

Consumer Insights Associated with Interactive Television

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Abstract

The transition to digital television will increasingly introduce new business models and content formats to the existing television landscape. Clearly the transition to a digital terrain will best be facilitated when grounded in clear audience insight. Yet little empirical research is available to guide this process. Interactivity, in particular, represents a clear shift in the paradigm of television. How do audiences respond? This paper explores the theme by drawing on findings associated with selective studies conducted at the Interactive Television Research Institute.

Introduction

Television is in the midst of one of its most dramatic periods of change since its very inception. Conduits delivering television programming are rapidly multiplying, audiences are fragmenting, national boundaries are falling and viewers are continuing to gain control over their viewing experience. Over the course of this decade, the television landscape will undoubtedly change in some fairly dramatic ways. But what the new television looks like – what new business models prevail – what new genres emerge – what new social issues surface... these are questions which can only be answered in the fullness of time.

The advent of a range of new digital television technologies serve as multipliers to these trends: At once threatening traditional models of television while creating new ones and enabling new strategies to stem the erosion. Those hoping such digital solutions will prove to be little more than a passing fad argue that new media do not displace old ones: People still read papers (despite radio), listen to the radio (despite television) and go to the movies (despite the VCR). But even if the old media forms proved to be resilient, their business models did not. With the advent of each new medium, the business of their more traditional media cousin changed in fairly radical ways. The radio network, featuring live performances in expensive hotel ballrooms with live orchestras and singers dressed in tuxedos, was replaced with local narrowcasters hiring teenagers spinning records out of closet-like spaces. As television navigates the decade at hand, it will find increasing pressure to identify new business models better suited to its new landscape.

To discover such models is no easy feat. It's dangerous to visualise a future which hasn't arrived: More often than not, we get the future wrong. But those that do 'discover' such models will find themselves quickly imitated – resulting in remarkably rapid diffusion. The first television ads were simply radio ads on TV:

A 'sponsor' holding up a box of detergent while delivering a radio ad. But although it took time to discover new models more appropriate to the new medium, once discovered they rapidly caught on. The transition to digital will undoubtedly start slowly – but will gain momentum as the decade progresses and new business models demonstrate their value.

Although the 'if we build it they will come' paradigm, dominated by engineers arguing for the transition to digital, has largely been discredited, a new generation are convinced that digital salvation rests with compelling content. Although this new paradigm, characterised by a 'if there's content they will come', gets somewhat closer to the mark, it still makes dangerous assumptions about the audience. Successful business models will not appear out of a supply-dominated orientation: They evolve through demand-oriented response. Before we 'define' digital television services and content, we must first better understand not only what audiences want (a moving target) – but, more importantly, why they want it. This highlights the need for deeper consumer insight associated with interactive television viewing.

This is not a quest that can be fulfilled through opinion polls: For audiences cannot respond in meaningful ways to propositions they haven't experienced. Any attempts to understand the audience must frame such questions through experience: Either real (on live platforms) or simulated (in lab). Such has been the focus of research conducted at the Interactive Television Research Institute, based at Murdoch University in Australia, over the past five years.

The Institute has clients across the United States, UK, Portugal, South Korea, Taiwan, New Zealand and Australia. It has engaged in research and training projects with the BBC, BSkyB, Procter and Gamble UK, Nike, Kellogg's, Pizza Hut, Nickelodeon and many leading advertisers and media platforms. The focus of ITRI's research is on the audience and the diverse ways in which it responds to a range of new interactive opportunities enabled by the digitisation of television. Based at an independent public university, the Institute also facilitates traditional degree courses at the post-graduate and under-graduate levels.

Most of the Institute's research findings result from studies conducted in mock-living rooms with control and treatment cells exposed to controlled variables. In this way, specific effects can be triangulated and explored. The Institute also regularly reviews audience response data, supplied to it by partners, and has experimented with using existing video-on-demand networks as real-life labs, as it did recently with Video Network's Home Choice platform in London. The Institute's researchers come from diverse faculties including business, media studies, information technology, psychology, education, the arts and economics – bringing an active inter-disciplinary focus to ITRI's approach and agenda.

