audience (Turow, 2008).

By contrast, digital technologies pose a real threat and present serious challenges for artists. The audience now expects artists to be present online and to share their work; this could create the potential for a digital divide between those artists who have access to new technologies and those who do not. There also needs to be a willingness to adopt these new technologies and to become familiar with the skills needed to use digital devices. This plays a crucial role in the equal development of the cultural sector(Lenhart & Horrigan,

2003; Marsh, 2001; Van Dijk, 2005). An injection of government support will be necessary to cross this cultural digital divide. What's more, in light of media convergence, government authorities must also establish the necessary frameworks and procedures to protect the intellectual property rights (IPR) of the artists. The presence of artwork on different media platforms requires special treatment with regards to the legal protection of the rights of the original artist.

2.3. Audiences

Internet and other types of digital information technologies have a significant impact on the way people participate in arts and culture. Cultural participation is a vast concept that includes many types of activities. In general, a distinction is made between finding information, consuming (interpretation and experience) and creating of art or cultural artifacts. The distinction between these activities is hard to make since they are interrelated and each activity also exists in different shapes and forms (Berte, Mechant, & Paulussen, 2007, pp. 138-139; De Wit & Esmans, 2006, pp. 34-35). D'Angelo & Vespétini (1998, p. 42) demonstrated in their work that the consumption of culture can be divided into active and passive participation. The creation of an artwork is referred to as active participation while attending a play, watching a film or a dance performance is referred to as passive participation. The actual attendance of a play or show is only one form of passive participation, art enthusiasts can also participate passively through the use of different media like watching a play or show broadcast on television (McCarthy & Jinnet, 2001, p. 19). Mutanen (2006) reports four ways of categorizing the relationship between the public and an art centre: reactive or proactive consumption and public or private production. The relationship between the public and an art centre is reactive when the public simply consumes art as a passive activity e.g. by watching, listening or walking around in an art centre. This consumption becomes proactive when a visitor actively looks up information before paying a visit. The public can also participate more actively by creating an artwork. When he or she creates an artefact to use only in a private context like a picture or a painting, using notes from a play etc; this action is referred to as private production. The production becomes public when the creator decides to share his or her creation with a larger. Digital information technologies facilitate the active role of the audience in arts and culture. Background information on exhibitions or plays can be found instantly online while digital cameras enable visitors to express their own view of the world (Berte et al., 2007). Thus, according to Deuze (2006) user participation can be considered as a principal component of e-culture.

New technologies also offer a spectrum of other possibilities significant for overcoming some of the barriers that hinder cultural participation. Firstly, the inability to understand the content of an artwork or play is referred to as the information barrier. Art centres can use their website to offer a vast amount of

information to improve the audiences' understanding. Practical barriers such as the lack of public transportation to an art centre, restrictive opening hours, lack of child care facilities etc. can be solved by access to a digital art collection from a home computer. Financial thresholds can also discourage people from buying tickets. But by using the internet, the art centre can offer a price reduction or even free access. Finally, the social and cultural thresholds relate to certain minority groups who do not have the cultural background to interpret some of the references in the exhibitions or plays ("Memorie van toelichting. Decreet houdende de bevordering van de participatie aan cultuur, jeugdwerk en sport ", 2007)

Virtual participation and e-culture in general, will have a significant impact on the cultural experience of the public. The art enthusiasts become the central point for all the actors in the cultural field. With universal access to arts, he or she has control over their experiences and can interact with other art enthusiasts with the same cultural preference. Therefore, digital technologies do not only facilitate cultural experiences, but add an important social dimension (Berte et al., 2007; De Wit & Esmans, 2006). In the world of digital arts the distinction between audiences and artists fades as new media also seeks to stimulate active participation. The internet offers interactive platforms for audiences to interact and adjust cultural content or to share their own work with other art enthusiasts; this is often referred to as user generated content (UGC).

