BETWEEN RANDOM SAMPLES AND ONLINE PANELS

WHERE IS THE NEXT LILY PAD?

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SETTING THE STAGE

There is no question that more and more market research is being done using online panels. There is also no question that considerable effort is being devoted to building better and better panels. Commonly, however, the "virtues" of panels are demonstrated *not* by their intrinsic measurement superiority but by their speed and low cost vis-à-vis other sampling and data collection modes and/or by deficiencies in *other* types of surveys (e.g., falling response rates in telephone studies).

Similarly, online panel research is often recommended over a telephone survey in North America because as *cell-only* households increase in share, traditional telephone samples experience more coverage error and potential bias. Conversely, as broadband home Internet access increases, coverage error and potential bias for online surveys will likely decrease (Brown, Popiel, 2007; Chakrapani, 2007).

Market research practitioners and users have long recognized that focus groups or shopping mall intercepts are not suitable tools for answering some types of questions. The same applies to online panels. They have their place in the toolbox but purveyors and users are engaged in an ongoing discussion about which types of questions they are best able to answer. Can they replace studies based on a random sample of respondents within a defined universe in which the probability of selection is known?

Consider the U.K. pollster who claims that resorting to a sampling principle in which each member of the target population has a known chance of being selected is *nonsense*. According to Peter Kellner, this principle *confuses two separate phenomena: the quality of the designed sample and the quality of the achieved sample. When we deliver results to our clients, what matters is the second, not the first. If the achieved sample is badly skewed, it is no defence to say that we used impeccably random methods to obtain it* (Kellner, 2007). And of course, he is correct.

But Kellner goes on to tell us that he ensures that the target market panel includes the correct number of voters in each party and *the right numbers of the readers of each national newspaper* because *in Britain newspaper readership correlates with social and political outlook better than any demographic variable.* Where does the polling organization (YouGov) obtain estimates of the "right number of readers" of each national newspaper? More likely than not, such information comes from a study that relies on the principles of random probability sampling.

Others have experimented with enhancing the weighting of online surveys beyond key demographic variables such as age and gender in order determine whether results more closely resemble those derived from surveys conducted using modified RDD telephone samples or other authoritative survey sources. (Sparrow, 2006) In his award-winning paper, Sparrow concludes that weighting on attitudes related to the subject at hand may impact estimates of related measures but do not seem to bring other measures in the same survey into closer alignment with telephone survey results.

The definitive study for measuring retail financial services (Financial Research Survey, FRS) in Great Britain has traditionally been done face-to-face with approximately 60,000 respondents annually. After spending almost £500,000 in experimentation, the client and supplier agreed that *the British "research currency" for personal financial markets will have an online panel component from January 2008 – with the strong expectation that the estimates derived from the new multi-modal FRS will be better than those we currently produce.* In essence, FRS will become a *hybrid* that utilizes online respondents as *oversamples* of groups that are difficult to reach in the main survey (Cooke, Watkins, Moy, 2007).

In addition to exploring hybrids, there are studies that examine differences between online and face-to-face surveys (Duffy, Smith, Terhanian, Bremer, 2005), online and mail surveys (Nadkarni, Harmon, 2008), and online and telephone surveys such as the one described in this paper. Each is indicative of a research community attempting to redefine itself in an environment of changing public cooperation with consumer research and changing technology.

At least for the time being, there is considerable support for the position that when quantitative estimates such as market shares are required, they should be derived from studies that rely on random probability sampling rather than from online panels (Chakrapani, 2007). Nonetheless, the pressure to move to internet data capture increases daily ... with more and more market research buyers shifting their business to online panels of one type or another because it is cheaper, faster and ... there is the rub. Better? Is it better? Is it even "as good" as more traditional data capture modalities (telephone, door-to-door, mail)?

For years, newspapers in Canada have relied on traditional telephone data capture techniques to estimate readership of daily papers in major markets, to build profiles of readers and to set market parameters and pricing for advertising. Like other services, newspapers are under increasing pressure to be "with it" (a.k.a. be *on the web*), to reduce data collection costs (a.k.a. be *on the web*), and to increase reporting ease and speed (a.k.a. be *on the web*).

At the same time, millions of dollars of advertising revenue are teetering on readership and profile estimates of *how many* and *who* reads specific daily newspapers. In this environment, how are print media and advertising mavens going to determine when or if to move to online panels? If daily newspapers were to inch or leap away from the current data collection platform, what would be their next lily pad?

