ONLINE DATA COLLECTION – SOLUTION OR BAND-AID?

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Synopsis

Readership research continues to face a number of critical issues, most notably:

- declining response rates, or increased efforts and monies to maintain current levels;
- demand for more information related to use of products and services, and linked to the media measurements; and,
- more detailed information on interaction with various media (e.g. measure "quality of the reading experience")

These issues place an increasing strain on the current data collection processes. At the same time, major strides are being made on the application of the Internet and online panels for traditional market research studies. There is a continuing trend for more traditional studies to migrate from telephone, mail, and mall-based data collection processes to the use of online data collection.

This trend is placing increased demand on media readership studies to consider this technology as an alternative. Can online data collection processes help address the current issues faced by readership research? Several jurisdictions have begun the exploration of the Internet and online panels in preparation for the day when online research may be considered a viable alternative for audience measurement.

Canada is no exception. NADbank, responsible for the measurement of readership of daily newspapers across the country, recently completed a test comparing the current telephone methodology with a comparable online survey. The test was run in the Toronto CMA (Census Metropolitan Area), the largest single market in Canada.

The results from this test are presented in this paper. In summary, the results show that the demographic profiles of respondents in the online panel are different from those in the population and telephone sample. The online panel included a more balanced composition by gender but not by age group. The panel profile included fewer younger, and more older, adults than is the case in the telephone sample and in the actual population.

For the critical outcome, the sizing of daily newspaper audiences, there were notable differences. All publications recorded higher audiences in the online survey. However, the relative magnitude of the increases was not consistent across the newspapers measured or the readership metrics.

The paper concludes with a presentation of the "next steps."

The paper also addresses, but does not provide conclusive suggestions, on some of the other critical elements that have been raised with respect to online data collection:

- recruitment processes and potential bias;
- streaming of the interview process to measure average issue audience;
- weighting issues; and,
- reporting of participation rates rather than response rates

Introduction

Media research studies have always concentrated on providing the most representative view of their audiences. This has led to a focus on achieving the highest response rates possible within available budgets. However, NADbank has recognized that changes in the demographics and lifestyle of Canadians have impacted the market research process. Some of the major issues include,

- declining response rates in the telephone interview process
- increase in the number of cellular telephone only households
- desire to increase the range of data collected
- increasing costs for traditional interview processes

The NADbank study currently employs a random (plus-digit RDD) telephone sample to collect readership, other media and demographic data. With the noted concerns in mind, NADbank implemented a process to look at alternative data collection methodologies. The primary medium for consideration was the Internet and its potential to provide online data collection processes using web-based panels.

The growth in the use of web-based surveys and the penetration of the Internet make this technology an appropriate medium to investigate. There are a number of issues which suggest that it would be premature to embrace online panels for quantitative media research. However understanding the relative strengths and weaknesses of telephone and online research will enable stakeholders to determine the timing and appropriateness of a possible change in methodologies.

It is important to understand what impact any changes in data collection protocol would have on the current readership currency. There are also concerns about possible changes in the demographic profile of the respondents and how those changes might be reflected in changes in readership.

At this time the current methodology provides users with data that reflects the marketplace; it is considered reliable, valid and credible. As the issues noted above begin to degrade the ability of the current platform to provide users with accurate and reliable data, NADbank must be prepared to move appropriately to the use of alternatives.

NADbank recognizes that the audience numbers will change with a change in methodology. However, it is not known what the magnitude may be. Little research has yet been conducted, or published, throughout the world on the use of online panels, or web-based research, specifically for readership measurement.

Objectives

The purpose of the test was to begin to understand and evaluate the implications of moving firstly, from a telephone survey to a web-based survey, and secondly, from collecting a random sample to utilization of a panel (a convenience sample). Even though considerable expenditures in market research have migrated to the use of online surveys, the data collection process is still in its infancy and this test should be considered the first step in a testing process. This initial test was undertaken with the sole objective of providing a "dipstick" to obtain top-line estimates of quantitative similarities and differences between the two methodologies. NADbank's current telephone survey is considered the benchmark against which the alternative, a web-based panel protocol, will be evaluated.