It is important to point out that, despite this 'architecture of participation', only a minority of the 'audience', of the huge mass of Internet users, will actively participate (so-called seeders) while the majority will not contribute at all (so-called leechers or free-riders). For example, figures show that about 2% of the Wikipedia visitors are responsible for 60% of the articles. On YouTube 6% of the users post 90% of the videos (Bughin, 2007) and Prieur, Cardon, Beuscart, Pissard & Pons (2008) reported that 20% of the users of the website Flickr own more than 82% of the photos. More recently and in a Flemish context, Courtois, Mechant, De Marez & Verleye (2009) results' showed a 20%-80% division between high- and low frequency media, narrative and metadata seeders. In this regard, usability expert Nielsen (2006) stated a 'participation law': in most online communities, 90% of users are lurkers who never contribute, 9% of users contribute a little, and 1% of users account for almost all the contributions.

3. Research

Digital information technologies offer a wide range of opportunities and challenges for the cultural arena. Yet to benefit from these opportunities, there has to be a certain willingness to adopt these technologies coupled with an available infrastructure. Our research focuses on the needs and desires of all the cultural

participants (cultural organisations, artists and audiences) incorporating both the technical infrastructure as well as the need for virtual participation.

3.1. Methodology

The empirical results in this paper are derived from two research projects. The results for cultural organisations and artists are part of the *Broadband for culture* research project. This interdisciplinary research project for the Flemish Department of Culture, Media, Sports and Tourism identifies models for use of broadband internet in arts and culture in Flanders. Several in-depth interviews with leading art institutions and focus groups with experts were conducted by fellow researchers from the Free University of Brussels. Additional literature was reviewed and business models were developed. The focus of our research in the project lies in a survey on the needs of cultural institutions regarding broadband applications. The 420 cultural organisations that took part in our survey ranged from youth to adult organisations, libraries, contemporary art centres, music venues, museums, cultural heritage centres etc. Organisations were invited to participate by e-mail based on a database provided by the Flemish government. This online survey was conducted in March-April 2007. During the same time frame, a similar survey was conducted with 171 artists from different segments of the cultural field.

The second research project is an IBBT research project called *the Virtual Art Centre of the Future[1]*. In this interdisciplinary research project both social researchers and engineers investigated all aspects of building a virtual world of arts with special interest in issues such as user adoption, legal implications, technological developments and business models. In this article we focus on the user research in this project. We surveyed 2635 art enthusiast internet users and asked their opinion on virtual participation and their needs and desires when considering a virtual art centre.

3.2. Empirical results

3.2.1. Organisations

420 Flemish organisations participated in our online survey of the *Broadband for culture* project, ranging from youth to adult organisations, libraries, contemporary art centres, music venues, museums, cultural heritage centres etc.

---

[1] The Virtual Art Centre of the Future is innovative due to the combination of its different sections. The centre consists of a website with web 2.0 applications which is not only a poster (in the sense of publicity) for the art centre with practical information, but is actually a portal with all kinds of cultural information derived from official and user sites. The art centre is represented in a 3D environment where a visitor can enter and interact with the environment just like a video game. Accessible through the portal site, the virtual art centre hosts different cultural activities such as the live streaming of plays and concerts, virtual exhibitions etc. The final component is an intelligent recommendation system, based on customer relations intelligence, which provides visitors with targeted cultural suggestions based on their personal preferences. More information on this project can be found on https://projects.ibbt.be/vacf/index.php?id=131 and the community site of one of the leading Flemish performance arts centres was developed as a prototype www.vooruit.be.

The data immediately reveal that there is a sufficient amount of technological infrastructure available, both concerning hardware as well as software. Accordingly, the level of satisfaction within the organisations with this availability is rather high. 94% of the organisations possess computers and internet for the employees,. Not only are the organizations well equipped with regard to their staff, approximately half of the organisations also provide in-house computers and internet for the vistors. However, professional technological support to maximize the use of thes technologies is often lacking. The internet connection is in most cases a broadband connection with a large capacity suitable for daily activities, but is limited in terms of using special activities such as life streaming or video conferences. Further interrogation demonstrates that some organisations do have some interest in special activities such as life streaming, but they are unaware of which broadband connection is required. Nevertheless, most organisations frequently use basic applications such as e-mail and internet but neglect the fact that more advanced applications such as the uploading of audio and visual material is possible.

The attitude of the cultural organisations towards information and communication technologies (ICTs) seems to be positive. Every organisation expresses the need to keep up to date and to invest more in this domain. The importance of ICTs should however be put into perspective because more traditional methods (newsletters or personal contact) still remain important communication and interaction channels. Broadband applications are especially interesting for exchanging data with colleagues and create opportunities by providing virtual workplaces for artists.