Although much of the Institute's key findings to date are bound by commercial confidentialities, some of its findings have been publicly distributed. This paper highlights a few of these providing better audience insights associated with interactive television and Personal Video Recorder (PVR) viewing. Specifically it explores early findings associated with cognitive processing, a positive viewing bias resulting from viewer dissonance, content personalisation and new models for advertising associated with PVRs. The design implications associated with these studies are also discussed. Such findings should not be seen as a comprehensive

meta-analysis of the impact of digital television technologies. Rather, they should be viewed as a small sampling demonstrating the value and need for further research.

Cognitive processing

Mental engagement with program content is often a central objective associated with television viewing. Those who produce programs and those who advertise make implicit assumptions regarding the extent to which viewers attend to their television content. With television viewing becoming part of an increasingly diverse and complex media landscape, TV viewing is progressively becoming more polychronic, with viewers engaged in multiple tasks while they watch including internet surfing, reading and talking. Given this context, does interactive television improve mental engagement with program and advertising content?

One might assume that a central characteristic of interactivity is that, by its very nature, it increases viewer engagement. Every time a viewer presses a button on a remote control, she is engaging with the content in an active mental state. One potential benefit associated with iTV, therefore, is a capacity to increase viewer involvement as a result of the haptic contact facilitated between a viewer and their remote control.

To test this proposition, Yeo (9) developed interactive TV ads for both high (Acer Computers) and low involvement (Oreo cookies) products. Subjects were divided into two cells: (a) a control cell which saw linear non-interactive executions of the two ads and (b) a treatment cell exposed to the two interactive ads. The interactivity in the ads was identical in style to that dominant in the UK at the time; that is, a viewer pressed a red button during the ad following a call to action which then took the viewer to a television microsite (walled garden) with web-style content associated with the product. The Acer ad provided product information whereas the Oreo ad featured a viewer poll as to whether strawberry flavoured Oreo cookies should be introduced.

The central focus of the research was on cognitive elaboration – that is the extent to which viewers thought about the ad and related it to their own lives. For both the high and low involvement ads, the impact was dramatic, Interactivity had resulted in a significant increase in cognitive elaboration ($p < .001$) – in fact, such elaboration had almost doubled! There was also strong evidence of a shift from peripheral to central message processing. There was clear support, therefore, for the assumption that by its very character, iTV increases the degree to which those interacting engage with the content.

Surprisingly, however, such elaboration did not necessarily translate into higher ad impact. Although there was a higher degree of elaboration as a result of interacting, the advertising effects differed between the two ads. With the Oreo interactive ad, the increased elaboration did translate into a significant increase in attitudes towards the ad, brand and purchase intention. But in the Acer ad, there was no significant impact. We have observed similar trends in data associated with campaigns deployed over interactive television platforms: In some cases, the results are spectacular – in others highly disappointing. Indeed, interactivity introduces a powerful ‘all or nothing’ multiplier – either the campaign really works or really fails – with little middle ground. How can this be explained?

Yeo's qualitative research suggested that in the case of the Oreo ad, viewers got more than they expected. They went into the microsite with low expectations and were pleasantly surprised. This translated into a dramatic new-found passion for the brand. In the case of the Acer interactive ad, however, viewers went in expecting detailed information about the product range, only to be disappointed by the limited range of information available. Viewer expectation, therefore, appears to be a key mediator of their interactive television viewing experience.

Beyond the issues associated with such expectation delivery, however, the increase in elaboration may itself partially explain the effect. Studies in psychology have long demonstrated that merely thinking about a subject polarises attitudes, Tesser (8). Other studies have also demonstrated that strong elaboration can result in counter-arguing, making viewers increasingly critical of the content they are exposed to, Burnkrant & Unnava (1). Although Yeo's study is largely exploratory in nature, it suggests that iTV content will tend to polarise audience satisfaction – raising the stakes, so to speak, as a result of its higher viewer engagement. iTV content development runs a high degree of risk, delivering strong returns where content effectively resonates with viewer expectations, but potentially damaging the viewing experience where such expectations are violated.

As a result of these findings, we propose that expectation management should form a significant part of the design process. Producers must know, in the first instance, what the viewer's expectations are – and this requires proper research facilitating the design stages of content development. They must then devise strategies designed to meet or, preferably, exceed such expectations. Producers should also attempt to stimulate an appetite for such content in advance, effectively shaping such expectations. The cardinal principle to keep in mind throughout the design process is that each and every time the viewer presses a button, they do so with some sense of anticipation as to what they'll encounter. Make sure you deliver!