In order to gain an understanding of the issues, the following criteria were used to evaluate the different platforms:

- top-line readership metrics
- general media habits
- the demographic profile of the online panel and the telephone sample

Another area of inquiry was whether or not the online survey process could replicate, from a project management perspective, the rigorous controls in place in the current telephone survey. Examples of such controls include

- balanced day-of-week measurement
- controlled release of sample over an extended period to obtain an "average issue" measurement
- extended efforts to achieve high target response rates.

Issues

Some of the most significant issues with regard to web-based measurement include:

- ability to reach a representative sample in any market
- online samples tend to be built by "convenience"; panel recruitment methods are often not well documented
- non-probability samples cannot be evaluated using traditional statistical techniques
- the impact of self-selection bias since some Internet users are less likely to complete online surveys
- no standard panel management protocols are in place that are common across online providers
- no accepted method of measuring response rates
- because of the exclusion of non-Internet users, demographic weighting cannot be expected to account for differences between online and telephone surveys; use of propensity weighting has been suggested but the arguments on the efficacy of this approach seem to support both sides equally
- level of broadband access; online and broadband access vary by market

This is not an exhaustive list of issues, nor are all of these concerns unique to online surveys; however, they do raise concerns about moving to an online data collection process without conducting the appropriate due diligence.

Design

The online test was designed to replicate only the telephone interview component of the main NADbank study. The test was designed to replicate as closely as possible the standards and procedures followed in the main study in one major urban market – Toronto. The test was conducted in parallel with the main study with a target of 2,000 completed interviews (1,000 in each of the Spring [January to June] and Fall [September to December]).

Some of the basic controls on the telephone survey process include:

- plus digit telephone sample (except in small markets)
- allocation of sample to eight equal streams and, within each stream, random allocation to one of five interviewing days in the week
- release of the streams over selected weeks
- random selection of one respondent per household ("next birthday')
- no substitution of either household or respondent

Sample management protocols were employed in the online survey to try to match the completion "pattern" produced as a result of the allocation procedures described in the second control (above). Other controls in place in the telephone study could not be implemented in an online setting.

The same supplier conducted the telephone and online study, thereby minimizing potential "supplier impact". TNS Canadian Facts drew an online panel of people resident in the Toronto CMA, using the same geographical designation as in the telephone study, from its TNS Canadian Facts panel.

The questionnaire used for the online test was identical to that used in the main telephone survey both in content, wording, and sequencing. While it was recognized that the questionnaire could be presented differently online (e.g. use of mastheads, grouping of titles, etc.), it was decided to maintain the same design and flow of the questions in order to keep the comparison as "clean" as possible.

Following are some of the processes applied:

Sample

- postal code data on the panellist record used to identify residents within the Toronto CMA
- quota sample selected based on adults 18+ by age and gender; age group samples drawn disproportionately by age to reflect expected differences in participation rates
- sample drawn one month at a time and divided into four weekly samples
- each sample set to mirror, as closely as possible, the completions expected on the main telephone survey
- weekly samples divided into five daily replicates

Sample Management

- each week's sample issued over five days – Tuesday through Saturday
- reminder e-mail sent to non-responders five days after the initial invitation
- completed interviews accepted up to two weeks after the date of invitation
- non-responders would be re-cycled into subsequent monthly samples, but only after a one month lag

While controls can be placed on the day-of the-week on which the invitation is issued, controls cannot be placed on the day-of-week on which the survey is completed. In the telephone survey process, no interviewing is conducted on Sunday or Monday (since there is no "yesterday" weekday issue.) However, with online surveys, such a control is not feasible. To deal with this, for interviews completed on a Sunday or Monday, the "read yesterday" question was modified to refer specifically to the Friday edition.

This had the potential effect of overstating the Friday readership. Therefore adjustments were made at the weighting stage to account for the differential probability of the Friday's issue being measured. This is standard practice for the telephone survey; interviews by day of week are weighted to represent equal shares of the five weekday issues (20%) in order to generate an average weekday issue readership figure for "read yesterday".

TNS Canadian Facts' experience with panel management and participation rates by demographic cohort was used to dispense invitations to replicate more closely the demographic characteristics in the Toronto CMA. As well, NADbank 2004 data on internet access and usage was reviewed to understand the expected population represented by the online panel and the population that would be systematically excluded -- the "unwired" population.

Findings

1. Technical Details/Operational Findings

A total of 4,066 interviews were completed in the telephone survey and 2,042 in the online study.

