

STANDARDISING TOUCHPOINT ANALYSIS

A CROSS MEDIA NEUROSCIENCE STUDY FROM CHINA

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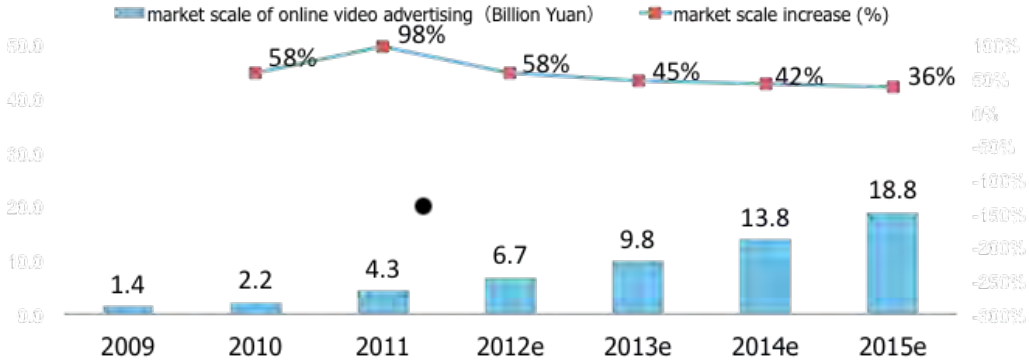
INTRODUCTION: HOW INDUSTRY TRENDS HAVE NECESSITATED THE STANDARDISATION OF TOUCHPOINT ANALYSIS TO ACHIEVE EFFECTIVE COMPARISON ACROSS MEDIA

The importance of comparing traditional TV and online video (OLV)

A growing number of China's media consumers are shifting to watching online video (OLV). In 2012, already 65% of the 564 million people who have internet access were watching OLV (CNNIC, 2013).[1] Chinese corporate advertising budgets closely follow this trend and are increasingly being allocated to OLV spending. Recent year on year increases for ad spending on TV were 19%, compared to 50% increases in OLV (CNNIC, 2013). As an indication of the industry's dynamism, recent years have also witnessed the consolidation of several OLV platforms, with Youku acquiring Tudou in 2011 and Baidu's iQiYi acquiring PPS in 2013. The advertising market for TV is big and growing at a decent pace, while that of OLV is rapidly catching up.

FIGURE 1, THE MARKET SCALE OF ONLINE VIDEO ADVERTISING IN CHINA, 2009-2015



Data source: CNNIC, 2013

As OLV grows in importance, it is crucial for media planners to find the right media mix across the two platforms. However, up till now there have remained doubts among advertisers with the usual question being posed: "Yes, budgets are indeed shifting from TV to OLV but is the impact of OLV really the same as TV?"

TV vs. OLV: Are they different?

Until now, knowledge of the differences between TV and OLV were rather crude, as they were often taken as very similar media. The hypothesis of the research is that they are not the same. The uncovered detailed differences should demonstrate to media planners that the two media are in fact very different and as such should be approached with different media strategies.

This paper presents results from VivaKi's The Pool China study on the differences between advertising on TV versus online video (OLV).This first ever multiscreen neuroscience study provides unified metrics on the visual attention and emotional engagement of consumers, helping marketers allocate ad spend across the two touchpoints for greatest effect. More specifically, the study answered the following research questions:

- Which media platform, TV or OLV, has the most significant impact on the target consumer?
- Which ad position, the pre-roll or the mid-roll, has better performance on OLV?
- Which ad length has a greater impact on the target consumer: 15 seconds or 30 seconds?
- Which ad platform and position, the TV mid-roll or OLV mid-roll, has better performance?
- Whether different categories / products are more suitable for certain touchpoints?
- What creative elements are more suitable for TV/OLV?

Standardising touchpoint analysis through neuroscience: A touchpoint-neutral research approach

The biggest problem facing any research concerning multiple touchpoints has been the inability to provide unified and comparable metrics across screens and devices, such as TV sets and computers. Neuroscience circumvents this problem altogether by measuring the very origin of all human perception: the eyes and the brain. As such, the methodology is touchpoint-neutral, providing comparable metrics across media.

FIGURE 2

What is more, the approach is capable of explicitly measuring visual attention and emotional reactions, yielding more granularity and allowing for teasing out more complex insights. Firstly, eye tracking enables the measurement of fixations (gaze points) and saccades (eye movement from one fixation to the next). As such, neuroscience offers more insight about the visibility of ads than does the more traditional methods. Secondly, electroencephalography (EEG) measures brain reactions, allowing researchers to glean insights directly from the source of human reaction, rather than relying on respondents to verbalise and rationalise them.

FIGURE 3

Research background of the VivaKi Pool Lane 3 China study

VivaKi, part of Publicis Groupe, conducts an annual research initiative called "The Pool". The Pool brings together clients, agencies and media partners to test and create new advertising models for the future. The Pool studies are country specific, and there may be multiple such initiatives running in parallel each year. The results for this paper come from VivaKi China's Pool Lane 3, i.e. it is the third annual iteration of the initiative in the China.

The clients and brands participating this year were: Mars (Dove Core, Dove Gifting, M&M's, Snickers); L'Oreal (L'Oreal Hair, Maybelline, Lancome); Coke (Coke, Sprite, Minute Maid); Reckitt Benckiser (Durex); MeadJohnson (MeadJohnson); Wrigley (Extra, Skittles); General Mills (Haagen-Dazs); Shanghai Jahwa (Liushen); Mengniu (Mengniu). The large number of participating brands lends credibility to the study's findings. This was not just a study done for one client, but for a consortium of brands.