A positive bias

Yeo's study led us to speculate that the element of viewer choice positively predisposed viewers to the content they encountered. The choice created a positive bias which, if violated, had significant potential fallout and viewer alienation resulting from the viewer's investment of self. But, we speculated, viewers go into the interactive ad experience with an initial positive bias, wanting the ad to work for them.

Specifically, we assumed that choice potentially generates dissonance, a sense of anxiety questioning whether our decision was right. As a result of such dissonance, a range of dissonance-reduction behaviours influence attitude formation. Viewers search for cues to reinforce that their decision was right, for example. Put in the context of iTV viewing, this suggested that viewers clicking on an ad would then go into the ad searching for cues to reinforce that the ad was right for them, confirming their original decision to enter into the ad. This, we believed, would increase with higher levels of dissonance reflecting a higher need, on the part of the viewer, to justify that their decision was correct.

To test this possibility, Tanjic (7), conducted an experiment manipulating levels of cognitive dissonance associated with viewing choice. Viewers were randomly

allocated into three cells: (a) a control cell with no interactive content; (b) a treatment cell experiencing 'low-level' dissonance; and (c) a treatment cell experiencing 'high-level' dissonance. The two treatment cells were exposed to a television program with a novel twist whereby for the last ad in the ad break, the viewer was presented with an on-screen choice between three different product categories. In other words, viewers were forced to choose the ad they wanted to see. In some cases, this choice was easy (low-level dissonance) because the choice involved a compelling category pored against two non-compelling product categories (these were pre-tested for levels of appeal and involvement so that manipulation of dissonance could be facilitated). For others, however, the choice was made more difficult (high-level dissonance) because all three product categories had equal appeal. In this way, the study could triangulate between both interactive vs. non-interactive and high vs. low-level dissonance.

Interestingly, there was no difference between the non-interactive (control) and low-level dissonance conditions. However, the high-level dissonance treatment resulted in a significant increase in attitude towards the ad, brand and purchase intention (all measures comparing high-level dissonance with either low-level dissonance or no choice relative to these indices had p values less than .01), validating the assumptions upon which the study was based. In other words, the interactive TV platform facilitated a positive bias to the ad content for viewers experiencing high levels of dissonance. iTV, under these circumstances, was demonstrated to deliver a more positive ad viewing environment – an important consideration for advertisers given the largely defensive nature of TV ad viewing.

However, it is important to note, once again, that despite the positive bias, there was no significant difference between the non-interactive and low-level dissonance treatment. This suggests that other things being equal, the 'magic' of iTV results less from the interactivity than what the interactivity enables. In this case, the impact apparently resulted from the increased commitment of the viewer – who invested something of themselves in the content and needed to be in the right.

It is also important to note that high dissonance might deter viewing. In Tanjic's experiment, viewers were forced to interact whereas in the real world they might simply avoid the content as a result of the dissonance. In translating these findings into design principles, in light of this real world context, we have maintained that the key to building strong interactive content that leverages the viewers positive bias is to begin with minimal dissonance, building such dissonance progressively through stages designed to increase viewer commitment.

Content personalisation

Much has been made of digital's capacity to customise content. A number of organizations have invested considerably in this promise. Perhaps the most noteworthy has been ACTV, which made dramatic attempts to claim the turf by suing anyone else bold enough to approach the iTV personalisation arena (including Disney). ACTV's SpotOn provided a solution that selected from multiple versions the one most appropriate for viewers based on their personalisation profile. Other companies developing such solutions include Visible World, whose IntelliSpot has adopted an approach which draws from assets to edit unique commercials targeting

individual households. Most recently, TIVO has attracted considerable press for its personalisation features.

All such solutions make a basic assumption: That personalised content is inherently more compelling for viewers than existing non-personalised content. Certainly this is a reasonable, even if largely untested, assumption. But is it necessarily true? Personalisation adds to the cost of delivering content... can such content deliver clear returns on the additional required investment?

To test this proposition, O'Dea (2), conducted an experiment exploring personalised advertising for a range of product categories. As it was necessary to contain the manner in which the content was customised for the study, O'Dea developed a paper and pencil test designed to measure whether subjects had an 'informational' vs. 'transformational' predisposition. Informational ads tell you about products whereas transformational ads show the product in use. This contrast has emerged in the existing advertising literature as one of the most pervasive distinctions in ad execution, Puto and Wells (4). Some subject cells were then exposed to ads which matched their predisposition (e.g. informational subjects viewing informational executions of the ad) while other cells were given deliberate mismatched executions. In this manner it was possible to test whether correctly matching the ad to a viewer's executional propensity delivered higher ad impact.