There is only a limited choice in the organisation of courses on ICT and broadband, and it consists mainly of basic computer & internet skills and specialised education for ICT personnel. 50% of the institutions without education express a need for it, and more generally, the greatest need is felt for specific training in web design, content management and courses on the legal and social aspects of the internet.

The most popular channels for external communication are flyers and posters, the website and an online newsletter. Text messages and RSS-feeds are hardly mentioned or used. The internal communication proceeds mainly via personal contacts and e-mail. 87.5% of the cultural organisations in our target group has its own website, which has been set up in the past five years. The current applications are quite advanced: accessing pictures of activities (89.9%), Word-, Excel-, PDF files (78.7%), offering an online catalogue (44.8%), or an online order system (43.4%). In contrast, there is less interactivity on the website such as blogging (11.9%), polling or voting (10.5%) or a chat box (4.5%). When we questioned the cultural organisations about their most desired applications, they mentioned the consultation of files online (51%), the existence of a digital archive with search system (45.1%), an online payment system (40.5%) and having the option of watching video fragments (39.2%).

Table 1: Current and desired website applications for cultural organisations[2]

Website applications	Current applications (%)	Desired applications (%)
Watching pictures of activities	89,9	5,9
Consulting word, exell and pdf files	78,7	51
Watching movies	28,3	39,2
Digital archive with search engine	26,6	45,1
Online catalogue	44,8	21,9
Blog (online journal)	11,9	19,4
Chat	4,5	9,3
Online advice o social workers	6,3	13,5
Downloads (bvb. multimedia, screensaver, wallpaper,...)	23,4	24,5
Streaming media (e.g. audio, video,... e.g. watching thenews online)	12,2	33,8
Polls	10,5	21,9
Online ordering system (e.g. books, cd's, tickets, activities, courses etc.)	43,4	28,3
Online payment system (e.g. books, cd's, tickets, activities, courses etc,)	7,3	40,5
Access to an extended internal network	12,6	16,5
Other	9,8	3,8

The desire/need for interactive applications is clearly absent. The main function of a website is information, and not interaction. The same ideas hold true for those organisations which do not yet have a website. Although the organisations agree on the importance of a website, there is a degree of reluctance. 25% find it hard to keep the site up to date and consider it to be very expensive.

Barriers for putting content online still remain. The organisations stress how certain social groups have no access to the internet, there are fears concerning piracy, and some still feel it is rather costly.

When it comes to creation, we notice that there is a limited use of ICT and broadband in the creation process. 25% of cultural organisations allow visitors to interact with the online content yet applications for the public to upload content are very restricted (3.8%).

Most of the organisations possess records which have to be conserved and archived. The archiving is most often managed by 1 person. The current climate of digitisation has not yet pervaded into cultural organisations and surprisingly, there is still a limited need for it in the future. Making their material available

---

[2] Current applications: N=286 & Desired applications: N=237.

in digital forms is after all not their core competence. Organisations stress that they lack time, money and personnel to arrange this.

3.2.2. Artists

171 artists participated in our online survey of the *Broadband for culture* project. Almost every artist possesses one or more computers and an internet connection. 80% of the artists consider their broadband connections to be sufficient for their daily activities. 50% even mention that their connection can adequately deal with special activities such as live streaming or video conferencing. 60 artists however, do feel the need for a more advanced broadband connection, with a capacity that is at least equally as large. Once again we notice that the existing broadband connection, which allows for different advanced applications, is hardly used.

Staying on top of the latest developments on ICT is important, and ICTs can be usefully exploited to exchange data with colleagues and to create a virtual workplace. As is the case for the results of cultural organisations, ICT is only one of the many tools that can be used to reach the consumer or customer. Other channels are equally important. 25% of the individual artists state that financial aspects hinder the development of ICT in their business, because of the expensive cost factor.

75% of the solo artists have their own website, mainly used for putting pictures, films and files online. They express a need for a digital archiving and streaming media, whereas there is – again – less demand for interactivity.