STUDY DESIGN OVERVIEW

As Canada's newspaper audience measurement agency, the Newspaper Audience Databank Inc. (NADbank) has been monitoring developments in online panel research for some time. In 2006/2007, the organization initiated a test comparing the current telephone methodology with a comparable online survey (Crassweller, Williams, Thompson, 2007). Results showed that demographic profiles of respondents in the online panel differed from the population as a whole and telephone sample. Because only one online panel was included in the test, analysts had no tools with which to assess the extent to which profile differences were a function of idiosyncrasies of the single panel and/or were linked to online panel data capture *per se*.

To further explore issues raised by the initial test, NADbank undertook a larger-scale study to help it determine whether the time has come to make the leap online panels for estimating newspaper readership. With the cooperation of TNS Canadian Facts, Ipsos Canada, Synovate Canada, and Decima Harris, five data sets were collected that purport to measure the same phenomenon: readership of daily newspapers in three Canadian cities (Toronto, Québec City and Halifax).

From more than 2,000 completed surveys per supplier among Toronto residents to between 400 and 600 in the smaller centres, *each* of four firms implemented online panel studies that mimicked, to the extent possible, the ongoing modified RDD telephone readership study. These thousands of telephone and online surveys have been put into a single harmonized database. It forms both a laboratory for exploration and a source of information for decision-making.

The overall purposes of the experiment were as follows:

1. To determine the extent to which online results resemble or differ from the current modified RDD telephone survey methodology used to estimate newspaper audiences in Canada's urban centres;
2. To examine the extent to which there is inter-supplier consistency using independent online panels; and
3. To explore the feasibility of undertaking online panel surveys in small and medium sized Canadian municipalities.

The four research companies were provided with identical instructions for project design, implementation, weighting and projection. To the extent possible, the survey instrument, survey scheduling procedures, weighting and projection techniques matched those used in the current NADbank telephone survey methodology.[1]

The three cities were selected to represent different market conditions:

• Toronto: a large metropolitan area with multiple English language daily newspapers;
• Halifax: a small metropolitan area with a limited number of English language daily newspapers;
• Québec City: a medium sized metropolitan area with two French language daily newspapers.

Survey materials for Toronto and Halifax were in English; those for Québec City were in French. Targets for completed surveys differed substantively across the three cities (Toronto, 2000; Halifax, 450; Québec City, 600). A common data file incorporating *all* suppliers' data in a consistent format was created. This file was used to generate tabulations with identical specifications from supplier to supplier, thereby ensuring that outputs among the online studies and to the telephone survey were directly comparable.

The identity of the four online study suppliers has been masked. In no particular order, the firms were labelled with the first four letters of the alphabet *(Panel A, B, C, D)*. The telephone readership study is the benchmark against which each online supplier's data are assessed.

KEY FINDINGS

Demographics

Data are weighted to match age-within-gender estimates of the population 18 years of age or over in each city based on projected census data. Hence, it comes as no surprise that once the data have been weighted, each online panel supplier matches "exactly" the telephone benchmark for age and gender distributions in each city. Nonetheless, there are considerable fluctuations in the *actual* (unweighted) distributions by age and gender from online panel to panel. While it can be argued that "weighting" remedies differences between panel respondents and the actual market, further exploration suggests that this may not be the case. For Toronto, the unweighted results for age and gender are shown for the telephone sample and each of the panels (see table 1).

Once weights have been applied, variations in basic demographic characteristics between the benchmark telephone and various online results are evident. There are not, however, obvious patterns in the size or direction of the discrepancies (see table 2). For example:

• In Toronto, Panels A (18%) and B (20%) are close to the telephone benchmark for the incidence of persons in the *managers/professionals* occupation group (21%). Panel C is well below (15%) and Panel D is well above (32%) the benchmark.
• Since Panel C has the lowest estimate of managers/ professionals in Toronto, it might also be expected to have a low estimate of university graduates. It does not. In fact, Panel C's university graduate proportion (42%)

is higher than Panels A (33%) and B (34%) and closest of the four online panels to the telephone benchmark (39%).

• Toronto is a major reception centre for new immigrants, explaining why only six in ten adults name English as their mother tongue (telephone). At about three in four panel respondents are appreciably more likely to have first learned and still understand English than would be anticipated.

• House dwellers represent 84% of the Halifax market according to the telephone survey, but only 75% of the market according to Panel D, 70% according to Panel B, and as few as 62% according to Panel A.