The telephone study achieved the expected balance between day-of-week completions. On the other hand, one-third (32%) of the online surveys were directed to the Friday weekday edition. Following is the distribution of interviews by day-of-week (Table 1). As expected, a number of interviews, 18%, were completed on Sunday and Monday; these interviews were added to the surveys received on Saturday.

Sample was issued regularly (20% of the weekly sample) on Tuesday, Wednesday, Thursday, Friday and Saturday as is the practice in the telephone survey. Completions by the day the sample was issued were equally distributed. That is, the surveys were equally accessed and returned (Table 1). What varied was the time between the issuance of the invitation to participate and the day the survey was completed (Table 2).

Table 1
Completions by Day-of-Week

	Completions by Day Sample Issued		Completions by Day of Week Online		Completions by Day of Week Telephone	
Day of Week						
Tuesday	406	20%	335	16%	952	23%
Wednesday	389	19%	378	19%	855	21%
Thursday	399	20%	367	18%	816	20%
Friday	421	21%	320	16%	679	17%
Saturday	427	21%	284	14%	764	19%
Sunday *(considered as Saturday)*			159	8%		
Monday *(considered as Saturday)*			199	10%		
Total Saturday			642	32%		
Total	**2042**		**2042**		**4066**	

For the online survey 51% completed the survey on the day the invitation was issued and 65% had done so within one day; 86% after 4 days. The number of completed interviews received by elapsed number of days is presented in Table 2.

Table 2
Elapsed Time Between Invitation to Participate in Online Survey and Receipt

Elapsed Number of Days	Returns	Cume
0	1,051	51%
1	278	65%
2	156	73%
3	80	77%
4	188	86%
5 to 9	225	97%
10 to 14	31	98%
15+	33	100%

The final response rate for the telephone survey in the Toronto CMA market was 46%. Given that "response rate" is not meaningful in the assessment for online surveys, the closest approximation would be "participation rate", the proportion of people invited to participate who actually completed the survey. For this study, the participation rate for the online survey was 35%.

2. Demographics

In Canada, Statistics Canada is responsible for the conducting and reporting of the Census, and also the reporting of inter-censal projections. Data are readily available for age and gender for the Toronto CMA for the time in which the telephone and online studies were conducted. While it is possible to derive data for other demographic variables such as personal and household income, education, and occupation, these data are published with a substantial lag time and little inter-censal data is ever generated. None were available at the time of the preparation of the paper.

Table 3 shows a comparison of age and gender for both the telephone and online surveys with the projections developed for the Toronto CMA from data available through Statistics Canada. The data for both the telephone and online surveys are "unweighted".

(Note: except where noted, data are presented weighted – household composition, day-of-week, age, and gender. All indices are based on results to one decimal place.)

Table 3
Demographic Comparison

	Population	Telephone		Online	
	Composition	Composition	Index to Population	Composition	Index to Population
Gender:					
Male	49%	44%	*91*	47%	*96*
Female	51%	56%	*108*	53%	*104*
Age:					
18 to 24	12%	9%	*70*	6%	*52*
25 to 34	20%	18%	*89*	20%	*99*
35 to 49	32%	39%	*122*	34%	*107*
50 to 64	21%	22%	*102*	26%	*123*
65+	14%	13%	*92*	13%	*92*

As previously noted, invitations were controlled by gender and age, a process not feasible with the telephone methodology. Regarding gender, the online results came closer than the telephone survey to replicating the known population. The age distribution, though, did not move closer to the known population distribution. The profile changed but the sum of the absolute differences remained unchanged – 14 points. The online panel included fewer 18-24 year olds than the telephone sample and more respondents in the 50-64 year old group. The telephone sample also showed differences from known population distributions but in different age groups. A key issue for telephone research is the increasing difficulty in attracting younger adults to participate in surveys. This same issue appears to plague online data collection, suggesting that it is unrelated to data collection method.

Data from the two parallel studies are presented in Table 4 for education, occupation, average income, adult only households, and language. At this time, there is no current population data available from Statistics Canada for these variables. Therefore the results from the online survey are compared with those from the telephone study – considered the benchmark.

Average household income and representation from those with a university degree are significantly lower for the online survey, while adult only households and those where English is the language spoken most often in the home are over represented in the online panel.