Table 2: Current and desired website applications for artists[3]

Website applications	Current applications (%)	Desired applications (%)
Watching pictures of activities	78,9	8,90%
Consulting word, exell and pdf files	57,9	1,80%
Watching movies	57,9	26,80%
Digital archive with search engine	42,1	41,10%
Online catalogue	47,4	16,10%
Blog (online journal)	26,3	14,36%
Chat	0	8,90%
Online advice o social workers	15,8	1,80%
Downloads (bvb. multimedia, screensaver, wallpaper,...)	10,5	25%
Streaming media (e.g. audio, video,... e.g. watching thenews online)	26,3	32,10%
Polls	5,3	5,40%
Online ordering system (e.g. books, cd's, tickets, activities, courses etc.)	10,5	26,80%
Online payment system (e.g. books, cd's, tickets, activities, courses etc,)	5,3	28,60%
Access to an extended internal network	0	12,50%
Other	5,3	10,70%

The majority of the artists find it important to have a visually attractive website. The three main functions of a website are information, calendar and agenda, and archiving. The greatest barrier for offering diverse content online is the inaccessibility of the internet for certain societal groups.

Only a minority of the artists digitises its creations and 25% use a virtual environment to contact other colleagues. Only some of the more specialised artists are brave enough to experiment with ICT and the internet for creating their works of art. Most of the artists possess a lot of different archive material, which is stored in digitally by linking a certain work of art to metadata in a database.

3.2.3. Audiences

2635 respondents participated in the online survey for the *Virtual Art Centre of the Future* project. The aim of the survey was to understand the needs and desires of art enthusiasts with regard to virtual cultural participation and their willingness to interact with other art enthusiasts, artists and cultural organisations

---

[3] Current applications: N=110 & Desired applications: N=40.

online. Due to the selection criteria (art enthusiasts and internet users) the results cannot be generalised to define a large population but can nevertheless be interpreted as the opinion of the target group of virtual art centres.

The research shows a large adoption potential for virtual art centres. All respondents are interested in an online environment which offers elaborate but well-structured information on cultural activities. They are very enthusiastic about the new methods used to present the information, e.g. previews of plays or concerts using audio and video stream, a digital version of a painting, a picture etc. Participants use these new information sources not only to help them decide whether to participate in cultural activities but also to review past cultural experiences. The targeting of this cultural information for the personal profile of the art enthusiast is received with a moderate degree of enthusiasm. Communication, interaction and the opportunities for online art creation are concepts which do not seem to be very appealing to the target group.

Table 3: Interest level of the different aspects of a virtual art centre for the future

Concepts of a virtual art centre of the future	Score (on a 10 point scale)
Information	6,61
Presentation	6,39
Communication	4,57
Creation	3,93
Personalisation	5,87

(N=2635)

Do these results imply a reduction of interest in the online art centre to a rather static information website with only a small integration of new technologies? Further analysis demonstrates that age plays an important role in the perception of virtual art centres, therefore we would be lacking in insight by applying these results to all age groups. Respondents up to 34 years old are significantly more interested in the concept of an online art centre. Older respondents are mainly focused on finding practical information on cultural activities while young people in their late teens or early twenties are very excited about using the participatory elements of internet applications such as blogs, chats, communities and other types of web 2.0 applications. The correlation between a lower level of education paralleled with very high interest levels of interaction and creation found in the analysis can thus partially be explained by the age difference. Young people are very excited about experimenting with digital art. Given the Flemish cultural policy of

stimulating cultural participation, this group of young people is very interesting since they presently participate little in cultural events. Hopefully, the experience of online art will stimulate them to participate in real life activities.

Based on the survey results, we can conclude that there is a lot of interest for a large cultural website with extended practical information presented in new and attractive formats. Interactive applications should be perceived as additional features for younger target groups. In order to keep up with the swift pace of web innovations, these features are essential for the future.

4. Conclusion and discussion

In order to introduce people to the existing cultural richness, cultural participation must be encouraged. The Flemish government defined three goals for 2008: an enlargement, a renewal, and a deepening of the audience. Bearing these very aims in mind, there is a growing awareness that new information technologies and broadband internet in particular have a crucial role to play in the process.