TABLE 1, VIVAKI CHINA POOL 3 PARTICIPATING CLIENTS

Participating Advertisers	Participating Brand
Mars	Dove Core
	Dove Gifting
	M&M's
	Snickers
L'Oreal	L'Oreal Hair
	Maybelline BB Cream
	Lancome
Coke	Coke
	Sprite
	Minute Maid
Wrigley	SKITTLES
	Extra
Reckitt Benckiser	Durex
MeadJohnson	MeadJohnson
General Mills	Haagen-Dazs
Shanghai Jahwa	Liushen
Mengniu	Mengniu

Source: CNNIC, 2013

The OLV platforms participating this year were: Youku (www.youku.com), Sohu TV (tv.sohu.com), PPTV (pptv.com), LeTV (letv.com), Tudou (tudou.com, acquired by Youku), PPS (pps.com, recently acquired by Baidu, the search engine), iQiYi (iqiyi.com, owned by Baidu). Taken together, the platforms account for nearly 70% of the Chinese OLV market share. As such, the study's findings can be confidently said to be representative of the majority of the Chinese market.

TABLE 2, VIVAKI CHINA POOL 3 PARTICIPATING OLV PLATFORMS

Company	OLV Touchpoint	Website	OLV Market share * & ***	Monthly Visits (April 2013)
Youku Tudou	Youku	www.youku.com	20.90%	320 min
	Tudou	www.todou.com	11.50%	
Baidu	PPS	www.pps.com	6.60%	240 min
	iQiYi	www.iqiyi.com	6.70%	
Sohu	Sohu TV	http://tv.sohu.com	10.90%	240 min
PPTV	PPTV	www.pptv.com	6.60%***	n/a
LeTV	LeTV	www.letv.com	6.50%	140 min

*Notes: * Source: Enfo Desk Analysys International 2012*
*** Cumulative market shae of participating platformsis 69.7%*
**** Estimated from another source: iResearch's iUserTracker, April 2013*

The research was conducted in two cities. Beijing represented a first tier city, while Wuhan represented a second tier city. The reason for this is that China's economic growth has steadily been increasing the purchasing power of non first tier cities. As such, brand owners are increasingly interested in developing the share of mind of these newly available regions.

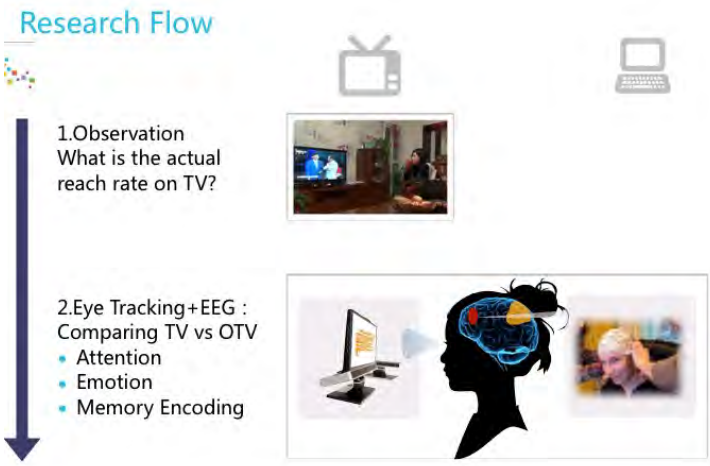
METHODOLOGY: RESEARCH DESIGN

Sample size & structure

The research was conducted in the cities of Beijing (first tier city) and Wuhan (second tier city). In each city, the sample structure was controlled according to age, sex, education, viewing habits, and salary levels. The proportions were structured according to the China Marketing and Media Study (Sinomonitor, Telmar and BMRB, 2012) and the Establishment Survey Report (CSM Media Research, Summer 2011), in order to provide representativeness for each city's population.

The research was broken up into two phases. Each phase had different goals and employed different methodologies. The sample size for the first phase was 200 families, equally divided among Beijing and Wuhan. For phase two, the sample size was 120 single participants, again, equally distributed among the two cities. The 120 participants for Phase 2 were recruited from among the Phase 1 participants.

FIGURE 4



Stage 1: Natural observation of real world traditional TV setting

The aim of the first stage was to quantify the actual reach of TV advertisements. The method employed here is ground-breaking on account of the fact that existing alternatives, such as the Nielsen TV box, cannot really account for true visibility. Just because an ad is displayed while the TV is turned on, i.e. the moment at which the TV box counts the ad as seen, does not actually mean it is viewed. While certainly not a scalable method, the natural observation combined with manual coding yields real visibility that today cannot be matched in any other way.

FIGURE 5

Unobtrusively positioned video cameras recorded viewing behaviours in the natural setting of the family living room. The participant and the TV screen were visible on the recording at all times. Participants were aware of the camera's presence, had signed a consent form, and were notified that the recording time is between 6PM and when they go to bed. Recordings had to contain at least 2.5 hours of recording time, including at least one hour of the participant actually viewing the TV (i.e. they could not just turn on the TV and leave). One day of recordings were made per family.

Participating families were also informed that the aim of the study was to observe what programmes they watch, and so were not in any way likely to deviate from their normal behaviour, including the usual ad avoidance. After collection, the video data was manually coded by researchers. The metrics collected from Phase 1 are described in greater detail in the table 3.

TABLE 3, PHASE 1 METRICS COLLECTED

Metric Name	Description
Percentage of ad audience	For any given series of commercials (pre-, mid-, post-roll), what percentage of the viewers actually looked at the ads for at least one second. In larger families, a minimum and maximum of one person was considered a viewer for which this metric was calculated, i.e. for each of the 200 families, there is only one data point per family.
Percentage of ad viewed	For any given commercial, what percentage of its total duration did the viewer actually watch.
Home reach	What percentage of the total length of ads displayed was actually viewed by the participating families. This metric is an index, calculated from the two previous metrics. Home reach (%) = Ad audience (%) * Ad viewed (%).

Actual Reach for TV was calculated from the following equation.