• In Québec City, all panels produce an identical estimate of persons with "some post secondary education" (ranging from 46% to 49%). In each case, these estimates are substantively higher than the benchmark telephone study (36%). (See table 2.)

TABLE 1
GENDER & AGE

	Projected	Actual				
Toronto	**Telephone**	**Telephone**	**Panel A**	**Panel B**	**Panel C**	**Panel D**
Completed Surveys		*2,063*	*2,001*	*2,214*	*2,112*	*2,029*
Sex						
Male	**49%**	43%	52%	36%	45%	50%
Female	**51%**	57%	48%	64%	55%	50%
Age						
18 - 24 yrs	**12%**	9%	13%	6%	5%	9%
25 - 34 yrs	**20%**	17%	17%	15%	17%	20%
35 - 49 yrs	**32%**	37%	28%	37%	31%	33%
50 - 64 yrs	**22%**	23%	31%	28%	26%	23%
65 & over	**14%**	13%	11%	14%	22%	15%
Average (18+)	**44.7**	45.7	44.8	47.2	49.2	45.2

TABLE 2
A DEMOGRAPHIC SAMPLER

	Telephone	Panel A	Panel B	Panel C	Panel D
Toronto – Weighted, Projected					
Education					
Some Post Secondary	**32%**	44%	45%	40%	33%
University Graduate	**39%**	33%	34%	42%	56%
Occupation					
Managers/Professionals	**21%**	18%	20%	15%	32%
Other White Collar	**17%**	17%	20%	18%	21%
Cler/Adm/Bus. Support	**6%**	9%	9%	9%	5%
Blue Collar	**13%**	9%	9%	5%	4%

	Telephone	Panel A	Panel B	Panel C	Panel D
Dwelling					
House	**78%**	67%	73%	70%	75%
Apartment	**21%**	31%	26%	29%	24%
Household Composition					
Adults only	**60%**	66%	66%	67%	69%
Adults w. child	**40%**	34%	34%	32%	31%
Mother Tongue - English	**61%**	78%	77%	77%	74%
Halifax – Weighted, Projected					
Education					
Some Post Secondary	**27%**	47%	47%	46%	41%
University Graduate	**36%**	29%	29%	34%	50%
Occupation					
Managers/Professionals	**23%**	16%	18%	12%	30%
Other White Collar	**13%**	16%	22%	15%	22%
Cler/Adm/Bus. Support	**9%**	14%	9%	10%	7%
Blue Collar	**16%**	10%	10%	9%	5%
Dwelling					
House	**84%**	62%	70%	65%	75%
Apartment	**14%**	34%	28%	32%	23%
Household Composition					
Adults only	**62%**	73%	73%	74%	75%
Adults w. child	**38%**	27%	27%	26%	25%
Québec City – Weighted, Projected					
Education					
Some Post Secondary	**36%**	48%	49%	48%	46%
University Graduate	**25%**	21%	25%	29%	37%
Occupation					
Managers/Professionals	**12%**	8%	10%	7%	13%
Other White Collar	**18%**	18%	18%	19%	18%
Cler/Adm/Bus. Support	**7%**	14%	14%	10%	11%
Blue Collar	**16%**	13%	14%	8%	8%
Dwelling					
House	**69%**	53%	56%	54%	61%
Apartment	**30%**	45%	41%	43%	37%
Household Composition					
Adults only	**71%**	77%	78%	75%	76%
Adults w. child	**29%**	23%	22%	24%	24%

General Media Habits

General media habits of Toronto's adults are also highly variable across the online panels (the focus is on Toronto because the base sizes are appreciably larger than those in Halifax or Québec City). Ranging from a high of about 82 minutes to about 57 minutes, the average number of minutes spent reading a printed version of any daily newspaper *yesterday* is substantively higher for online panel members than it is for telephone sample respondents, at about 50 minutes, on average (table 3). Television viewing time is also consistently higher for online panel respondents than is the case for telephone sample members. Radio listening time, however, hovers around the same level; irrespective of the data capture mode or the online supplier. Not surprisingly, average time spent on the internet yesterday among panel respondents is also higher than is the case among telephone sample respondents.

Read any newspaper yesterday

Not only do demographics and general media behaviour vary substantively from panel to panel and between panels and the telephone benchmark but so to do readership estimates (see the appendix for complete summary tables).

As one of the most salient media measures for daily newspapers, *read yesterday* estimates across the four panels and the three markets are worthy of scrutiny.

As evident from table 4, there are no obvious patterns in direction or degree of variation. *Follow the bouncing ball* might be the most apt description of the variations.

