Gratifications-sought, Audience Activities and the Displacement Effect of YouTube

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Graduation Project
Presented to the Faculty of Graduate School of
The Chinese University of Hong Kong
in Partial Fulfillment of Requirements
for the Degree of

Master of Science
in
New Media

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School of Journalism and Communication
The Chinese University of Hong Kong
May, 2008

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Abstract

This exploratory research explores the relationship between gratifications-sought and audience activities on a popular video sharing website --YouTube.com. Data were gathered from a convenient sample of 240 internet users, aged mainly from 18 to 25 years old. Six motives, including entertainment and relaxation, social interaction, supplement, companionship, pass time, and information seeking, were identified as the gratifications-sought from YouTube. Entertainment and relaxation, as well as social interaction possessed the strongest predicting power. Besides, gratifications-sought, audience activities and demographics were linked to genres. Information-seeking and social interaction motives can predict each of the genre preference; during-viewing activities could predict entertainment-oriented and education and information-oriented use of YouTube. The new gratifications users seek on YouTube, i.e., supplement, showed active predicting power both on audience activities and genres. Contrary to our expectation, no perceived displacement effect was found in this research. At last, the paper gives explanations to the findings and point out some drawbacks which would be helpful for future studies.

Word count: 161

Key words: YouTube, gratifications-sought, audience activities, genre, displacement effect

Introduction

As the World Wide Web evolves from 1.0 to 2.0, the way people participate in it is hence changed. The increase of user generated content encourages people to seek for information and entertainment actively and subjectively by themselves. YouTube, the most popular on-line video sharing website, has 60 million active users, and receives 20 million visitors, who watch 100 million video clips every single day. There are 65,000 new videos posted every day (Naim, 2007). The *Time* magazine even named YouTube "invention of the year" in 2006, during which the fancy for YouTube began to explode (Grossman, 2006).

The young generation is the major consumers of online video content. In the 2008 U.S. Presidential campaign, the political favor of the youngster was stirred up into a new height like never before by this new media. Some media critics even attributed Obama's triumph to the successful employment of SNS like YouTube and Facebook.

Image, especially video, grabs a more and more important role in the former text-dominated Internet, a ray of studies have begun to inspect the using habit of on-line video. Four researchers from Canada, United States and India provided one of the first extensive characterization studies of web 2.0 traffics as well as the implications of observed characteristics. By examing the YouTube viewing traffic in U.S. campus, they found video download accounted for almost all of the bytes transferred. The access patterns were strongly correlated with human behaviors, as traffic volumes varied significantly by time-of-day, day-of work, as well as longer term activities (Gill, Arlitt, Li, & Mahanti, 2007).

Compared with the proliferation of papers and survey reports on television, VCR, blog, and social network system, the academic researches on online video broadcasting website

like YouTube are few. Although it is a multimedia mixture more than a totally new invention, YouTube is supposed to satisfy the gratifications people seek in television, VCR and text-based blog. And the multifunction is likely to generate brand new audience activities rather than just merely lead to activities like a combination from the three media. So the first mission of this research is to identify the gratifications users seek on YouTube.com. What's more, the new dispositions of YouTube may result in audience activities that differ from those of other media. This research tries to examine the relationship between gratifications-sought (GS) and audience activities. Besides, considering YouTube videos are various in genres, this paper tries to identify if GS and audience activities could predict genre preference. The prosperity of YouTube has raised great concerns among traditional video providers, especially television. Television companies are worried about being embezzled by YouTube. Nevertheless, some TV companies think YouTube will help them win more audiences. For example, CBS has signed a contract with YouTube and granted the latter the privilege to provide copyright protected CBS programs online. So this research wants to explore if there is a displacement effect between YouTube and TV.

Literature review

Uses and Gratifications

Researchers did not focus their attention on people's motivation of using certain kind of media until the introduction of use and gratification theory. Uses and gratifications theory examines people’s underlying motives for using media, i.e., to gratify their social and psychological needs or wants and to identify the positive and negative consequences (Katz,

Blumler, & Gurevitch, 1974). It assumes a more active and goal-directed audience, and "focus on what people do with the media rather than what media do to people" (O'Donohoe, 1994).

The uses and gratifications paradigm is built on five assumptions (Katz, Blumler & Gurevitch, 1974): (1) the audience is conceived as active; (2) much initiative in linking gratification need and media choice lies within the audience group in mass communication process; (3) the media compete with other information sources to gratify audience; (4) the audience is self-aware to be able to report their interests and motives; and (5) value judgments should be suspended while audience orientations are explored on their terms.