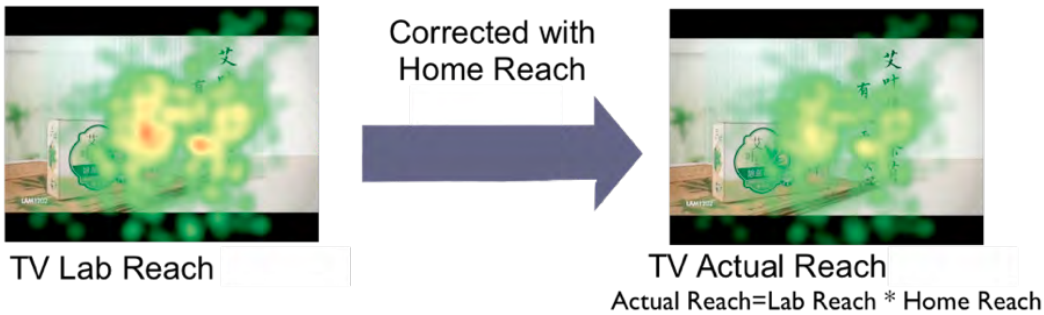
TV Lab Reach (81.74%) * (Ads Audience (83.15%) * Ad Viewed (72.05%)) = TV Actual Reach (48.97%)

or written in shorter form

TV Lab Reach (81.74%) * Home Reach (59.91%) = TV Actual Reach (48.97%)

*TV Lab Reach was collected in Phase 2

FIGURE 6



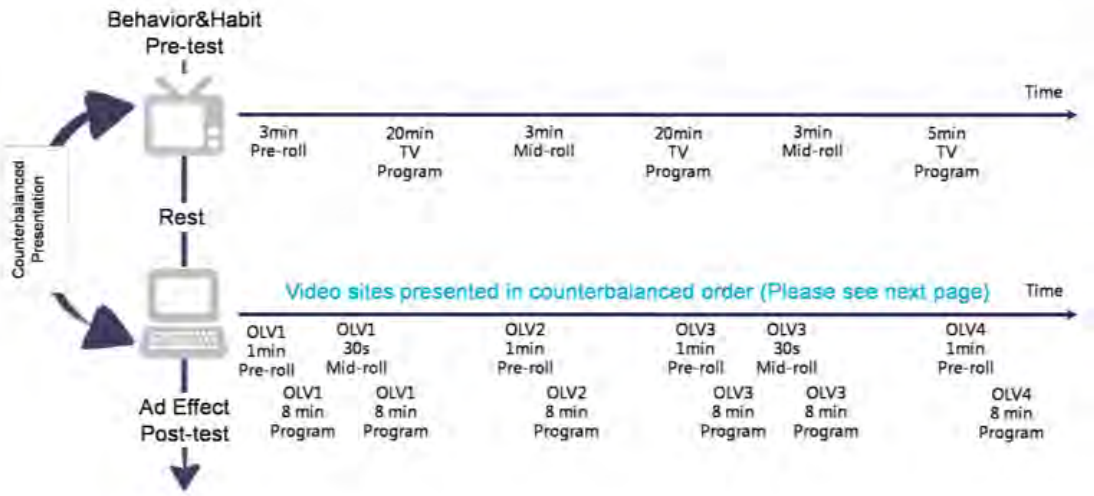
Stage 2: Measuring eye tracking & EEG for both TV and OLV in a laboratory setting

Stage 2 of the study employed neuroscientific methods (eye tracking and EEG) to test both the TV and OLV touchpoints. The aim of this stage was to develop standardised visual and emotional metrics across the two media.

There were a total of 120 participants for Phase 2, 60 participants per city. For each city, the participants were formed into four groups, each group consisting of 15 participants. For each city, each ad tested was seen by two groups (30 subjects). Within each group, participants saw the same ad on both the TV and OLV touchpoints, in alternating order across participants, with the ad being displayed once per touchpoint per participant.

When testing traditional TV, the duration of the viewing was about 56 minutes. The single pre-roll period lasted three minutes, as did the two mid-roll periods. In addition to the ads tested, some filler ads were used to conform to the duration of commercial periods, thereby mimicking real world conditions. For OLV, each subject browsed through four different video websites. Streaming content lasted for about eight minutes each time, with the four pre-rolls being 60 seconds in duration each, and with two mid-rolls of 30 seconds. Participants would take an induced rest after each of the four programmes.

FIGURE 7



Group	Video sites presented in random order for each group			
15 respondents (30s ad)	Site1	Site2	Site3	Site4
15 respondents (30s ad)	Site5	Site6	Site7	Site8
15 respondents (15s ad)	Site1	Site2	Site3	Site4
15 respondents (15s ad)	Site5	Site6	Site7	Site8

The content shown for both the TV and OLV sessions were a variety of documentary programmes about life style and travelling. This type of content, as opposed to for example thrillers or game shows, was chosen because it helps to avoid significant fluctuations in emotions and other cognitive effects amongst participants. The reason for this was to avoid emotions from programmes spilling over into ad time, thereby skewing the results.

FIGURE 8

The metrics collected from Phase 2 are described in greater detail in table 4.

TABLE 4, PHASE METRICS COLLECTED

Index Name	Data Source	Description
Visual Attention Score (VAS)	Eye Tracking	Index build withy equally weighted time to first fixation, reach, and total fixation duration
Emotional response index (Emo.I)*	EEG	Measured as the alpha wave from the frontal lobe. Based on the Frontal Asymmetry theory.
Visual Emotional Score (VES)	Eye Tracking & EEG	Constructed from VAS (60% weight) and Emo.I (40% weight). Visual given heavier weight due to the fact that without visual, no emotional processing can actually occur.
Memory encoding index (Mem.I)**	EEG	Measured as the theta wave from the frontal lobe.