Table 4
Comparison of Demographic Profiles

	Telephone	**Online**	***Index***
	Composition	Composition	*Online/Telephone*
Highest Level of Education:			
Some high school of less	9%	9%	*97*
High school graduate	19%	13%	*66*
Some college or university	31%	46%	*148*
University graduate of higher	38%	32%	*85*
Occupation:			
Manager/ Professional	20%	18%	*89*
Other white collar	17%	20%	*120*
Clerical/ Administration	9%	9%	*106*
Blue collar	12%	9%	*70*
Average Personal Income	$43,000	$42,000	*98*
Average Household Income	$78,000	$68,000	*87*
Adults only household	60%	66%	*110*
English spoken at home	78%	89%	*114*

3. Media Habits

General Media Habits

Media habits for the telephone sample, the online panel and the wired population within the telephone sample were compared. Seventy-eight percent of Toronto adults in the telephone sample indicated that they had accessed the Internet in the past three months. This group was defined as the "wired population" for analytical purposes.

There was less difference between the wired respondents and the full telephone sample than between those in the online panel and total telephone sample.

Daily newspaper readership was higher for both the wired telephone respondents and those in the online panel. The number of issues read and the time spent reading was highest for those in the online panel.

With the exception of radio listening, general media habits differed between the telephone sample and online panellists and between the wired segment of the telephone sample and online respondents. Television viewing, magazine readership and, as expected, Internet usage were higher for those in the online panel.

A comparison of general media habits is presented in Table 5.

Table 5
Comparison of General Media Habits

	Telephone Total	Online	*Index* Online/Ttl. Telephone	Telephone Wired	*Index Wired/Ttl. Telephone*
Daily newspapers					
Average number of weekday issues read	3.7	4.7	*127*	4.0	*108*
Average number of weekend issues read	3.5	4.5	*129*	3.6	*103*
Average hours past week	2.4	4.1	*168*	2.4	*97*
Radio					
Average hours past week	10.5	11.0	*105*	10.4	*99*
Television					
Average hours past week	13.0	19.7	*152*	12.3	*95*
Internet					
Average hours past week	10.3	20.8	*219*	13.1	*128*
Magazines					
Average hours past week	2.0	3.0	*147*	2.0	*97*

Daily Newspaper Readership Habits

The most important findings for review and investigation were the newspaper readership results.

For all newspapers measured, the read yesterday (or average issue reach Monday to Friday) reported was higher by adults completing the online survey compared to those interviewed on the telephone. Table 6 shows the results for the six Toronto daily newspapers. This was true for men and women, all age cohorts, education levels, and occupational groups. Both average personal and household income levels for the average reader were lower in the online panel than in the telephone sample.

With two exceptions, all of the readership metrics for the "wired" component of the telephone sample index at 100 or higher against the total sample. However, the differences do not approach those from the online panel.

Table 6
Read "Any" Newspaper Yesterday
(Of the 6 newspapers measured in the Toronto CMA)

	Telephone Total Reach	Online Panel Reach	*Index* Online/ Telephone Total	Telephone Wired Reach	*Index* Wired/Ttl. Telephone
Adults 18+	47%	56%	*120*	49%	*105*
Gender					
Male	50%	61%	*121*	53%	*106*
Female	43%	51%	*119*	45%	*104*
Age:					
18 to 24	44%	51%	*114*	45%	*101*
25 to 34	36%	49%	*138*	38%	*105*
35 to 49	45%	51%	*114*	48%	*107*
50 to 64	57%	63%	*112*	61%	*107*
65+	53%	72%	*135*	66%	*123*
Highest Level of Education:					
Some high school of less	37%	48%	*131*	45%	*123*
High school graduate	44%	54%	*124*	45%	*104*
Some college or university	46%	54%	*119*	47%	*103*
University graduate or higher	53%	62%	*117*	53%	*101*
Occupation:					
Manager/ Professional	53%	56%	*106*	53%	*101*
Other white collar	49%	61%	*126*	50%	*103*
Clerical/ Administration	43%	54%	*125*	43%	*101*
Blue collar	44%	58%	*133*	49%	*112*
Average Personal Income	$47,000	$45,000	*95*	$49,000	*110*
Average Household Income	$82,000	$68,000	*83*	$86,000	*126*
Adult only household	50%	60%	*122*	52%	*105*
English spoken at home	47%	56%	*121*	51%	*109*

Table 7 shows the "read yesterday" results for each of the six newspapers. As for "any" newspaper, reported readership is higher from respondents in the online panel compared to the telephone sample for each publication. The higher levels also exceed those reported by the "wired" population in the telephone sample.