Digital technologies do create a lot of opportunities for the different range of stakeholders to the cultural field. Cultural organisations, individual artists and the audience are confronted with new challenges and new user experiences. The archiving, presentation, communication, distribution and creation of cultural material can take many forms, allowing a completely innovative and creative process of art production.

However, the availability of digital information technologies and the willingness to adopt these new ways of processing cultural material, is a prerequisite for this (r)evolution. In this article we investigated both aspects, on the basis of three surveys. Information in the form of questions was taken from the cultural organisations, individual artists and art enthusiasts in Flanders

This study proves that most of the cultural organisations and artists in Flanders have or procure sufficient access to ICT and broadband applications. Additionally, these players are generally pleased with the current situation. They stress the importance of information and communication technologies and have a very positive attitude towards ICT in the cultural process. However, we notice that the current broadband connection or infrastructure is not yet used efficiently or as creatively to maximise its potential. Organisations and artists mainly use basis applications such as e-mail and internet, but neglect using more advanced applications such as live streaming, web 2.0 affordances or more interactive ways of working. Furthermore, the desire for interactive applications is clearly absent, focusing more on information rather than interaction and communication.

The survey of 2653 art enthusiasts generally confirms these findings that there is a large adoption potential for virtual art centres. According to the respondents, the added value of such a virtual art centre lies mainly

in the transfer of information and in its presentation, and considerably less in offering interaction or personalisation. However, if we split these results up into two age groups; those aged above and below 34 respectively, we notice a remarkable difference between each group. The latter group (aged under 34) demonstrates more enthusiasm for an interactive and personalised cultural participation.

We conclude that, although we may have 'broadband for culture' in Flanders, we lack a 'culture for broadband'; it is not a culture that has truly embraced the possibilities and potential of the resource. There are indeed enough technological possibilities available, but most of the cultural organisations and artists demonstrate little willingness to create some specific cultural content that is adapted to this new digital environment. The number of organisations and artists that are courageous enough to experiment with these new cultural forms is few. Clearly, the creation of this innovative type of culture demands a fundamental and creative shift in thinking, taking into account the public's wants and needs. The survey of art enthusiasts demonstrates that Flanders needs this new cultural content, given that young people show a very positive attitude towards this new cultural experience and the more considerable fact, that they are the public of the future.

Therefore, to attract new audiences, cultural organisations and artists have to innovate. One of the ways to ignite interest would be for trendsetters within the cultural field to organise workshops explaining how to create this new type of content. Government authorities might choose to stimulate small broadband experimental projects. To obtain a new e-culture, this change in attitude will demand a certain level of investment, both financially and mentally, including different kinds of contributors. The final result of the investment however, is sure to yield a fruitful profit.

5. References

Anciaux, B. (2004). *Beleidsnota cultuur 2004-2009*. Brussels: Flemish governement.

Anderson, C. (2006). *The Long Tail. Why the Future of Business is selling more of less*. New York: Hyperion.

Berte, K., Mechant, P., & Paulussen, S. (2007). Het algemene profiel en de behoeften van de virtuele cultuurparticipant. In P. Mechant & K. Michiels (Eds.), *Het virtuele kunstencentrum van de toekomst*. New York: Lulu.

Boon, B., & Nulens, G. (2007). Toepassingen, behoeften, modellen voor breedband in cultuur. Unpublished Research Report. Free University Brussels.

Breedveld, W. (2001). Het lot in eigen hand. De burger als magiër in de nieuwe ICT-samenleving. In R. Van der Ploeg & C. Veenemans (Eds.), *De burger als spion in het web. Essays over het verdwijnen van plaats en afstand in de informatiesamenleving* (pp. 45-65). De Haag.

Bughin, J.R. (2007). How Companies can make the most of user‐generated content. Retrived March 19, 2009 from http://www.ieco.clarin.com/2007/08/27/usergenerated.pdf.

Courtois, C., Mechant, P., De Marez, L., & Verleye, G. (2009). Gratifications and Seeding Behavior of Online Adolescents. *Journal of Computer-Mediated Communication*, 15(1), 109-137.

D'Angelo, M., & Vespétini, P. (1998). *Cultural Policies in Europe: A Comparative Approach. Strasbourg*: Council of Europe Publishing.