Five areas of gratification in media texts were first highlighted in 1974 (Katz, Blumler, & Gurevitch). Ever since then, a series of research, concerning different media, were based on this initiated finding and finally accumulated the uses and gratifications theory into a large body of works. At early times of U&G research, television received more attention than any other media, like radio (Rubin & Step, 2000), telephone (Dimmick, 1942; Keller, 1977; and Noble, 1987), and pager (Leung & Wei, 1998). Motives such as information seeking, relaxation, entertainment, arousal, social interaction, companionship, escape, and time consumption had been identified in these researches.

Rubin (1983) listed nine items for the television viewing motivation, which were relaxation, companionship, habit, pass time, entertainment, social interaction, information, arousal, and escape. Each item consisted of three testing questions. Lin (1999) found three perceived gratifications of Internet use: entertainment, surveillance and escape/ companionship/identity. McGuire (1974, 1985) developed a psychological paradigm in

analyzing audience motives of media use. Rubin (1991) based on McGuire's paradigm, assessed and found that some psychological variables like sensation seeking, anxiety, creativity, parasocial interaction, and assertiveness could explain television motivation while others such as authoritarianism, attributional complexity, sensation-seeking's thrill dimension and locus of control could not help explain viewing motivation.

With prevalence of Internet, U&G was immediately used to investigate people's attitude and behavior towards this new media. As the light of traditional media eclipsed in the rising of a competitive and comprehensive new information communication technology, scholars, administrators as well as advertisers wanted to know what do people most want to seek from the Internet? How they feel and act when using Internet? Also, as the Internet evolved from Web 1.0 to Web 2.0, the emergence of Blog, MMORPG (Massively Multiplayer Online Role-Playing Games), social network system, the application of U&G gradually enriched the canonic research. In the general research on Internet, Rubin and Papacharissi (2000) surveyed 279 communication majored college students and tested the correlation of Internet using motives and the audience behavior. They concluded that the most salient use of the Internet reflected an instrumental orientation, which has been defined as an active and purposive orientation, often having to do with information seeking. Those who perceived the Internet as warm, social, and active, used it primarily to fulfill pass-time, convenience, and entertainment desires, and for personal utility. They also identified interpersonal utility motivation as the only predictor of total Internet use. Information seeking and convenience were respectively predictive of the use of e-mail and newsgroup. Further, economic security and information seeking predicted web browsing. These past researches give clue to help

identify GS on YouTube, so the first research question is that:

Q1: What gratifications are sought in YouTube?

Audience activities

Audience activity is an important intervening variable in the uses and effects process (Rubin & Perse, 1987). In general, two major orientations of media use were proposed: ritualized and instrumental media use (Rubin, 1983, 1984). Ritualized, which is associated with diffuse motives and more exposure to and affinity with the medium use, focuses more on the medium rather than on particular content, while instrumental use, which is marked by using medium's content for information utility reasons, is more intentional and selective, and reflects purposive exposure to specific content (Rubin & Perse, 1987). Different use orientations lead to different audience activities. Instrumental use of *60 Minutes* and soap operas caused higher levels of program viewing (Perse, 1986; Rubin 1981, 1985). Three types of audience activities were identified: selectivity, involvement, and utility -- which respectively represent the degree to which audience members consciously expose themselves to media, the level of personal relevance of media or messages to audience members, and the perceived usefulness of media exposure. The three kinds of activities existed before, during and after exposure to media (Levy1983; Levy and Windahl 1984, 1985). Another analysis suggested that television use motivations and viewing patterns were indeed interactive, and that television use motivations can effectively explain or predict viewing pattern consequences (Rubin, 1983).

TV news was one of the program categories that were most used in the application of audience activity framework. In the research of audience activity and television news gratification, it was found that instrumental motives, affinity, and perceived realism were linked to intentionality and involvement, while ritualized motives are linked to nonselective exposure and co-viewing distractions (Rubin & Perse, 1987). Besides, some research tried to examine the correlation between viewing motives and viewing pattern in specific group of people (Rubin & Rubin, 1982). Moreover, Specific activities have been identified with regard to different types of viewing motives. Levy and Windahl (1984) found that thoughts and discussions after viewing were part of audience activity.