The results were mixed. While correctly matching ad execution and viewer propensity delivered significantly higher attitude to the ad, brand and purchase intention for transformational subjects, it had no such significant impact on informational subjects. In other words, customisation delivered higher impact for some, but not for others. While there are undoubtedly dangers associated from extrapolating too far from such findings, given the narrow context in which the study was conducted, it does raise an interesting possibility. Specifically, it demonstrates that customisation will not universally deliver higher impact. There are, most probably, cohorts for whom the 'mass' produced content will deliver roughly equivalent value. This highlights the degree to which it is imperative to ensure - in advance - that the investment in such personalisation delivers sufficient returns, as might have been the case, in the O'Dea study, for example, with transformational subjects but almost certainly would not have been the case with the informational subjects.

But O'Dea's study went one step further... it attempted to evaluate whether giving viewers choice over such executional elements enhanced advertising impact. Surprisingly, while matching viewer propensity did matter - at least for transformational subjects - choice over execution had no significant impact. This suggests that such active executional personalisation is not a choice that viewers particularly value. Interactivity, one might surmise, will be most effective when it delivers decision opportunities which the viewer values and/or finds meaningful.

In other words, providing viewers with choice will not always deliver greater value to the viewing experience. In fact, too much choice potentially clutters the decision-making landscape. This has led us to another cardinal design principle: The overuse of choice diminishes its impact. For this reason, every decision designed into interactive TV content needs to have a clear and coherent rationale for being there - whether that be to enhance the viewing experience or to deliver some strategic

objective. But choice should never be placed without a clear rationale for being there. Designers should be forced to justify the presence of all such decisions.

PVR's and new models of advertising

The Personal Video Recorder (PVR) adds yet another twist to television's emerging digital transition. PVR's introduce a parallel and complementary development to interactive television platforms. In their simplest form, PVR's are essentially hard drives designed to store content delivered through television. A number of PVR solutions have emerged in the market introducing a wide range of services including parallel recording (recording more than one channel at the same time), buffered viewing (enabling fast forwarding during viewing), intelligent monitoring of viewing activity (facilitating automatic recording and recommending of programs), electronic program guides, showcasing (viewing additional pre-recorded program enhancements or related content pre-stored for triggered viewing), and many others services.

A common threat associated with PVR's has been associated with the propensity of viewers to use their systems to avoid advertising. Estimates vary with some maintaining that 72% of ads are by-passed among PVR households, Friedman (3), while other report ad avoidance rates as high as 88% Swain & Blustin (6). There are problems with such measures as they tend to be based on self-report and it is often not clear what, specifically, is being measured (is it whether viewers avoid all ads, for example, or some ads). Likewise, it is clear that the ad avoidance rates vary considerably by product category. CNW Research, for example, found that avoidance rates on the PVR where very high for financial institution advertising (over 90%) but quite low for beer ads (32%), Friedman (3).

Although, on the one hand, PVR's will threaten existing advertising models, they will also introduce new ones. One such opportunity might be in 'telescopic' ads - essentially ads featuring multiple stored video layers enabling viewers to drill deeper into ad content on demand. The viewer might still be presented with a 30 second ad, for example, but be given the option to click to see a five minute video extension - after which she might click to go into a brochure or to request a product sample. The telescopic ad relies on latent content stored on the PVR which is activated by appropriate triggers placed in each layer. But will such telescopic advertising, if facilitated, deliver higher ad impact for those who interact?

To test this proposition, Reading (5), developed telescopic ads for different products ranging across four product categories (automotive, fast moving consumer goods, personal fitness and charity). For each ad, viewers could click on the ad, following a call to action, to view longer-form advertising content. Reading also tested non-interactive versions of the same ads on control subjects to provide comparative measures triangulating treatment impact. To further control for experimental variables, Reading included two control cells viewing either the thirty second ad or the long form advertising. In this way, the telescopic ads could be compared against both control measures.