Toronto
• For example, compared to the telephone benchmark (22%), three online panels generate higher readership levels for the *Toronto Star* (B, 30%; C, 31%; D, 35%). At 24%, Panel A is close to the benchmark.
• All panels generate estimates consistent with the telephone benchmark (11%) for Metro Toronto.
• At 21%, Panel D's *read yesterday* estimate for *The Globe and Mail* far surpasses the telephone benchmark (9%) and estimates from all other online panel suppliers.

Halifax
• Did close to two-thirds of adult Halagonians read at least one daily newspaper "yesterday" (Panels B or D) or was it closer to half of them (telephone benchmark; Panel A)?

Québec City
• Panel D appears to generate *read yesterday* estimates for Toronto and Halifax dailies that are substantively higher than the telephone benchmark and, in some cases, than estimates by other online suppliers. Why, then, do we find that Panel D's estimate for *Le Journal de Québec* (23%) is lower than every other online supplier and than the telephone benchmark (29%)? (See table 4.)

TABLE 3
MEDIA BEHAVIOUR: TORONTO ADULTS (WEIGHTED, PROJECTED)

	Telephone	Panel A	Panel B	Panel C	Panel D
Average # of minutes spent . . . yesterday*					
Reading newspapers (paper version)**	49.9	69.2	62.7	81.8	57.1
Reading magazines	43.7	48.6	45.2	56.9	48.2
On the internet	140.0	205.8	163.4	195.9	169.2
Listening to radio	137.5	143.5	139.2	146.5	118.2
Watching television	125.0	185.0	167.7	187.9	144.2
Average number of past 5 weekday newspaper issues read	2.8	2.7	2.7	2.5	2.9

**Calculated on total stating an amount of time (1+ minutes);*
***Calculated on total who read any weekday issue (past 5 weekdays) and stated an amount of time (1+ minutes).*

TABLE 4
READ YESTERDAY: WEIGHTED, PROJECTED

	Telephone	Panel A	Panel B	Panel C	Panel D
TORONTO					
Toronto Star	22%	24%	30%	31%	35%
The Toronto Sun	10%	14%	15%	12%	9%
The Globe and Mail	9%	8%	9%	12%	21%
National Post	5%	7%	7%	7%	12%
Metro Toronto	11%	12%	12%	11%	12%
24 Hours	8%	12%	10%	9%	8%
Any	46%	48%	53%	53%	62%
HALIFAX					
The ChronicleHerald	40%	43%	54%	52%	54%
The Daily News	17%	19%	25%	20%	27%
The Globe and Mail	4%	6%	5%	6%	12%
National Post	1%	1%	1%	2%	1%
Any	48%	51%	63%	58%	65%
QUÉBEC CITY					
Le Journal de Québec	29%	31%	30%	26%	23%
Le Soleil	23%	23%	25%	25%	32%
Any	48%	47%	48%	45%	48%

Online past week readership
It would be reasonable to assume that members of online panels experience fewer constraints in accessing newspapers *online* than does the public at large. This experiment confirms this assumption. Indeed, panel members exhibit appreciably higher levels of past week *online* readership than would be expected based on the telephone benchmark findings.

The very "gaps" between online readership estimates from the telephone survey and the online panels is indicative of a fundamental difference between the data collection frameworks (See table 5). In fact, these differences are sufficiently substantive across *all* online suppliers and the three test markets that they raise concerns about the ability of online panels to "match" the behaviour of *all* adult residents in Canada's cities.

If *all* newspapers in *all* markets experienced the same level of disparity for online readership, one might conclude that the telephone survey is under-representing the online market for newspapers. Since the differences between the telephone estimates and each of the four online panels vary by paper/market, such a conclusion does not seem warranted:

- estimates for past week *The Globe and Mail* online readership are similar for the telephone, Panels A, B, and C but very different for Panel D;
- all online estimates are appreciably higher than the telephone estimate for online readership of both dailies in Halifax and for *Le Soleil* in Québec City.