VCR grants the audiences more freedom to choose, arrange and control the viewing activity, which is similar to on-line video viewing. VCR users were active and intentional in their behaviors, selecting what content to tape or rent and when to view it. Some people reported that they like to fast forward or replay certain section of a program during viewing. When rent tape content is attractive enough, they would buy and keep the program. Lin (1990) discussed in her research that a majority of VCR owners were found to have actively engaged in most audience activities measured from pre-exposure through post exposure period. VCR users who were involved in the selective process were related to plan ahead to watch or record programs with or without program guide. In the post exposure session, being an active user or not, VCR users were active involved in the program discussion (Lin, 1990). What's more about the findings was that VCR users also were interpersonal communicators, which provided active interpersonal (like sharing of taped content) and mass communication links (like off-air taping) (Rubin, 1987). The pre-viewing and post-viewing activities of VCR and

YouTube share quite a lot of similarities. The previous research on VCR may give clue to the inspection of online video sharing web site.

YouTube audiences could decide when and where to log on the website, as long as Internet is available. They could search for their preferred genre of video, or watch the ones on the top 10 list or what their friends recommend. Also, audience can use RSS to remind themselves of the latest refresh. During the viewing process, the audience could use instant messenger to talk to someone else who is also surfing the Internet. When they find something really exciting, the audience could tag the video or send the URL to share with friends. Based on the sharing and comment of the videos, virtual community was established. Although the community on YouTube structured in ways similar to other social networking sites, for instance Facebook, it showed greater semantic coherence around content (Paolillo, 2008). Furthermore, YouTube gratifications-sought may lead to specific viewing activities. Based on these theoretical frameworks and the review of the literature, we ask:

Q2: What are the relationship between GS and audience activities before, during and after using YouTube?

Genre

Genre provides a more specific inside look of video watching choice. Genre includes at least two kinds of information: contents (such as sports and comedy) and forms (such as cartoon and documentary) (Preston & Clair, 1994). Researches have proved that different genre types could lead to different viewing behaviors. For example, aggressiveness was linked to the viewing of violent contents (Huesmann, 1982), and violent dramas did not

simply convey crime image, but also the winning of justice (Potter & Warren, 1998). Clair & Preston (1990) found audiences who conceptualized TV genres along low integration of representations preferred genres offering social interactions, while audiences who represented TV genres along high integration prefer information genres.

Different GS may result in different genres preferred. Similarly, different viewing activities may result from watching different genres of video. In another research, Preston & Clair (1994) found out that gender differences in viewing frequency occurred in six kinds of genres. Male were more subjected to adventure movies, news and documentary, however, female were more likely than man to watch daytime soap operas, medical series and evening soap operas.

Video on YouTube are divided into 13 categories, such as news and politics, music, film and animation, pets and animals, people and blogs and so on. Audiences have to upload videos in relevant category, usually by tagging the clips, so others could easily find the sorts they want. Based on these researches, here comes the third research question:

Q3: How can GS, audience activities, and demographics predict the use of different genres on YouTube?

Displacing effect

Grossman (2006) noted that YouTube's popularity grew at the intersection of three revolutions: the revolution of falling prices and ease of video production, the rise of web 2.0 sites as communities, and the cultural shift away from the mainstream media.

Arguments on the displacing effect between "old" and "new" media have been arising

for quite a few years. Each time when a new form of media comes into being, some people would mourn for the older one, just like in the case of telephone to telegraph, television to radio. However, research does not fully support a single tone. Comparing these findings with a study on audience preferences across internet, television, newspaper, radio, and magazine news outlets, the audience still prefers traditional media for general information such as weather, entertainment, sports and general news (new media federation, 2002). Compliment rather than a replacement relationship between TV viewing and VCR use was observed. The time shifting characteristic of VCR help people to arrange watching anticipated program in a more convenient time, and thus may augment the size of the viewing audience (Rubin, 1987). Ferguson and Perse (2000) found similarity rather than differences exist between TV and VCR (2005). Also, they did not find any significant displacement effect in their research between online and offline news.

In assessing the displacement effect, Lee and Leung (2008) compared two popular approaches: Medium-centered approach and user-centered approach and found the former was more accurate. The two researchers discussed time displacement effect and function displacement effect and found the Internet performed a substitutive rather than complementary function.

The last mission of the paper is to figure out if there are displacement effects between YouTube and TV use. With regard to this, here is the last research question:

Q4: What are the displacing effects between YouTube and television?