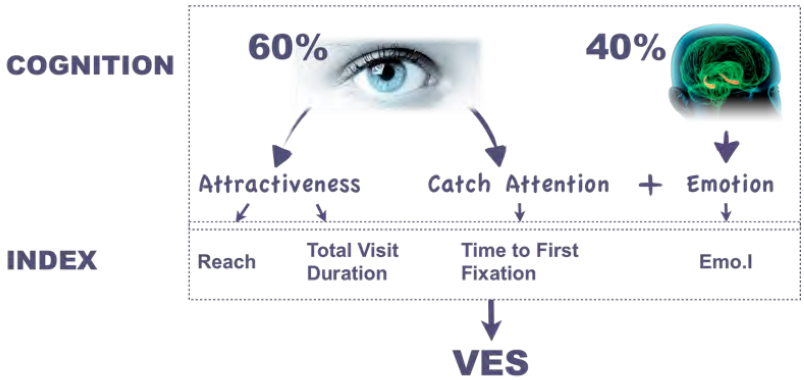
**For emotion valence-related features, it has been shown that positive and negative emotions induce asymmetric modulations in the frontal alpha power of EEG, leading to a relative decrease in the left frontal alpha power for positive emotions and a decrease in the right for negative emotions. This frontal alpha asymmetry provides an effective index for valence by computing a difference between the left and right alpha powers, here denoted as L and R respectively, divided by the sum of both: Index = (L-R)/(L+R). For support see: Tomarken, et al. (1990).*
***The theta band in EEG is related with memory recognition. For support see: Jacobs et al. (2006).*

Every EEG index was benchmarked against a neutral state of the mind. The neutral state was taken as the brainwaves of participants whilst fixated on a white cross on a black background, a conventional technique used in neuroscience and psychology. Whilst fixated on the cross, it can be said that a participant's brainwaves are neutral, i.e. they do not have much to react to. And so, when the values of the EEG indices proposed in this paper are above or below the baseline (a value of zero), this indicates degree. Anything above or below the baseline of zero signifies a deviation from the restful state and indicates a situation of heightened emotions, memory, or other metric.

For calculating OLV Actual Reach, it was sufficient to collect eye tracking data in the laboratory. The laboratory setup is similar to the natural viewing environment of OLV and as such does not require dual data collection, as traditional TV did with Phase 1.

On the Visual Emotional Score Index (VES)
The Visual Emotional Score Index (VES) was constructed to capture and combine both visual and emotional metrics into one easily understandable and comparable index. A weight of 60%, in place of an even split between visual and emotional, has been given to the visual elements, as without visual attention, there is no emotional processing at all.

FIGURE 9



Reach (20% weight) + Total Fixation Duration (20% weight) + Time to First Fixation (20% weight) + Emo.I (40% weight) = Visual Emotional Score (VES) (100% weight)

or written in shorter form

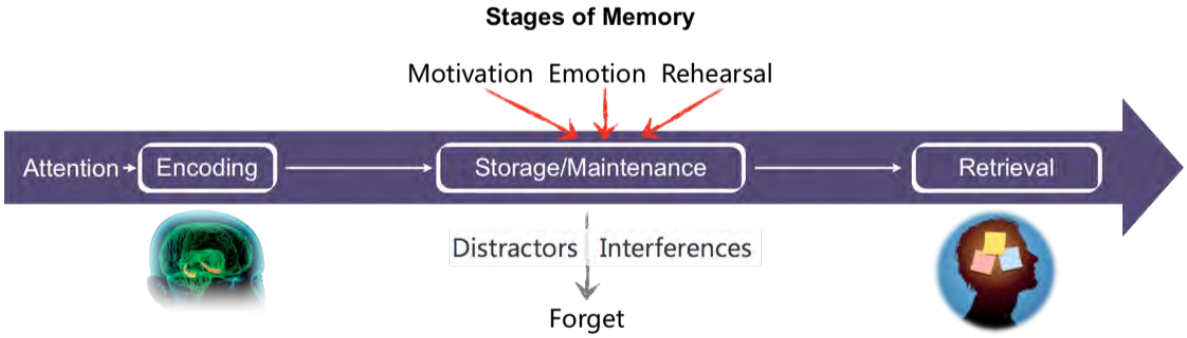
Visual Attention Score (60%) + Emo.I (40% weight) = Visual Emotional Score (VES)

On Emo.I
While the absolute values of these Emo.I measurements may seem small, which is simply due to the index's scale, what is important is the relation between values. A value of zero represents a resting or neutral state of mind. Anything above or below the baseline of zero signifies a deviation from the restful state and indicates a situation of heightened emotions, whether positive or negative.

As the study controlled for creatives by testing the same ads across both the TV and OLV touchpoints, the Emo.I result should be interpreted as one that quantifies the performance of the actual touchpoints. In other words, the metric is an assessment of the platform (TV or OTV), not the creatives themselves.

On the Memory Encoding Index (Mem.I)
The Memory Encoding Index (Mem.I) is a metric based on the theta wave, measured in the frontal lobe of the brain (e.g. Tomarken et al, 1990). In order to appreciate the research value of this index, it is useful to refer to how the brain encodes (i.e. saves), stores, and retrieves memories. As seen in the adjoined graphic, the brain first needs to encode, or write / save, a thought to memory, where it is placed in storage. Variables such as motivation to remember, associated emotions, rehearsal, distractors and interferences enable the brain to store the memory well or to forget it. These variables are so diverse and outside the scope of control of any researcher that it is futile to control for them. Only after this process is complete, however short or long the research time span actually is, can the brain retrieve memories.

FIGURE 10, STAGES OF MEMORY



As such, measuring memory encoding, and not memory retrieval (e.g. free recall) as done traditionally in survey based research, is a more objective and comparable measurement of the impressionable power of any particular ad or touchpoint.

As this paper has measured Mem.I against a baseline, a value of zero signifies a resting, or normal, state. A value of zero value is essentially the memory encoding intensity that takes place when the participants were fixated on the white cross on the black background. As such, any value above zero indicates that the intensiveness of encoding goes above and beyond the resting state, while any value below zero indicates a lower such intensiveness. Consequently, a negative value, does not signify that memory encoding of ads does not occur at all. It rather indicates that memory encoding does occur, though less intensively than when when at rest.

On total fixation duration
Since the total duration of ads shown on TV and on OLV were the same length, there is no need here for normalising the result. The results are presented in seconds (s).