TABLE 5
ONLINE READERSHIP: WEIGHTED, PROJECTED

	Telephone	Panel A	Panel B	Panel C	Panel D
TORONTO					
Toronto Star	**13%**	19%	20%	22%	29%
The Toronto Sun	**4%**	9%	9%	10%	9%
The Globe and Mail	**9%**	9%	9%	12%	22%
National Post	**3%**	3%	4%	4%	8%
Metro Toronto	**1%**	4%	3%	4%	3%
24 Hours	**2%**	4%	3%	4%	4%
Any	**21%**	28%	29%	34%	44%
HALIFAX					
The ChronicleHerald	**14%**	33%	37%	32%	37%
The Daily News	**8%**	15%	17%	14%	17%
The Globe and Mail	**4%**	6%	7%	8%	19%
National Post	**1%**	2%	3%	3%	5%
Any	**17%**	38%	42%	37%	47%
QUÉBEC CITY					
Le Soleil	**7%**	18%	14%	16%	21%

Demographic Profiles – Read Yesterday
Even if the *incidence of reading* various newspapers in their print or online versions differed somewhat from panel to panel and between the panels and the telephone benchmark, it would be still be reasonable to anticipate that the *profiles of readers* of specific publications would be similar from study to study. In other words, a person who claims to have read yesterday's *Toronto Star* or *The Globe and Mail* should have a similar demographic and behavioural profile, irrespective of the source of readership information. Is this the case? No, it is not.

Based on the examples displayed in table 6, none of the online panels produces profiles of newspaper readers that are consistent with those generated by the telephone survey. Furthermore, the online panel profiles differ substantively, one to another.

• How many *Toronto Star* readers are university graduates? Is it about two-fifths as estimated in the telephone study (43%), about half as estimated by Panel C (49%) or almost three-fifths as estimated by Panel D (57%)?
• How many of the *Toronto Sun* readers are over 65 years of age? Is it seven percent as estimated in the telephone survey or twice this proportion as estimated by Panels A (15%), B (14%) or C (16%)?

Similar variations are evident for other characteristics of Toronto's newspaper readers (e.g., tenure, managerial/ professional job status, etc.).

Readers of yesterday's *The ChronicleHerald* in Halifax and the *Le Journal de Québec* also manifest quite different demographic characteristics, depending on whether they were interviewed in the telephone study or completed the survey online by one of the four suppliers. (See table 6.)

TABLE 6
A DEMOGRAPHIC SAMPLER: WEIGHTED, PROJECTED

	Telephone	Panel A	Panel B	Panel C	Panel D
TORONTO					
Read Yesterday's Issue of the *Toronto Star*	*n = 440*	*n = 505*	*n = 676*	*n = 681*	*n = 728*
Age - 65 years of age or over	**28%**	25%	25%	23%	20%
Education - Univ. Grad plus	**43%**	37%	42%	49%	57%
Home language - English	**87%**	92%	93%	94%	91%
Occupation - Manager/Professional	**20%**	20%	19%	14%	31%
Tenure - Own	**79%**	73%	81%	77%	84%
Read Yesterday's Issue of *The Toronto Sun*	*n = 196*	*n = 292*	*n = 329*	*n = 244*	*n = 171*
Age - 65 years of age or over	**7%**	15%	14%	16%	10%
Education - Univ. Grad plus	**19%**	22%	27%	29%	44%
Home language - English	**89%**	94%	87%	93%	94%
Occupation - Manager/Professional	**22%**	20%	20%	14%	31%
Tenure - Own	**72%**	61%	69%	63%	83%
Read Yesterday's Issue of *The Globe and Mail*	*n = 185*	*n = 159*	*n =183*	*n =265*	*n = 454*
Age - 65 years of age or over	**17%**	27%	24%	24%	21%
Education - Univ. Grad plus	**66%**	55%	64%	67%	75%
Home language - English	**92%**	91%	87%	91%	93%
Occupation - Manager/Professional	**39%**	27%	33%	25%	42%
Tenure - Own	**85%**	73%	76%	76%	86%
HALIFAX					
Read Yesterday's Issue of *The ChronicleHerald*	*n = 110*	*n = 185*	*n = 276*	*n =261*	*n =268*
Age - 65 years of age or over	**24%**	24%	20%	24%	20%
Education - Univ. Grad plus	**41%**	32%	32%	31%	51%
Home language - English	**99%**	99%	95%	98%	98%
Occupation - Manager/Professional	**25%**	22%	17%	13%	30%
Tenure - Own	**80%**	69%	68%	69%	83%
QUÉBEC CITY					
Read Yesterday's Issue of *Le Journal de Québec*	*n = 144*	*n = 182*	*n =183*	*n = 176*	*n =126*
Age - 65 years of age or over	**20%**	18%	27%	21%	18%
Education - Univ. Grad plus	**17%**	15%	23%	19%	28%
Home language - French	**99%**	99%	100%	100%	100%
Occupation - Manager/Professional	**9%**	9%	11%	6%	11%
Tenure - Own	**74%**	57%	63%	57%	69%

Would the "real" welder, manager or youth please stand up?