Method

Sample

The questionnaires were sent out through Internet and traditional means by a snowballing method from 5th to 19th April, 2009. Internet users who had used YouTube and knew written Chinese were asked to complete the questionnaire. A total number of 274 people replied but only 240 samples were valid. Among the respondents, 49.58% were male (n=119). In terms of age, 202 respondents ranged from 18 to 25 years old. Except for three respondents, majority (n=237) of them received higher education.

The questionnaire consisted of four parts, which were GS, audience activities, mass media use, and the routine demographics. Diluted from the past classic researches and based on a five-person focus group interview, the questionnaire of this research utilized canonic items as well as new items that need to be tested. Five-point Likert scales were used to measure the item level.

Measures

Gratifications-sought

As an extension and combination of former classic researches and focus group interview, 27 questions were designed and presented to respondents, who were expected to choose from "strongly disagree"(1) to "strongly agree"(5) according to their thoughts and feelings in the motives of why they used YouTube.

Audience activities

To assess audience activities, 12 items were used. Previewing activities (Cronbach's alpha= .62) included: (1) I use research engine to seek video; (2) I ask friend to recommend or see the rank list before watch; (3) I often log on YouTube through the URL sent by other people. During-viewing activities (Cronbach's alpha= .60) contained: (1) I like to fast-forward the program while watching on YouTube; (2) I like to playback some part repeatedly while watching on YouTube; (3) I like to chat with others through instant messenger while watching on YouTube; (4) I like to watch with others while watching on YouTube; (5) I like to eat something while watching on YouTube. After-viewing activities (Cronbach's alpha= .75) covered: (1) I talk to others about what's on the video after watching; (2) I think about and discuss the program after it is over; (3) I will recommend other people to see the program after viewing; and (4) I will review the program. Respondents were asked to choose the level that they were involved in viewing activities with "1" denoted "never", and "5"denoted "very often". Each group was used as dependent variables to test the relationship with gratifications-sought. Male was encoded as "1" in the analysis while female encoded as "0" here in this research. Mean values and standard deviation are listed in Table 1.

(Insert Table 1 here)

Genre

Morgan and Shanahan (1997:6) had worried that "viewers may not define genres in the same way as do researchers" and it may cause deviation in the result. In order to solve the problem, this research divided YouTube videos into 13 categories, just like YouTube did on

its homepage, with which respondents were familiar. Respondents were asked to choose how often they watch each type of videos with "never" encoded "1" and "very often" encoded "5". As shown in Table 2, the 13 types of YouTube video topics were categorized into three main genre, namely entertainment-oriented (Cronbach's alpha = .53), information and education-oriented (Cronbach's alpha=.55), and leisure-oriented (Cronbach's alpha=.58). Demographics, gratifications-sought and audience activities were applied to see if they can predict the genre use preferences.

(Insert Table 2 here)

YouTube and traditional media usage pattern

Respondents were also asked to self report whether they will “abandon watching certain program in TV because they can watch it on YouTube” and the time they spend respectively on YouTube and TV averagely per day and per week. On late March, 2009, the Chinese government blocked YouTube.com in the China mainland area. This was a good chance to analysis the displacement effect. So for respondents who reported living in China mainland were required to complete four more questions, including after YouTube was blocked (1) I spend more time on other media that can see videos like TV and movies; (2) I spend more time on other video sharing websites; (3) It causes no influence on my viewing habit; and (4) I try to use agent server to log on YouTube. Five-point scales were applied with "strongly disagree" encoded "1" and "strongly agree" encoded as "5".

Analysis and Results

Gratifications-sought

By running factor analysis, deleting 3 cross loaded questions, 6 factors emerged from 24 questions, which together explained 70.95 % to total variance.

As Table 3 displayed, factor 1 is the motive of entertainment and relaxation, which explained 27.36% of the total variance (eigenvalue= 6.567). Social interaction was identified to be the second gratification users most want to seek on YouTube. But it explained 15.17% of the total variance (eigenvalue=3.640), a little more than half of what entertainment and relaxation did. Supplement, which provide instrumental use of YouTube that cannot be satisfied on traditional visual media, ranked third and explained 10.36% of the total variance (eigenvalue = 2.486). Companionship (variance=7.22%, eigenvalue = 1.733), a very important ritual use of TV, also stood a important place in explaining the satisfaction people look for on YouTube. With a explanatory power of 5.45%. “Pass time” ranked the second to the last in the 6 factors (variance=5.45%, eigenvalue = 1.309). Although pass time and entertainment are two thing that both fulfill people’s time and affection, users’ need for entertainment were far more desirable than pass time. “Information seeking”, a significant function that people find on the Internet explained little of the gratifications-sought on YouTube (variance = 5.38%, eigenvalue = 1.292). All the alpha value of the 6 factor was quite high, with the highest α =.89 (entertainment and relaxation, and supplement) and the lowest α =.75 (information seeking), which proved that reliability of the explanations was very convincing.