On hardware and software used
In terms of the hardware, the eye tracker used was a Tobii 300X, and the EEG system was a 64 electrode Brain Products system. For data analysis, Tobii Studio was used to extract data for metrics such as time to first fixation, average fixation duration, total fixation duration, and actual reach. The software also helped analyse eye movements, allowing to track areas of interest. For EEG, the paper used the Matlab software to run calculations on the collected brainwaves. ICA was employed to reduce artifacts and clean the EEG signal and estimate spectral power.

RESULT I: WHICH MEDIA TOUCHPOINT GENERATES MORE IMPACT?

Rationale behind the question

Until now, knowledge of the differences between TV and OLV were rather crude, as they were often taken as very similar media. As such, the common practice until now was to allocate the majority of the budgets to traditional TV, and treat OLV as an add-on that received allocations only once TV targets were more or less met. As OLV grows in importance, it is crucial for media planners to find the right media mix across the two platforms. However, up till now there have remained doubts among advertisers with the usual question being posed: "Yes, budgets are indeed shifting from TV to OLV but is the impact of OLV really the same as TV?"

Findings from the VES index: OLV outperforms TV

The VES index (VIsual Emotional Score) captures the consumer's visual and emotional reaction to an ad. This study found that, on average, OLV ads (0.654) scored higher on the VES index than TV ads (0.281).

TABLE 5

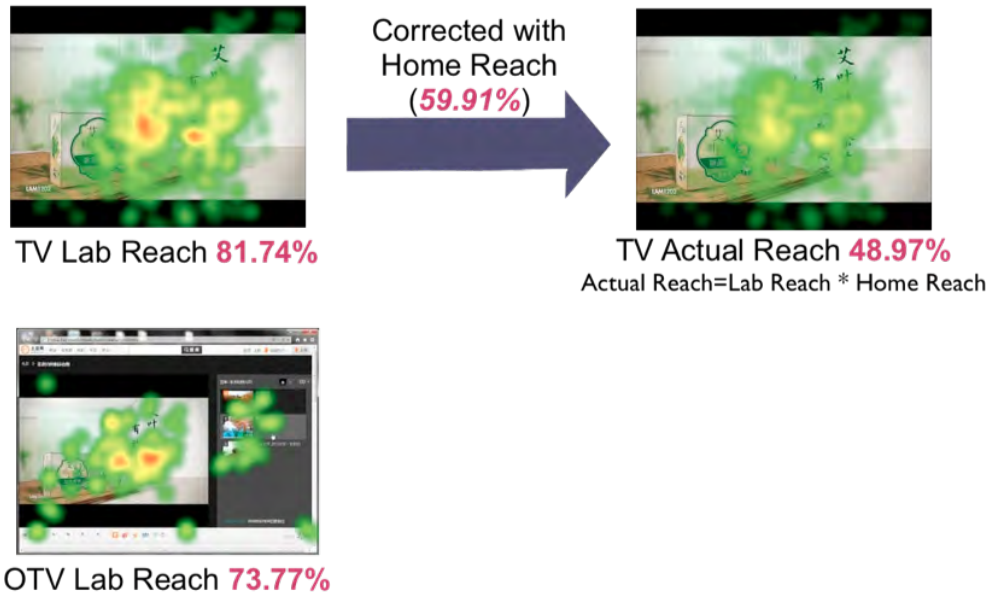
Variable		Reach (%)	Total fixation duration (S)	Time to first fixation (S)	Average fixation duration (S)	Emo.I	Mem.I	VES
TV vs. OLV	TV	48.97%	9.64	0.68	0.28	-0.0224	-361.8	0.281
	OLV	73.77%	10.17	1.1	0.31	0.0068	-134.72	0.654

As the study tested the same ads across both touchpoints, this result should be interpreted as a performance appraisal of the relative touchpoints, rather than the actual ad creatives. This signifies that, on average, an ad displayed on OLV will perform 1.713 times better than an average ad aired on traditional TV, simply on account of the difference in touchpoints where the ad was deployed. The results for the individual metrics that feed into the construction of the VES index are reported below.

Actual reach

OLV ads have better reach rate than TV (20% weight in VES index) The study found that, as a percentage of their respective audiences, more people view OLV ads (73.77%) than they did TV ads (48.97%). As such, actual reach is higher for OLV. OLV Reach was measured to be 73.77%.

FIGURE 11



Total fixation duration: Similar results for both TV & OLV (20% weight in VES index)

The total fixation duration of ads on each platform is very similar on average. The study found total viewing duration to be 9.64s for TV, and 10.17s for OLV.

Attraction efficiency: TV ads draw attention quicker than OLV (20% weight in VES index)
Presumably due to a larger screen size and fewer distractors, TV ads draw attention quicker than OLV ads. Average time to first fixation for TV ads was 0.68s, while that of online video ads 1.10s.

Emo.I Index: OLV ads are emotionally more accepted by viewers (40% weight in VES index)
TV ads, on average, evoked a generally negative emotional response, whereas OLV ads were on average emotionally positive. The Emo.I index was found to be 0.0068 for OLV ads and -0.0244 for TV ads.
Findings from the Mem.I Index: Consumers do not voluntarily try to remember ads
Negative Mem.I results for both OLV (-134.72) and TV (-361.8) demonstrate that consumers are less willing to encode ads into memory than when in a restful state of mind. Consumers seem to switch mental states when the commercial period starts. This knee-jerk reaction seems very pronounced for TV, less so for OLV.

Findings on screen size and shape (OLV specific)
Within the OLV touchpoint, the study found differences in the performance of OLV ads depending on screen size. The results for reach, time to first fixation, and Emo.I are reported in the adjoined table with full-screen leading across all metrics.

TABLE 6

Variable		Reach (%)	Total fixation duration (S)	Time to first fixation (S)
TV vs. OLV	Full-screen	87.69%	0.58	0.0096
	Not full-screen	70.46%	0.93	0.0050
	Wide-screen	68.97%	0.77	0.0052
	Narrow-screen	53.29%	1	0.0065

Consumers fixated on ads quicker (0.58s vs. 0.93s) and more consumers paid attention to ads (87.69% vs. 70.46%) under full-screen conditions. Wide-screened ads caught a larger share of the audience's attention (68.97% vs. 53.29%) and had a shorter first fixation time (0.77s vs. 1s).