Reading found that the telescopic advertising facilitated over a PVR delivered higher ad impact - but only for some of the product categories tested. Generally, where the longer form control measures were not significantly higher than the thirty

second control measures (that is – ads where more advertising did not deliver greater impact), there was no higher significant telescopic ad impact. But where more was better – the telescopic ad delivered higher impact. It is also interesting to note that the impact tended to be higher at a behavioural (i.e. purchase intention) rather than attitudinal (attitude towards the brand and ad) level.

These exploratory findings might be translated into two basic design principles. First, telescopic ads will be more effective where the additional content, enabled by the PVR, holds value for the viewer. Where delivering more information does not deliver added value, the telescopic ad will probably fail to deliver greater impact. A simple test to determine whether such value is present is to benchmark the additional content against the thirty second ad: Where the additional content fails to outscore the ad it is unlikely to translate into an effective telescopic ad. Second, telescopic advertising will probably be most effective when it is linked to behavioural, rather than attitudinal outcomes. Media strategists and advertising creatives should think in terms of such behavioural outcomes when designing the telescopic ad. The behavioural objective associated with the content, therefore, should be clear and unambiguous. This helps provide viewers, perhaps, with a sense of closure associated with their expanded viewing experience.

But the significant variance associated with Readings findings suggest that the new model will be heavily influenced by specific but new creative influences beyond the value-added content and behavioural principles identified above. The differences resulted not so much from differences in the creative executions themselves (for these were controlled for in the experiment through the various control cells), but rather, in differences between product categories. This suggests that considerably more research is necessary to better understand how such telescopic advertising will work across a wide range of product categories. PVR's will open a whole new chapter in the business of television introducing a new craft to the advertising profession. Little is yet known, however, about the new rules of the game. Needless to say, there is a need for considerably more research exploring such opportunities.

Conclusions

The preceding discussion provides a brief overview of a few of the studies conducted at the Institute to highlight the relative value of facilitating such research. Clearly, interactivity introduces a radical change to audience viewing patterns. In this sense, it represents a fundamental paradigm shift for television. Not everything about television will have changed... but everything needs to be re-examined in light of this new development. Making untested assumptions about audience responses to new applications, services and content runs a high risk of failure. We cannot simply assume that learnings from television and/or the internet will transpose reliably to iTV. There is a great need for considerably more research focused on better understanding how audiences will respond to television's digital future.

Without such research, viable business models designed to maximise the opportunities associated with the digital migration of television will remain elusive. There is a desperate need within the industry to shift focus from its continuing supply orientation to one focused on demand. Clearly, any such approach centres on the need for high quality consumer research. There is no shortage of opinion as to

what viewers will and will not do. What is desperately lacking is research and insight better informing such opinion.

References

- 1 Burnkrant, R.E. & Unnava, H.R. (1995). Effects of self-referencing on persuasion. *Journal of Consumer Research*, v22, pp17-26
- 2 O'Dea, K. J. (2001). Choice of Advertising Style: A Digital Television Perspective. Honours thesis (unpublished), Murdoch University, Perth, Western Australia
- 3 Friedman, W. (2002, July 1). PVR users skip most ads. *Advertising Age*, pp4, 45
- 4 Puto, C. and Wells, W. (1984). Informational and transformational advertising: The differential effects of time. In Thomas C. Kinnear (Ed.) *Advances in Consumer Research*, v11 (p638-643). Provo, UT: Association for Consumer Research
- 5 Reading, N. (2002). Next Level Please: An Investigation into the Effectiveness of Telescopic Advertising Facilitated Through PVRs. Honours thesis (unpublished), Murdoch University, Perth, Western Australia
- 6 Swain, P. and Blustin, A. (2000). *Personal Television Services: The Impact on Advertisers*. London, UK: Decipher White Paper
- 7 Tanjic, S. (2001). Viewer Choice and the Mediation of the Advertising Experience. Honours thesis (unpublished), Murdoch University, Perth, Western Australia
- 8 Tesser, A. (1978). Self-generated attitude change. In L. Berkowitz (Ed.) *Advances in Experimental Social Psychology*, v. 11, pp. 289-338). San Diego, CA: Academic Press
- 9 Yeo, F. (2001). Persuasion Through Interaction: An Exploration into the Effects of Interactive Television Advertising on Consumer Persuasion. Honours thesis (unpublished), Murdoch University, Perth, Western Australia