(Insert Table 3 here)

GS and audience activities

Linear Regression was employed to explore the predicting power of three demographic variables: gender, age, education background and 6 factors of GS to the three kinds of audience activities. As shown in table 4, "entertainment and relaxation" (β=.291, $p<.001$), "social interaction" (β=.141, $p<.05$) and "supplement" (β=.292, $p<.001$) were significantly linked to pre-viewing activity. This means that people who want to be entertained, get relaxed and find supplement function on YouTube would be very much likely to do pre-viewing activities, such as use search engine to find videos, ask a friend to recommend or refer to rank list on homepage to arrange their viewing sequence. People who want to make social interaction were likely do pre-viewing activities. However, demographic variables were not predictors of pre-viewing activities.

(Insert Table 4 here)

As table 5 indicated, younger people (β=-.179, $p<.01$) were reported to have more viewing activities. People who sought for social interaction (β=.243, $p<.001$) would most probably engage in viewing activities during YouTube viewing. Besides, the more people want companionship (β=.191, $p<.01$), and entertainment and relaxation functions (β=.186, $p<.01$), the more they would do something like chatting, eating when watching. The more people want to control the viewing process, which is usually not possible when using traditional visual media like TV and movies, they would be more likely to fast-forward or playback some parts of the video clips.

(Insert Table 5 here)

Table 6 indicates that the strongest predictors of after-viewing activities were entertainment and relaxation (β=.378, p<.001), and social interaction (β=.246, p<.001). Users who look for supplement function (β=.139, p<.01) and information (β=.137, p<.01) also show a strong intention to participate certain activities after viewing. The more users seek for entertainment and relaxation as well as social interaction, the more likely they participated in after-viewing activities, such as reviewing or thinking about the programs, talking and discussing with other people about the viewed contents or recommend the programs to others.

(Insert Table 6 here)

GS and audience activities as predictors of genres

As shown in Table 7, the most powerful predictor of entertainment-oriented YouTube video clips was during viewing activities (β=.256, p<.001). The more actively users take during-viewing activities, the more likely they prefer to watch entertaining contents. Users who want to interact with others (β=.182, p<.01) when watching were more inclined to entertaining videos, which were also the choice of users who sought for information (β=.166, p<.01). Not a very strong predictor, but the supplement-sought users (β=.129, p<.01), who were in favor of sharing the video clips with others and controlling the playing process, were active when watching YouTube programs.

(Insert Table 7 here)

Table 8 demonstrated that information seeking gratification showed strong predicting power on information and education-oriented video clips (β=.172, p<.01). Social interaction (β=.159, p<.05) and companionship (β=.141, p<.05) indicated the preference of information-oriented YouTube programs. Activities happened during (β=.167, p<.05) and after (β=.155, p<.05) viewing significantly predicted the seeking of information and education-oriented programs. Gender (β=.153, p<.05) and education background (β=.150, p<.05) share the same predicting power in this kind of genre.

This analysis indicated that the more users sought for information, social interaction and companionship, the more likely they prefer information-oriented genre on YouTube. Those people were actively participating in viewing activities both during and after watching programs on YouTube, they turned more probably to be male and received higher education.

(Insert Table 8 here)

As Table 9 showed, gender (β =.259, p<.001) and social interaction (β =.260, p<.001) were the two strongest variables that predicted the use of leisure-oriented video clips. Companionship (β =.148, p<.05) and information seeking (β =.131, p<.05) as well predicted the use of leisure-oriented genre. This analysis indicated that male were more likely to indulge in leisure programs and the more users intend to do social interaction, the more they would watch leisure programs.

(Insert Table 9 here)

Displacement effect

Only 26.2% respondents (n=63) admitted that they would not resort to TV if they can find the program on YouTube. 55.4% respondents (n=133) reported that they would review broadcast TV programs on YouTube. Among the total 88 Mainland China respondents who cannot log on YouTube during the data collection period, 15.91% users (n=14) said they spent more time on other media, like TV and movies, to watch videos. And the same number of users reported that they would resort to agent server to log on YouTube. Users who claimed the prohibition of YouTube bring changes to their daily viewing habits (n=33) were almost in the same number who claimed the opposite.