FIGURE 12

Implications
The results of the study indicate that OLV is a touchpoint is more cognitively influential than traditional TV. OLV is not just a smaller and younger version of traditional TV that just happens to be delivered over the internet. OLV has matured as a touchpoint, and as such should be considered as a respectable media vehicle in its own right. This is particularly so because OLV outperforms TV practically across all the unified metrics and indices proposed in the study. Nevertheless, while cognitively better than TV, OLV is still only catching up in terms of population coverage.

From a media planner's perspective, while OLV may not have the same coverage as traditional TV, when the reachable audience is the same across the two touchpoints for a given campaign, media buyers should consider prioritising OLV over TV. This is in contrast to current practices whereby TV is the main media vehicle, and OLV is more of a supplement and afterthought. Quantitative evidence now exists to aid planners in the effective allocation of budgets across the media mix to achieve targeted ROI.

From an OLV platform owner's perspective, there is still room to improve the performance of ads. Setting automatic full screen in the right places may increase consumer attention quality. Additionally, while on average both touchpoints scored negative values on the Mem.I index, there was one touchpoint (iQiYi) that actually scored a positive value. This indicates

that it is possible to devise the touchpoint-consumer interaction in such a way as to induce an above average and positive memory score.

RESULT II: WHICH AD POSITION (PRE-ROLL VS. MID-ROLL) HAS BETTER PERFORMANCE ON DIFFERENT PLATFORMS?

Rationale behind question

The main reason for comparing pre-roll and mid-roll performance is the fact that advertising inventory in China is fairly limited vis-a-vis a faster growing demand for it. The amount of permitted advertising per hour is capped by the Chinese government, and as such cannot exceed a certain limit. The result is that the demand for advertising space is spilling over from TV to online video, which explains the rapid growth of the touchpoint. However, even here, as the platform reaches saturation in terms of user numbers (the internet population, while still growing, is a finite number), the growth in the supply of advertising inventory is slowing down.

The natural evolution of the touchpoint is therefore to introduce a greater variety of advertising formats that will enable to raise ad inventory per user. One proposed solution was the introduction of mid-rolls, though this has not been implemented till now for fear of backlash from consumers. As such, the study attempted to answer the question whether or not the introduction of the mid-roll is an appropriate manoeuvre on the part of OLV platform owners.

Findings from TV

The results for TV ad positions are reported in table 7.

TABLE 7

Variable		Reach (%)	Total fixation duration (S)	Time to first fixation (S)	Average fixation duration (S)	Emo.I	Mem.I	VES
TV AD Position	Pre-roll	52.20%	8.92	0.54	0.34	-0.0277	-305.18	0.403
	Mid-roll	47.54%	8.29	0.69	0.25	-0.0103	-294.193	0.401

VAS: Visually pre-rolls trump mid-rolls

The study finds that the TV pre-roll has a better visual impact than the mid-roll. This is the case across all visual metrics of reach (52.20% vs. 47.54%), total fixation duration (8.92s vs. 8.29s), time to first fixation (0.54s vs. 0.69s), and average fixation duration (0.34s vs. 025s). Presumably, TV audiences are very familiar with the TV mid-roll and find ways to avoid it. On the other hand, pre-rolls are shown before anticipated content is displayed and hence hold attention better.

Emo.I: Both pre-rolls and mid-rolls are emotionally negative

Consumers showed negative emotional response to both ad positions, -0.0277 for pre-rolls and -0.0103 for mid-rolls.

Mem.I: Both pre-rolls and mid-rolls are encoded less intensively

Consumers showed negative memory encoding intensiveness to both ad positions, -305.18 for pre-rolls and -294.193 for mid-rolls.

VES: Tie on overall cognitive impact

When combined, the cognitive effects of both the visual and emotional aspects of the TV pre-roll (0.403) and mid-toll are very similar (0.401).

Findings from OLV

The results for OLV ad positions are reported in table 8.

TABLE 8

Variable		Reach (%)	Total fixation duration (S)	Time to first fixation (S)	Average fixation duration (S)	Emo.I	Mem.I	VES
OLV AD Position	Pre-roll	80.84%	9.95	1.06	0.38	0.0018	-46.279	0.636
	Mid-roll	70.69%	7.94	0.68	0.28	0.006	-219.366	0.663

VAS: Pre-rolls & mid-rolls have their own particular visual strengths
The pre-roll outperformed the mid-roll on reach (80.84% vs. 70.69%), total fixation duration (9.95s vs. 7.94s), and average fixation duration (0.38s vs. 0.28s). It underperformed in terms of time to first fixation (1.06s vs. 0.68s), presumably due to the fact that the mid-roll appears more suddenly and does so during the programme being viewed.

Emo.I: Pre-rolls & mid-rolls show no significant differences in engendering emotions
Both ad formats are similar in their emotional effects, both staying positive.

Mem.I: While both show negative results, the pre-roll trumps the mid-roll
The pre-roll registered a higher (-46.279) memory encoding than the mid-roll (-219.366). While both results are negative, and as such indicate that consumers try to remember ad content less intensively than when watching normal programming, the pre-roll performs closest to the baseline.

VES: No statistically significant difference between pre-rolls & mid-rolls
There is no statistically significant difference between the two ad formats on the OLV touchpoint.

Implications
Previously, many media buyers simply did not dare purchase mid-rolls. This was because the mid-roll was not established as a format, and opened up the advertisers to the possibility of customer backlash or leading to a situation where viewers would simply refuse to watch the new format. From an OLV platform owner's perspective, the fear was that the mid-roll would lower user experience satisfaction and lead to complaints. There was also the possibility of users exiting the given platform in favour of the competition.

The study found that these fears were misplaced. The study found that the mid-roll as a new format on OLV is actually an acceptable addition for customers.