Comparisons of profile information *within* key demographic segments further support the hypothesis that online panel results differ from the benchmark telephone survey in ways that could influence estimates of newspaper readership and other media behaviour. In this chapter, the focus is on Toronto because base sizes for this city are appreciably larger than those in Halifax or Quebec City. It should also be noted that to ensure study-to-study consistency, coding of responses to the occupation measures in the four online surveys was performed by TNS Canadian Facts using the same principles and categories the firm uses to code occupation in NADbank's traditional telephone survey.

Blue-Collar Workers

Take, for example, blue-collar workers in Toronto. Depending on which online study is selected, even after records are weighted and projected, fewer than one in ten of Toronto's blue collar workers would be between 18 and 24 years (9%, Panel C) or one in three would be (34%, Panel D). Based on the telephone survey, we would expect about one in seven of these blue-collar workers to be young adults (15%, Telephone). To ensure study-to-study consistency, coding of responses to the occupation measures in the four online surveys was performed by TNS Canadian Facts using the same principles and categories the firm uses to code occupation in the traditional telephone survey.

Of particular note is the propensity of online panellists to be individuals with English as their mother tongue and the language spoken most often in the home. Of Toronto's blue collar workers identified in the benchmark telephone survey, we would expect about six in ten to name English as their mother tongue (59%, Telephone). In contrast, each of the test's online panels produces a profile in which at least seven in ten (73%, Panel D) and as many as nine in ten blue-collar workers first learned English (89%, Panel A; 80%, Panel B; 87%, Panel C).

Toronto is Canada's largest settlement region for new immigrants. For many of these immigrants, English is *not* their mother tongue. Are measurement tools that appear to be so heavily skewed toward the English-speaking/reading market a viable tool for estimating media behaviour for the entire adult population in a city such as Toronto? (See table 7.)

Online blue-collar workers also differ from those in the benchmark telephone survey in which daily newspapers they claim to have read yesterday, in their "content" readership and in the amount of time they spend with various media.

Yesterday's readership of the *Toronto Star* is higher among blue collar workers captured in the online panels, and especially Panel D (30%) relative to the telephone survey benchmark (15%). Similarly, *The Toronto Sun*, a tabloid with historically strong appeal among blue-collar Torontonians (21%, Telephone) ranges from a "read

TABLE 7
DEMOGRAPHICS: BLUE-COLLAR WORKERS, TORONTO (WEIGHTED, PROJECTED)

	Telephone	Panel A	Panel B	Panel C	Panel D
Sex					
Male	76%	70%	78%	64%	68%
Female	24%	30%	22%	36%	32%
Age Summary					
18 – 24 yrs	15%	11%	16%	9%	34%
Mother Tongue					
English	59%	89%	80%	87%	73%

yesterday" readership level of 11% for Panel D to a high of 36% for Panel B. In short, there is considerable and inexplicable "bounce" in the estimates of readership by blue-collar workers *among* the online panel studies and between the panel studies and the benchmark telephone survey.

Not surprisingly, the online cohort spends much more time on the Internet but also spends more time watching television but less time listening to the radio than do blue-collar workers in the telephone sample. Using the time spent on the internet yesterday as the example, average time spent estimates vary dramatically between the telephone survey (92.5 minutes) and online estimates and *among* the online estimates, from a low of 122.8 minutes for Panel B to a high of 189.8 minutes for Panel C. (See table 8.)

Managers and Professionals

As evident in tables 9 and 10, managers and professionals in Toronto experience levels of variation on key demographic and media behaviours similar to those experienced by their blue-collar counterparts.

Did one-fifth (20% Telephone) or one-third (34%, Panel D) of Toronto's managers/professionals read yesterday's issue of the *Toronto Star*? Do about one-third of them usually read the financial/business pages of daily newspapers (Telephone and Panels A, B, C) or do one-half of them (50%, Panel D)?

Their "other media" behaviour is also subject to considerable variation, depending on which online panel is compared to the benchmark telephone study.

Young People (18 – 24 years)

Appreciably more online panel youths are "students" than is the case among 18 to 24 year olds contacted in the telephone survey. Those included in the online panels, like blue-collar and professional/managerial workers, are also especially likely to have English as their mother tongue. In this regard, however, there is not only variation between telephone and online panel youth, but also among the online panels (72%, A; 82%, B; 74%, C; 64%, D). (See table 11.)