However, the result of correlation analysis did not indicate there is significant displacement effect between YouTube viewing and TV use, no matter the more-less or more-more effect.

Discussions and Conclusions

This exploratory study tries to establish understandings on YouTube gratifications-sought, viewing behaviors and genre preferences, and its relationship with television.

Except supplement, other five factors identified in this research are also the gratifications found on TV by Rubin in 1983. Similarly, information seeking, companionship, entertainment, and social interaction have been identified by Lin (1999) and Leung (2007) in the research of internet use. Entertainment and relaxation ranks first in the gratifications that users seek on YouTube. This echoed Lin's findings in the general use of internet. We can say

that YouTube.com is a typical entertaining way of using internet. People would log on there for fun rather than to get information. It is universally believed that YouTube and Facebook won a great many credits in Obama's success in U.S. presidential election in 2008. So we can say people are willing to receive information, even serious political persuasion, in a more enjoyable way. Obviously the predicting power of information seeking on entertainment-oriented and leisure-oriented genres strongly supported this point of view.

The three gratifications that ranks upper were all instrumental use of YouTube. However, the escape item was excluded automatically by factor analysis. It's not difficult to see people resort to YouTube more for utility goals. Ranked No.3, the supplement factor reinforced the conclusion.

YouTube users perceived supplement motive were very active in the pre-viewing activities. That’s because they were in the purpose to find something that cannot be seen or already been seen in other media, so they had to subjectively plan the viewing and find the videos. Since entertainment and relaxation was the most important gratifications users seek on YouTube, it's not surprising to see this motive related closely to the whole viewing activities. Entertainment and relaxation were kinds of situations that users want to be enjoyed and relaxed during the process. In order to archive this purpose, users need to find entertaining and relaxing contents in advance, whether by using search engine or see the hot rank list on YouTube homepage. When watching, entertainment and relaxation seekers would enjoy themselves by controlling the playing and sharing with co-viewers or doing some other things that could make watching more enjoyable. Further, they apparently want to keep enjoyment even after viewing. Recalling or discussing the viewing process or content stirred

another kind of delightful feeling. Information seekers were only active in after-viewing activities. They got the information and talked or discussed with others, which, to some extend, offer even more information.

Sometimes, the pre-viewing activities were a process to socialize, for users who would communicate with others to ask for recommendation. For the same reason, users with social interaction motive were very likely to be active during viewing. When watching TV or movies, audiences could not control the playing process, however, this inadequacy can be complemented when using YouTube.

Demographics did not differentiated the relationship between gratifications-sought and audience activities except that younger users of YouTube tended to participate more activities when watching.

Except pass time motive, all the six gratifications identified on YouTube users demonstrated significant relationships with viewing activities. Since pass time was a typical ritualized using motive, it was associated with more exposure to and affinity with the medium (Rubin & Perse, 1987). Pass time motive bearers would not bother to join in any viewing activities. What they want to do is just to occupy the excessive time. This finding is consistent with the early researches that ritualistic viewers may be obstinate that were little influenced by media message (Katz, 1959; Levy & Wandhl, 1984).

Although information-seeking motive do not show much correlation with audience activities, it significantly predicted the three kinds of genre preference. Maybe it can be appreciated as that people who tried to obtain information were willing to be informed through various kinds of programs, no matter news, variety shows or user generated contents.

From another point of view, that's because different types of programs carried different information consciously or unconsciously, just like Atkin had found out that "informational needs of the audience play a significant role in selective exposure to entertainment media" (Atkin, 1987: 87). Still, the gratification of social interaction was a strong predictor which was linked to the three genres. Media content and viewing were all means for social interaction seekers to interact with others. This finding was consistent with another result in the analysis that, viewers who acted more during watching would be more in favor of entertaining programs. They can communicate by co-viewing or by discussing program contents. Supplement motive can only significantly lead to entertainment-oriented programs. Among the four most favorite genres, entertainment (variety show) and MTV ranked respectively the second and third. All the signs suggested that people used YouTube to watch programs cannot be seen or already broadcast on traditional media more for entertaining programs than any others.

It is easy to understand that active participation in during and after viewing activities would indicate information-oriented programs. Users may repeatedly playback and forward to take note of information. And they would probably exchange opinions after watching.