Table 7
Comparison of Average Issue Readership – Weekday

Average Issue Readership (Printed – Read Yesterday)	Telephone Total Reach	Online Reach	*Index* Online/Ttl. Telephone	Telephone Wired Reach	*Index* Wired/Ttl. Telephone
Toronto Star	23%	31%	*135*	24%	*103*
The Toronto Sun	12%	18%	*155*	11%	*97*
The Globe and Mail	9%	11%	*119*	10%	*113*
National Post	5%	7%	*138*	6%	*115*
24 Hours	9%	14%	*163*	10%	*113*
Metro	8%	15%	*184*	9%	*110*

All readership metrics for each paper are included in the following Table 8

Table 8
Comparison of Readership Metrics

	Telephone Total Reach	Online Reach	*Index* Online/Ttl. Telephone	Telephone Wired Reach	*Index* Wired/Ttl. Telephone
Toronto Star					
Read yesterday	23%	31%	*135*	24%	*103*
5 day cume	41%	51%	*124*	44%	*106*
Saturday	31%	40%	*130*	32%	*103*
Sunday	19%	27%	*142*	19%	*102*
7 day cume	48%	58%	*122*	51%	*106*
Weekly read online	12%	21%	*167*	16%	*128*
The Toronto Sun					
Read yesterday	12%	18%	*155*	11%	*97*
5 day cume	24%	33%	*138*	24%	*100*
Saturday	9%	16%	*183*	9%	*102*
Sunday	13%	22%	*163*	13%	*96*
7 day cume	28%	39%	*139*	28%	*100*
Weekly read online	4%	10%	*225*	6%	*127*
The Globe and Mail					
Read yesterday	9%	11%	*119*	10%	*113*
5 day cume	18%	20%	*111*	20%	*115*
Saturday	9%	10%	*102*	11%	*113*
6 day cume	20%	21%	*104*	23%	*115*
Weekly read online	7%	10%	*140*	9%	*126*
National Post					
Read yesterday	5%	7%	*138*	6%	*115*
5 day cume	12%	14%	*119*	14%	*116*
Saturday	5%	7%	*139*	6%	*112*
6 day cume	12%	15%	*118*	14%	*116*
Weekly read online	2%	4%	*167*	3%	*124*
24 Hours					
Read yesterday	9%	14%	*170*	10%	*113*
5 day cume	19%	25%	*141*	21%	*109*
Weekly read online	1%	2%	*230*	1%	*127*
Metro					
Read yesterday	8%	15%	*184*	9%	*110*
5 day cume	17%	28%	*165*	18%	*108*
Weekly read online	2%	3%	*207*	2%	*133*

For every readership metric, the results from the online survey were higher than those from the telephone survey. While all of the readership metrics for all newspapers increased, the increases were not uniform across the publications. For example read yesterday increases ranged from +19% for The Globe and Mail to a high of +84% for Metro. Consistently, online readership showed the highest increases between the online panel and the telephone sample ranging from +40% for The Globe and Mail to +125% for The Toronto Sun. However, the increases were not uniform across the publications and, except for online readership, the increases for other metrics differed between publications.

4. Other Findings

NADbank employs a rigorous platform designed to produce high response rates. However, this level of effort is generally not duplicated in the online environment. The online panel is a convenience sample in which the participants control their involvement. While there are repeated callbacks to "refusals" in the telephone survey, there is very limited follow-up in the online survey.

In order to gain insight into whether response rates and/or fieldwork effort had a role in demographic and readership results, an analysis was run limiting the telephone interviews to those who completed the survey before any refusal call. The objective was to investigate whether respondents who completed the telephone survey without a refusal follow-up call were similar to those who completed the online survey (i.e. they were considered to be "self-selecting."). No data are presented in this paper for this analysis since the results, for the measurement of media habits and the readership metrics were almost identical between the total

telephone sample and the sub-group excluding those who had initially refused then later completed the survey during the refusal follow-up process. Also, there were no demographic changes noted including gender, age, education, or occupation.