TABLE 8

MEDIA BEHAVIOUR: BLUE-COLLAR WORKERS, TORONTO (WEIGHTED, PROJECTED)

	Telephone	Panel A	Panel B	Panel C	Panel D
Read Yesterday's Issue					
Toronto Star	15%	24%	21%	19%	30%
The Toronto Sun	21%	24%	36%	24%	11%
The Globe and Mail	3%	3%	4%	6%	8%
National Post	2%	3%	3%	1%	8%
Metro Toronto	11%	14%	14%	16%	21%
24 Hours	12%	21%	18%	12%	19%
Usually Read . . .					
Sports pages	28%	31%	30%	33%	28%
Finance/business pages	15%	14%	12%	21%	20%
Average # of minutes spent . . . yesterday					
On Internet	92.5	181.6	122.8	189.8	167.1
Listening to radio	195.9	158.9	136.6	161.7	165.5
Watching television	120.5	183.3	145.3	215.1	111.5

TABLE 9
DEMOGRAPHICS: MANAGERS & PROFESSIONALS, TORONTO (WEIGHTED, PROJECTED)

	Telephone	Panel A	Panel B	Panel C	Panel D
Sex					
Male	59%	56%	59%	62%	61%
Female	41%	44%	41%	38%	39%
Education					
University Graduate	57%	53%	51%	62%	74%
Mother Tongue					
English	64%	71%	75%	77%	72%
Household Tenure					
Own	82%	71%	73%	71%	86%
Household Composition					
Adults only	58%	65%	64%	61%	63%
Adults and teens/children	42%	35%	36%	39%	37%

TABLE 10
MEDIA BEHAVIOUR: MANAGERS & PROFESSIONALS, TORONTO (WEIGHTED, PROJECTED)

	Telephone	Panel A	Panel B	Panel C	Panel D
Read Yesterday's Issue					
Toronto Star	20%	27%	29%	30%	34%
The Toronto Sun	10%	16%	16%	11%	8%
The Globe and Mail	17%	13%	15%	20%	27%
National Post	7%	9%	10%	8%	15%
Metro Toronto	12%	12%	11%	11%	12%
24 Hours	12%	21%	18%	11%	19%
Usually Read . . .					
Sports pages	30%	25%	25%	23%	31%
Finance/business pages	36%	30%	33%	32%	50%
Average # of minutes spent . . . yesterday					
On Internet	150.8	195.5	161.2	186.4	169.4
Listening to radio	123.6	127.9	143.6	135.8	108.8
Watching television	107.6	140.4	143.8	158.5	125.2

TABLE 11
DEMOGRAPHICS /MEDIA BEHAVIOUR: YOUNG PEOPLE (18 – 24), TORONTO (WEIGHTED, PROJECTED)

	Telephone	Panel A	Panel B	Panel C	Panel D
Employment Status					
Student	39%	57%	49%	57%	46%
Education					
Some Post-Secondary	48%	53%	57%	55%	56%
University Graduate	15%	14%	13%	16%	20%
Mother Tongue					
English	57%	72%	82%	74%	64%
Read Yesterday's Issue					
Toronto Star	18%	19%	17%	27%	24%
The Toronto Sun	7%	8%	13%	14%	10%
The Globe and Mail	4%	8%	3%	10%	11%
National Post	2%	4%	3%	6%	6%
Metro Toronto	13%	15%	16%	17%	19%
24 Hours	8%	11%	10%	11%	14%
Usually Read . . .					
Sports pages	29%	15%	19%	22%	16%
Finance/business pages	8%	11%	9%	11%	16%
Average # of minutes spent . . . yesterday					
On Internet	186.9	275.0	218.4	295.6	236.0
Listening to radio	129.3	120.4	136.1	120.3	134.7
Watching television	143.3	160.4	171.2	195.3	147.6

CONCLUSIONS

• There is considerable "bounce" *among* online suppliers' study findings for key demographic and behavioural subgroups:
▪ Critical currency data differ from one online panel supplier to another;
▪ The characteristics of a newspaper's audience differ substantively depending on which online panel is used as the source;
▪ Demographic subgroups within the population (e.g., blue-collar workers; young people) differ substantively from one online panel to another in terms of other demographic characteristics and in terms of readership/ other media behaviour.
• Newspaper readership estimates (read yesterday) vary more extensively between the telephone and online studies in smaller centres (Halifax, Québec City) where sample sizes are smaller and recruitment of sufficient panel members is likely more challenging than in larger centres such as Toronto.
• Among the online panel suppliers, findings vary in amplitude and direction from measure to measure. In this environment of flux, it would be difficult to develop a set of criteria on which to *select* an online panel supplier.