Male tended to watch information-oriented programs, which strengthened the overwhelming opinion that male care more about news and politics than female. Also because, in general, men are fond of games and gadgets, sports, and traveling, male strongly predicted leisure-oriented program watch in this research.

What is hard to understand is that companionship could predict information and education-oriented programs. No other previous researches have found similar result and it is

hard to explain why companionship seekers who emphasis on ritualized use wanted to get information as well.

Although the supplement gratification was quite significant on the YouTube use, the research did not find any significant displacement effects between YouTube and TV use. Maybe that's because the maximum length of YouTube video clips is limited to ten minutes and a plenty of video clips are shorter than five minutes. The time occupied by YouTube is marely a very small amount compared with those spent on TV. 69.2% (n=166) respondents reported that they spent less than half an hour on YouTube per day and 47.5% (n=61) respondents suggested they they spend less than one hour on YouTube per week, which could strengthen the above speculation. From another perspective, maybe YouTube does not displace TV but other kinds of leisure or entertaining activities like movie watching or online game playing. Just like Randall Stross (2009) said on New York Times, "YouTube has not cannibalized TV viewership -- it has instead carved out another chunk of our leisure time for video on a screen".

Limitation and suggestions

Due to the limited samples size, some results may not be as good as expected. For instance, some reliability values of audience activities and genres were under .75. For the low Cronbach’s alpha of genre, it may be attributed to the overlap disposition of some kinds of programs. Take sports for example, it may be attributed to the entertainment group, and also, it can be grouped into leisure-oriented genre, which may confuse the respondents and lead to

undesirable and tuff outcomes.

The results on displacement effects are far from satisfactory. Maybe it is better to use relevant proportional time measurement as Lee and Leung (2008) suggested. For the future studies, they may continue to work on the displacement effect between YouTube and any other kinds or leisure or entertaining media and come to more convincing conclusion.

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Table 1: Mean value and standard deviation of audience activities

Activities	Mean	SD
Pre-viewing (α = .62)		
1. use RSS to remind new video update	1.49	.82
2. use research engine to seek video	3.67	1.22
3. ask friend to recommend or see the rank list before watch	3.32	1.20
4. often log on YouTube through the URL sent by other people	3.46	1.21
During viewing (α = .60)		
5. fast-forward the program while watching on YouTube	3.21	1.13
6. playback some part repeatedly while watching on YouTube	3.38	1.10
7. chat with others through instant messenger while watching on YouTube	2.60	1.25
8. watch with others while watching on YouTube	2.74	1.08
9. eat something while watching on YouTube	3.09	1.20
10. do nothing but concentrate my attention on the YouTube program	2.80	1.12
After viewing (α =.75)		
11. talk to others about what's on the video after watching	3.18	1.09
12. think about and discuss the program after it is over	3.24	1.02
13. recommend other people to see the programs after viewing	3.40	1.07
14. review the program	2.99	1.13
15. make or upload programs which is inspired by the program just viewed	1.86	1.07

Table 2: Mean value and standard deviation of Usage of different Genres on YouTube

Genres	Mean	SD
Entertainment-oriented (α = .53)		
1. MTV	3.23	1.17
2. Films	3.07	1.30
3. Funny user generated videos	3.50	1.21
4. Entertainment (variety show)	3.45	1.26
5. TV and movie preview or clips	3.18	1.14
Information and education-oriented (α = .55)		
6. Autos & Vehicles	1.82	1.08
7. Howto & DIY	2.59	1.22
8. Education	2.42	1.11
9. News and Politics	3.23	1.21
Leisure-oriented (α = .58)		
10. Gadgets & Games	2.23	1.24
11. Sports	2.47	1.35
12. Pets & Animals	2.17	1.16
13. Travel & Places	2.40	1.19