RESULT III: WHICH AD FORMAT (15S/30S) HAS BETTER PERFORMANCE?

Rationale behind question
Originally, advertisers were split between spending advertising budgets on emphasising a brand message in longer duration ad spots on the one hand, and on achieving greater audience reach by way of short duration ads on the other. The study aimed to address this issue.

Findings from TV

TABLE 9

Variable		Reach (%)	Total fixation duration (S)	Time to first fixation (S)	Average fixation duration (S)	Emo.I	Mem.I	VES
TV Ad Format (15s vs. 30s)	15s	50.09%	8.55 (57%)	0.6	0.28	-0.0332	-284.474	0.392
	30s	51.12	15.17 (50.6%)	0.85	0.27	-0.0225	-295.978	0.398

15s and 30s ads are visually similar. Both 15s & 30s ads are engender negative emotions on the Emo.I index. There are no cognitive differences between the two when visual and emotional aspects are put together in the VES.

Findings from OLV

TABLE 10

Variable		Reach (%)	Total fixation duration (S)	Time to first fixation (S)	Average fixation duration (S)	Emo.I	Mem.I	VES
OLV Ad Format (15s vs. 30s)	15s	73.60%	7.98 (53.2%)	0.76	0.298	0.005	-55.375	0.682
	30s	73.53%	15.37 (51.2%)	1.54	0.292	0.0077	-99.694	0.724

VAS: No difference visually except for time to first fixation
There is not much difference between the 15s and 30s formats across the visual metrics except for the time to the first fixation (0.76s vs. 1.54).

Emo.I: Emotionally similar
The two formats appear to be emotionally similar (0.005 for 15s and 0.0077 for 30s on the Emo.I index).

Mem.I
15s (-55.375) ads are closer to the zero value baseline than 30s ads (-99.694).

VES: Similar overall cognitive impact
The two formats score similarly on overall visual impact.

Implications
In terms of visual, emotional, and memory impact, both the 15s and 30s ads on both touchpoints are very much alike. However, the 15s ads scored lower than 30s ads on free recall. This most likely signifies that, while both 15s and 30s ads are cognitively similar, rehearsal is vital in inducing consumers to actually save brand messages to memory. From a media planner's perspective, as one 30s ad space is usually cheaper than two 15s ad spaces, it makes more sense to purchase the single 30s ad space. Not only will the ad spend outlay be lower, but the influence on consumers will be higher, leading to higher ROI.

FIGURE 13, FREE RECALL: OLV (L) AND TV (R)

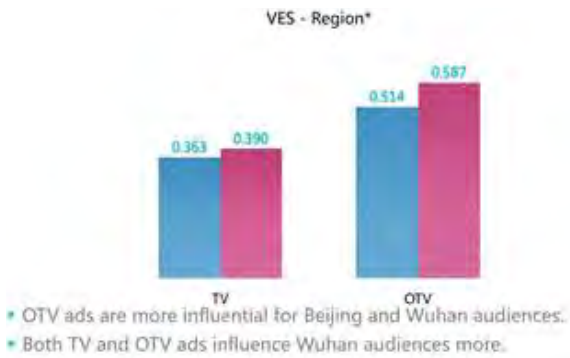
RESULT IV: ADDITIONAL FINDINGS

Some additional findings are presented here.

Attractiveness of elements showing used in creatives
Through the qualitative analysis of the ads tested in the study, it is possible to tease out some information about what elements work well in creatives and which do not. This is irrespective of touchpoint. Elements that met with positive reactions from viewers were: celebrity endorsements, sounds and music, inspiring messages, scenes of affection, and topics relating to efficacy. Generally negative elements included: information overload, shiny and blurry visuals, as well as close up shots.

Regional differences
Wuhan audiences are more cognitively influenced by ads than Beijingers. This may signify a boon for advertisers as the previously sidelined second tier cities receive more attention from brands.

FIGURE 14



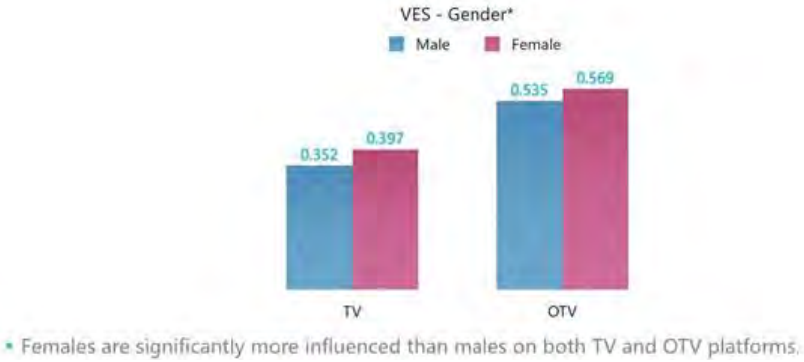
Seasonal differences

It turns out that second tier cities in China face their own sets of problems. Since the study was conducted during the winter months, the fact that there is little central heating provided in these cities led to viewers preferring OLV over TV ads, as in the former the ad segments are of shorter duration. Long stretches of advertisements during the cold induced clear annoyance.

FIGURE 15

Females are more cognitively influenced by ads than males

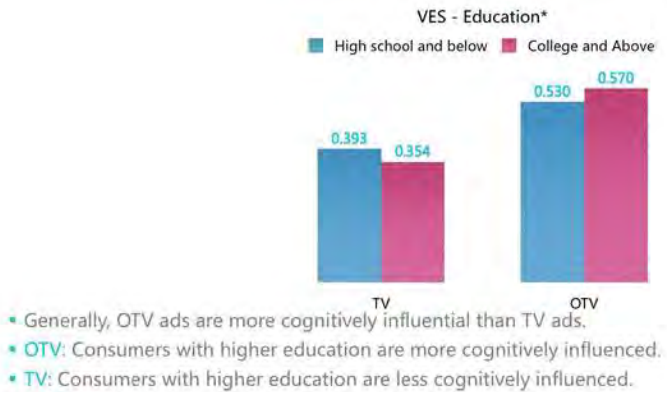
FIGURE 16



Educational differences

Well-educated audiences are more cognitively influenced by OTV ads.