A second follow-up analysis involved modelling the data in the online panel to demographically match the telephone sample to determine if the general media and readership results in the online sample would more closely match those from the telephone interview. Rim weighting was used to match age, income, education and occupation. Again, results are not reported in this paper as the rim weighting had no impact on any of the results.

Discussion

This test raised too many issues and discussion points to be covered fully in this paper but some of the most salient are briefly described in the following paragraphs. Future considerations and next steps will be reviewed at the end of the paper.

Technical Details/Operational Issues

With regard to the operational protocols, a number of findings could impact future practices, particularly for rigorous media research studies.

The elapsed time between invitation issuance and completed survey indicates that panellists do respond to invitations in a timely manner. Fifty-one percent of surveys were completed the day they were issued; 86% within four days. These findings, in combination with the results of the "completes by day of issuance" provides suppliers with valuable insight into sample management practices for web-based panels. Strict controls placed on day of interview in the telephone environment cannot be implemented with the type of panel utilized in this test. However disproportionate issuance of invitations to participate, by day of the week, may provide an opportunity to balance the completions by day of week.

The disproportionate completions by day of week are currently brought back into five equal samples by weighting each group to 20%. Weighting by day of week is the accepted practice for managing the distribution in telephone studies. Although the same process was employed in the online test, there are currently no accepted protocols in web-based research for managing this concern. Again, disproportionate issuance of invitations could address the problem.

Demographic and Media Issues

The key objectives were to begin to understand the implications of moving from an RDD sample to a panel and from a telephone platform to web-based surveying. The findings as they relate to these issues are described below.

Participation rates vary by many different demographic groups, including age and gender. Suppliers of online surveys report that they can control for demographic profiles such as gender, age, occupation, and income (in fact, for any variable for which they have prior information about their panel members.) If this is the case, then, it should be possible to control the major demographics, though this raises other research design issues. Based on this test, a simple weighting adjustment to bring the online sample into demographic balance with known population estimates would *not* appear to be a solution to behavioural differences that are tied to demographic characteristics.

Demographic differences between the telephone sample and the panel are related to a variety of factors including fieldwork effort, panel construction, the medium employed and, the response rates in telephone interviewing and participation rates for online surveys.

The ability to build a panel that reflects known demographic parameters may be a key strength in web-based surveys. A concern with NADbank's current telephone platform is the recent decline in response rates for 18-34 year olds. This problem was not remedied in this online panel. The completion rate was lower than on the telephone; the representation of 18-24 years was lower in the online survey than on the telephone (12% of the population). The telephone sample was comprised of 9% of these adults, the online panel, 6%. For 25-34 year olds the online panel and the population were similar, the telephone sample had a slightly lower composition. Disproportionate issuance of invitations by targeted demographics may become a refinement in web-based research that will assist researchers in developing panels they believe reflect either their constituents and/or of the population in general.

However, what is the impact of balancing demographics? Will managing the sample to balance sub-groups to their known proportion in the general population provide users with a "representative sample"? Currently, approximately 20% of the population is systematically excluded from the frame for online panels. Moreover, that 20% is not distributed "evenly" across the population. Data presented in Table 9 (appended) shows Internet access by demographic group based on the Toronto CMA, NADbank 2006 study.

For an online panel, does the portion of a cohort that is wired provide researchers with access to respondents that "truly" represent the behaviour and habits of the full group? This is an issue for all survey modes. Readership scores for blue collar workers may provide some insight into this issue.

Internet access does not vary by gender, but it does vary by age, income, education and occupation. Seventy-eight percent of

Toronto adults have access to the Internet but only 67% of blue collar workers. The readership results for this occupational group varied more than for the other cohorts reviewed, particularly when viewed from their status as wired or non-wired.

44% of blue collar respondents in the telephone sample indicated that they read a daily newspaper "yesterday", compared with 49% of the wired blue collar workers in the telephone sample. However, 58% of blue collar workers in the online panel read a newspaper yesterday, an index of 133 against the telephone sample, the greatest difference for the occupational groups considered.