De Wit, D., & Esmans, D. (2006). *E-cultuur. Bouwstenen voor praktijk en beleid*. Leuven: Acco.

Deuze, M. (2006). Participation, remediation, bricolage: considering principal components of a digital culture'. *The Information Society*(22), 63-75.

DiMaggio, P., Hargittai, E., Neuman, W. R., & Robinson, J. P. (2001). Social Implications of the Internet. *Annual Review of Sociology, 27*(1), 307-338.

Elberse, A., & Oberholzer-Gee, F. (2008). Superstars and Underdogs: An Examination of the Long-Tail Phenomenon in Video Sales. Retrieved January, 11 2008 from http://www.people.hbs.edu/aelberse/papers/hbs_07-015.pdf%20Haefner, A. (2001). Renaissance in archiving. The present upheaval in audiovisual archives: evolution towards multimedia archiving. *S.A. Archives Journal, 42*(7), 7-15.

Hodge, G. M. (2001). Best practices for digital archiving, an information life cycle approach. *D-Lib Magazine, 6*(1).

Holden, J. (2004). *Capturing Cultural Value. How culture has become a tool of government policy*. London: Demos.

Lenhart, A., & Horrigan, J. B. (2003). Revisualizing the digital divide as a digital spectrum. *IT & Society, Online, 1*(5).

Lievens, J., Waege, H., & De Meulemeester, H. (2005). *Cultuurkijker. Cultuurparticipatie in breedbeeld. Een eerste analyse van de survey 'Cultuurparticpatie in Vlaanderen 2003-2004'*. Antwerpen: De Boeck.

Marsh, J. (2001). *Cultural diversity and the information society: policy options and technological issues*. Brussels: European Parliament DG Research.

McCarthy, K., & Jinnet, K. (2001). A new Framework for Building Participation in the Arts. RAND. Retrieved September, 12, 2009, from http://www.rand.org/publications/MR/MR1323/MR1323.pdf

Mechant, P., & Berte, K. (2008). Culture '2.0': social and cultural exploration through the use of folksonomies and weak cooperation. *Freeside Europe, 4*(1), 10-18.

Memorie van toelichting. Decreet houdende de bevordering van de participatie aan cultuur, jeugdwerk en sport (2007).   Retrieved November, 22, 2007, from http://www.cultuurnet.be/front/nieuws/nieuwsdetail.jsp?nieuwsID=186030

Mutanen, U. (2006). On museums and web 2.0.   Retrieved July, 1, 2006, from http://ullamaaria.typepad.com/hobbyprincess/2006/06/museums_and_web.html

Nielsen, J. (2006). Participation Inequality: Encouraging More Users to Contribute. Retrieved on March 19, 2009 from http://www.useit.com/alertbox/participation_inequality.html.

Nulens, G., Daems, M., & Bauwens, J. (2005). Virtuele cultuurparticipatie in Vlaanderen. In J. Lievens & H. Waege (Eds.), *Cultuurparticipatie in breedbeeld. Eerste analyses van de survey 'Cultuurparticipatie in Vlaanderen 2003-2004*. Antwerp: De Boeck.

Prieur, C., Cardon, D., Beuscart, J.-S., Pissard, N., & Pons, P. (2008). *The Stength of Weak cooperation: A Case Study on Flickr*. Retrieved on March 19, 2009 from http://arxiv.org/ftp/arxiv/papers/0802/0802.2317.pdf.

Seeger, A., & Chaudhuri, S. (2004). *Archives for the future: global perspectives on audiovisual archives in the 21st century*. Calcutta: Seagull Press.

Tsatou, P. (2009). Reconceptualising 'time' and 'space' in the Era of Electronic Media and Communications. *PLATFORM*(1), 11-52.

Turow, J. (2008). *Niche Envy. Marketing Discrimination in the Digital Age*. Cambridge: The MIT Press.

Van Dijk, J. (2005). *The deepening divide: inequality in the information society*. Throusand Oaks, CA: Sage Publications.

Wallace, M., Avirithis, Y., Stamou, G., & Kollias, S. (2005). Knowledge-based multimedia content indexing & retrieval. In G. Stamou & S. Kollias (Eds.), *Multimedia content and the semantic web*. London: John Wiley & Sons, Ltd.