FIGURE 17



CONCLUSION

The pivotal finding of the study is that online video (OLV) is cognitively more influential than traditional TV. OLV is not just a smaller and younger version of traditional TV that just happens to be delivered over the internet. OLV has matured as a touchpoint, and as such should be considered as a respectable media vehicle in its own right. This is particularly so because OLV outperforms TV practically across all the unified metrics and indices proposed in the study. Nevertheless, it has to be kept in mind that while cognitively better than TV, OLV is still only catching up in terms of population coverage.

The implication is that, from a media planner's perspective, while OLV may not have the same coverage as traditional TV, when the reachable audience and the media costs are the same across the two touchpoints for a given campaign, media buyers should consider prioritising OLV over TV. This is in contrast to current practices whereby TV is the main media vehicle, and OLV is more of a supplement and afterthought. Quantitative evidence now exists to aid planners in the effective allocation of budgets across the media mix of the two touchpoints.

VivaKi, for which the study was conducted, is already readjusting their media planning based on the insights gained from this paper. For one, previously separate, the TV and OLV media planning functions are now being brought together into one department. For another, the Visual Emotional Score (VES) will now be taken into account in addition to their usual modus operandi of using the Gross Rating Points (GRP) metric. They can now answer questions such as:

- How much and in what proportion should we re-allocate our advertising dollars across these different touchpoints?
- Given our target audience, touchpoint population coverage and probable reach, which touchpoints should we place these creatives in for best results?
- Should we make specific versions of creatives depending on which touchpoints we plan to run them on?
- How many more 30s ads should we be buying over 15s ads if the pricing is such and such?

In terms of targeting subsets of the consumer population, focussing on particular niches such as women or non-first tier cities may bring added benefits.

From an OLV platform owner's perspective, there is still room to improve the performance of ads. Setting automatic full screen in the right places may increase consumer attention quality. Additionally, while on average both touchpoints scored negative values on the Mem.I index, there was one touchpoint (iQiYi) that actually scored a positive value. This indicates that it is possible to devise the touchpoint-consumer interaction in such a way as to induce an above average and positive memory score.

On a final note, it has to be remembered that the China market is very dissimilar to that in the West. For one, traditional TV is arguably already more interactive in the West thanks to various add-on boxes, rather than the straightforward broadcast-receive consumer relationship present in China. For another, government regulations come into play, which influence the traditional TV -OLV relational dynamics. For yet another, China's OLV market is far more dynamic with many players and rapid change occurring. As such, the findings presented here may not be generalisable globally.

FOOTNOTE

1. By online video the Chinese equivalents to Netflix/Hulu rather than YouTube is meant here . The difference is that in the latter, content is user generated, while the former are legitimate digital distribution channels of movies and TV series

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GLOSSARY

Methods

- EEG: Electroencephalography (EEG) is the recording of electrical activity along the scalp. EEG measures voltage fluctuations resulting from ionic current flows within the neurons of the brain.
- Eye tracking: Eye tracking is the process of measuring either the point of gaze (where one is looking) or the motion of an eye relative to the head. An eye tracker is a device for measuring eye positions and eye movement. Eye trackers are used in research on the visual system, in psychology, and in product design.

Eye tracking metrics

- Percentage fixation / Visual reach: Percentage of participants who actually fixated on the ad for more than one second. Reflects the visibility of an ad spot.
- Total fixation duration: The accumulated length of time that participants viewed an ad. It is the sum of all the individual fixations. Reflects the extent of participants interested in an ad, i.e. the reach quality of an ad spot.
- Time to first fixation: The time it takes to attract participants to view the ads for the first time. Reflects the attraction efficiency of an ad.
- Average fixation duration: The average fixation time per each fixation. Reflects attention quality.

Indices

- Emo.I: Emotional response evoked by an ad. Measured as the alpha wave from the frontal lobe. Positive emotion is highly related with positive brand association and final buying decision.
- Mem.I: Memory encoding process evoked by an ad. Measured as the theta wave from the frontal lobe. The more powerful the reaction is, the more likely the ads will be remembered. The higher the power, the content are more likely remembered. The lower the power, the content is least likely remembered.
- VAS: VAS is the index built with equally weighted time to first fixation, reach, and total fixation duration, which reflects the visual impact of an ad.
- VES: VES reflects visual attention and emotion responses caused by advertisements.

APPENDIX

Summary of Results								
Variable		Reach (%)	Total fixation duration (s)	Time to first fixation (s)	Average fixation duration (s)	Emo.I	Mem.I	VES
TV vs OLV	TV	48.97%	9.64	0.68	0.28	-0.0224	-361.8	0.281
	OLV	73.77%	10.17	1.1	0.31	0.0068	-134.72	0.654
OLV Screen Size	full-screen	87.69%		0.58		0.0096		
	not full-screen	70.46%		0.93		0.005		
	wide-screen	68.97%		0.77		0.0052		
	narrow - screen	53.29%		1		0.0065		
OLV AD Position	pre-roll	80.84%	9.95	1.06	0.38	0.0018	-46.279	0.636
	mid-roll	70.69%	7.94	0.68	0.28	0.006	-219.366	0.663
TV AD Position	pre-roll	52.20%	8.92	0.54	0.34	-0.0277	-305.18	0.403
	mid-roll	47.54%	8.29	0.69	0.25	-0.0103	-294.193	0.401
OLV Ad Format (15s vs 30s)	15s	73.60%	7.98 (53.2%)	0.76	0.298	0.005	-55.375	0.682
	30s	73.53%	15.37 (51.2%)	1.54	0.292	0.0077	-99.694	0.724
TV Ad Format (15s vs 30s)	15s	50.09%	8.55 (57%)	0.6	0.28	-0.0332	-284.474	0.392
	30s	51.12%	15.17 (50.6%)	0.85	0.27	-0.0225	-295.978	0.398