It may be that those blue collar workers (or any other member of a niche target group not universally represented in the frame) who are wired and participate in online surveys, are not representative of their cohort in general. This likely applies, in varying degrees, to *all* participants in online surveys. If so, this could help explain the differences noted in general media habits and readership of daily newspapers between the RDD telephone sample and the online panel as well as the different relationships noted for the wired respondents in the telephone sample and the online panel. It also suggests that simply balancing the panel based on the proportion of known sub-groups will only go "so far" in providing a "representative" sample.

The rim weighting analysis conducted to bring the demographics in the online panel to match those seen in the telephone sample also suggests that balancing demographics may not be the only remedy required to develop representative samples. Bringing the demographics of the two groups in line did not alter the readership scores.

Weighting of data continues to be debated as a way in which to rebalance the online panels to known population demographics. The initial work above suggests weighting, by itself, may not be a solution suited to quantitative media research studies where outcomes are dependent on the "representativeness" of the sample to provide accurate volumetric data. None of the analysis in this test included propensity weighting relating to access to the Internet.

Conclusions

The pressure to move to online surveys continues to be driven by changes in consumer behaviour which impact the ability of researchers to capture behaviour, as well as the costs and turn-around time associated with web-based research. The results from this first test provide broad insight into the issues that those conducting media studies will have to understand as they begin the transition from traditional telephone RDD research to web-based research.

From this test, a parallel study matching two methodologies (one the current protocol, the other the test mode,) NADbank learned that the demographics in the two "samples" varied considerably. Both the nature of the sample, RDD versus panel, and the different media used likely impacted this outcome. The ongoing question of which demographic group represents "the truth" will continue to be investigated.

Also, the media measurements, whether they were general media habits or readership metrics, were universally higher in the online survey. The increases for changes in readership scores were not uniformly higher across publications and media. Again, which is correct, or nearest the "truth?"

Based on these results, NADbank concluded that there is not enough evidence to state that an online survey would more accurately reflect daily newspaper readership than does the current telephone platform.

It is clear that further work is required to explore several of the issues and uncertainties related to the possibility of introducing online surveys as part of the media measurement process. Based on this assessment, a second test has been designed and initiated. The objectives and design of this second test are presented in the following section.

NADbank will continue to explore the use of web-based research to better understand how it can best be employed in newspaper readership research. For the time being, however, NADbank will continue to employ the current telephone methodology.

Next Steps

NADbank has designed and implemented a second online test to build on the knowledge gained in the test reported in this paper. The data collection phase of the second test will be approximately 50% completed by the time of the Symposium. Results are expected in the first quarter of 2008.

The first test covered one market, albeit the largest market in Canada. Could an online panel be used successfully in a smaller market? Would the results be different than in a large urban market? Since it would also be necessary to conduct the survey in French, would language have any impact?

As well, the process for conducting readership research by telephone is based on a generally accepted set of standards covering issues such as questionnaire design, sampling, and execution. However, a similar set of standards does not yet exist for online research. For example, panel recruitment and management can vary considerably from one panel to another. One of the questions arising from the first test was whether or not differences in demographic composition and readership would change with a different panel.

With these questions in mind, and the interest to see whether the results of NADbank's initial online test would be replicated in Toronto, the objectives of the new test are to:

- explore the implications of online measurement for markets other than Toronto
- determine whether online panels offer an appropriate alternative to telephone interviewing
- further:
    - to learn how well online panels can match the demographics of the market under study
    - to understand how panels, or respondents, are recruited, how turnover is handled, how stable is the composition of the panel(s), what are the "participation" rates
    - to determine, if there are differences across panels, why these differences exist and what is the potential impact on readership measurement
    - to understand how issues important for newspaper readership measurement can be handled by online panels, or web-based research (e.g. controlled release over an extended period of time, recall … or follow-up)
- broaden the scope of the investigation to include alternative research suppliers

Future Issues for Consideration

In conclusion, with the completion of the first test and the commissioning of the second test, there remain many issues still to be addressed before online surveys are likely to replace the telephone methodology for newspaper readership measurement in Canada. Some of these major issues include:

Sunday/ Monday – how to deal with the significant number of interviews completed on these two days that refer to the Friday weekday issue?