Table 3: Factor analysis of gratifications–sought on YouTube

I use YouTube because:	Mean	SD	Factor					
			1	2	3	4	5	6
Entertainment and relaxation								
1. it relaxes me	3.54	1.03	.85					
2. it is entertaining	3.52	.96	.82					
3. it makes me feel good	3.25	.95	.79					
4. it helps me to mind off other things like study or work	3.44	1.12	.75					
5. it is enjoyable	3.30	1.01	.71					
Social interaction								
6. I can share with others videos made myself	2.46	1.26		.89				
7. I can upload video	2.55	1.23		.86				
8. I can share with others the video I like	2.72	1.32		.84				
9. I can participate in the group discussion	2.22	1.08		.70				
10. I can share my comment to the video with the others online	2.07	1.15		.68				
Supplement								
11. I can watch something already broadcast on TV	4.04	1.01			.79			
12. it is easy to find what I want	3.74	1.08			.70			
13. I can watch video that cannot be seen on TV or cinema or any other media	4.00	1.07			.70			
14. I could control the proceeding of playing	3.52	1.14			.69			
15. I can decide the time to watch	3.68	1.19			.64			
Companionship								
16. it makes my feel less lonely	2.25	1.13				.86		
17. when there is no one by my side to talk to be to be with	2.41	1.22				.85		
18. so I won't have to alone	2.11	1.09				.82		
Pass time								
19. when I have nothing better to do	2.90	1.21					.89	
20. to occupy my time	2.90	1.21					.85	
21. it passes time when bored	3.66	1.11					.75	
Information seeking								
22. I want to know about things through moving image	3.45	1.15						.82
23. I want to see what is out there	3.33	1.12						.77
24. I want to look for information	3.29	1.14						.72
Eigenvalue			6.57	3.64	2.49	1.73	1.31	1.29
Variance (%)			27.36	15.17	10.36	7.22	5.45	5.38
Cronbach's alpha			.89	.89	.88	.84	.81	.75

Table 4: Linear Regression of Demographics and GS on pre-viewing activities

Factor	β
Demographics	
Gender (male =1)	-.074
Age	-.037
Education background	.050
Gratifications-sought	
Entertainment and relaxation	.291***
Social interaction	.141*
Supplement	.292***
Companionship	.031
Information seeking	-.083
Pass time	.023
F	6.268
Adjusted R square	.17

Note. ***p<.001, **p<.01, *p<.05

Table 5: Linear Regression of Demographics GS on During-Viewing Activities

Factor	β
Demographics	
Gender (male =1)	-.099
Age	-.179**
Education background	.078
Gratifications-sought	
Entertainment and relaxation	.186**
Social interaction	.243***
Supplement	.180**
Companionship	.191**
Information seeking	.002
Pass time	.100
F	8.287
Adjusted R square	.22

Note. ***p<.001, **p<.01, *p<.05

Table 6: Linear Regression of Demographics and GS on After-Viewing Activities

Factor	β
Demographics	
Gender (male =1)	.012
Age	-.007
Education background	-.009
Gratifications-sought	
Entertainment and relaxation	.378***
Social interaction	.246***
Supplement	.139*
Companionship	.100
Information seeking	.137*
Pass time	.048
F	10.825
Adjusted R square	.27

Note. ***p<.001, **p<.01, *p<.05

Table 7: Linear Regression of Entertainment-Oriented Genre

Factor	β
Demographics	
Gender (male =1)	-.049
Age	.015
Education background	.027
Gratifications-sought	
Entertainment	.135*
Social interaction	.182**
Supplement	.129*
Companionship	.051
Pass time	.091
Information seeking	.166**
Audience activities	
Pre-viewing	.134
During-viewing	.256***
After-viewing	-.083
F	7.105
Adjusted R square	.24

Note. ***p<.001, **p<.01, *p<.05

Table 8: Linear Regression of Information and Education-Oriented Genre

Factor	β
Demographics	
Gender (male =1)	.153*
Age	.071
Education background	.150*
Gratifications-sought	
Entertainment	.064
Social interaction	.159*
Supplement	.072
Companionship	.141*
Pass time	-.108
Information seeking	.172**
Audience activities	
Pre-viewing	-.051
During-viewing	.167*
Post-viewing	.155*
F	6.143
Adjusted R square	.21

Note. ***p<.001, **p<.01, *p<.05

Table 9: Linear Regression of Leisure-Oriented Genre

Factor	β
Demographics	
Gender (male =1)	.259***
Age	-.064
Education background	.043
Gratifications-sought	
Entertainment	.022
Social interaction	.260***
Supplement	-.086
Companionship	.148*
Pass time	-.098
Information seeking	.131*
Audience activities	
Pre-viewing	.047
During-viewing	.064
Post-viewing	.138
F	6.268
Adjusted R square	.21

Note. ***p<.001, **p<.01, *p<.05

Table 10: correlation of time spent on YouTube and TV

		2	3	4
1.	Time spent on YouTube/week	.555**	.079	-.022
2.	Time spent on YouTube/day		.058	.083
3.	Time spent on TV/week			.657**
4.	Time spent on TV/day			

Note. ***p<.001, **p<.01, *p<.05; n=240