Sampling – is it appropriate to manage the sample by demographics and also apply *a priori* knowledge of likely participation rates

Questionnaire Design – at some point, the online version of the questionnaire will be different from the current telephone version in terms of design and presentation of the questions (e.g. grouping titles, use of mastheads, possibly ordering of the questions); what impact are these changes likely to have on the readership measurement?

Mixed Mode – if there are markets with insufficient panel members, would it be acceptable to use mixed data capture modes; telephone for some markets and online for others. Can mixed mode be used within one market?

Response Rate – is a "participation rate" in an online survey a comparable measure to "response rate" in a RDD survey?

Representation – access to the Internet is growing rapidly but we still need to understand more, and be more comfortable with, the differences between people who have access to the Internet and respond to surveys and those who either do not have access or do not participate in online surveys

Weighting – is it legitimate to weight results from online surveys in the same manner as the telephone survey (i.e. the online sample is not selected randomly from the total population nor does it have the total population as a sample frame); is there a role for propensity weighting?

Before moving the NADbank study from a telephone based study to a web-based study a great deal more learning is required.

Note: The authors would like to express their appreciation to the staff at TNS Canadian Facts and to Judy Rogers of Research Resolutions & Consulting Ltd. who were so instrumental in the design and execution of this study.

Appendix
Introduction to NADbank

NADbank (Newspaper Audience Databank) is the principal research arm of the Canadian daily newspaper industry. NADbank designs and conducts research in Canadian urban markets to provide cost effective and accurate in-depth marketing information for its members to assist in the buying and selling of daily newspaper advertising in Canada. NADbank is a tri-partite organization comprised of newspapers, advertising agencies, media buying companies and advertiser members. NADbank is governed by a Board of Directors and two operating committees.

NADbank conducts an annual survey in urban centres across Canada. TNS Canadian Facts has conducted the fieldwork for NADbank since its introduction in 1984. The 2006 survey was in field for 31 weeks during the year. Half of the interviews were conducted between January and June, with the balance conducted between September and December.

The data are collected via two methods:

Telephone Interview:

Newspaper readership, other media usage and demographic information are gathered through a rigorous telephone interview process with adults 18+.

The following information is normally collected during the telephone interview:

- Readership of daily newspaper, local and non-resident
- Readership of online editions of individual newspapers
- Readership of community newspapers are asked at the request of the member newspaper (61 papers in 34 markets)
- Readership of TV Magazine publications
- Radio listening, TV viewing, Internet usage and Magazine reading habits
- Media Reliance (readership-only markets)
- Time spent reading, listening and viewing (Newspapers, online newspapers, Radio, TV)
- Frequency of reading
- Method of receipt
- Qualitative questions on general content readership
- Public Transit Usage
- Demographic information about the respondent and the household

Mail-Back Questionnaire:

Product usage, retail shopping behaviour and lifestyle data are collected through a self-completion questionnaire mailed to those interviewed in the telephone questionnaire. Respondents from the telephone interview are sent a $5.00 incentive to complete the questionnaire. A mail questionnaire allows NADbank to obtain more information than would be feasible in a telephone interview.

The NADbank 2006 Study provided newspaper readership data for 81 Canadian dailies in 55 markets and 61 community newspapers in 34 markets across Canada. Of the 55 markets included in the 2006 NADbank database, 34 markets, 19 readership-product markets and 15 readership-only markets were measured. The remaining 21 readership-only markets were measured in 2004 and 2005. Results from the 2006 study have just been released.

In the 2006 study, a total of 26,603 telephone interviews were completed across Canada with an overall response rate of 46%.

Table 9
Access to the Internet in the Past 3 Months – Toronto CMA, NADbank 2006

	Telephone Wired	Telephone Not Wired
	Reach	Reach
Adults 18+	78%	22%
Gender:		
Male	79%	21%
Female	78%	22%
Age:		
18 to 24	92%	8%
25 to 34	90%	10%
35 to 49	84%	16%
50 to 64	77%	23%
65+	39%	61%
Highest Level of Education:		
Some high school of less	37%	63%
High school graduate	66%	34%
Some college or university	85%	15%
University graduate or higher	91%	9%
Occupation:		
Manager/ Professional	93%	7%
Other white collar	91%	9%
Clerical/ Administration	94%	6%
Blue collar	67%	33%
Average Personal Income	$46,000	$32,000
Average Household Income	$84,000	$59,000