• There is no firm basis on which to develop a *conversion factor* or *weight* that could bridge telephone and online findings because the directional and amplitude changes from panel to panel and city to city are too extensive.
• Similarly, variation from one online panel to another may be a harbinger of the variation that might be experienced if a single online panel supplier were taking measurements over multiple points in time (year to year changes that are results of turnover in panel membership).
• The extent of differences *between* telephone and online results is a function of moving from an administered (telephone) to a self-completion questionnaire (online) cannot be estimated.

What's next and where is the next lily pad?
The nature of the research requires a representative sample in order to accurately determine audience sizes and profiles for the daily newspapers being surveyed. The modified RDD telephone protocol has served NADbank well. The long-term expectation is that it will become increasing difficult to collect quality samples by this methodology. This research is part of an ongoing investigation into potential strategies for maintaining the quality of the study.

The results of this experiment confirmed the results of the first test that a web-based panel does not provide a representative sample, and secondly that different panels produce different results. It would not appear to be the time to move from its current telephone survey platform to the type of online panel used by commercial market research firms for multiple clients. These panels, regardless of the test supplier, produce results that are sufficiently variable and fall sufficiently short of *face validity* criteria (e.g., mother tongue in Toronto) as to render them unsatisfactory for estimating newspapers' market share.

Given that a full shift to a new platform is not warranted it will be critical to continue to explore alternatives and potential transition opportunities to ensure that the platform provides valid, reliable results. It is essential to maintain data quality and trust in currency estimates.

Next steps will be to explore alternative mechanisms for recruiting online panel members so that they more closely resemble a random sample of the population at large. In other words, ruling out existing commercially available "off-the-shelf" online panels for a newspaper audience study is not equivalent to ruling out a transition to any form of online data collection in the future.

Developments such as the *hybrid* being launched in 2008 for a large-scale financial services study in the United Kingdom will be monitored to determine whether a *multi-modal* approach could resolve some of the coverage and response rate issues associated with the current telephone platform.

Another option will be to consider building a panel from a random and representative sample of households (area frame) in major urban markets that could be accessed according to the preferences of the respondent (mail, online, telephone, face-to-face). Since loading costs to develop a panel frame of sufficient size to meet NADbank's needs and the costs of keeping the panel "refreshed" would be high, consideration might be given to working with a research supplier and/or other media organizations so that multiple users share the development and maintenance costs.

The inability to reach consumers with traditional research tools is growing but technologies are evolving to provide new avenues to reach those consumers. It is still 'early days' and a great deal of exploratory work will need to be done to assure ourselves that the new research protocols provide businesses with the data they need to make sound decisions. This test was one step along the way.

Footnote

1. More details about the methodology are available from NADbank (under separate cover).

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APPENDICES
ADDITIONAL SUMMARY TABLES

TABLE 12
GENDER & AGE

	Projected	Actual				
Toronto	**Telephone**	**Telephone**	**Panel A**	**Panel B**	**Panel C**	**Panel D**
Completed Surveys		2,063	2,001	2,214	2,112	2,029
Sex						
Male	49%	43%	52%	36%	45%	50%
Female	51%	57%	48%	64%	55%	50%
Age						
18 - 24 yrs	12%	9%	13%	6%	5%	9%
25 - 34 yrs	20%	17%	17%	15%	17%	20%
35 - 49 yrs	32%	37%	28%	37%	31%	33%
50 - 64 yrs	22%	23%	31%	28%	26%	23%
65 & over	14%	13%	11%	14%	22%	15%
Average (18+)	44.7	45.7	44.8	47.2	49.2	45.2
Halifax*						
Completed Surveys		*257*	*403*	*476*	*466*	*465*
Sex						
Male	48%	41%	55%	36%	44%	48%
Female	52%	59%	45%	64%	56%	52%
Age						
18 - 24 yrs	12%	6%	12%	4%	5%	7%
25 - 34 yrs	19%	11%	18%	12%	16%	15%
35 - 49 yrs	30%	31%	30%	32%	29%	30%
50 - 64 yrs	24%	34%	22%	35%	29%	34%
65 & over	14%	18%	19%	17%	21%	13%
Average (18+)	45.1	49.8	45.7	49.5	49.3	47.3
Québec City						
Completed Surveys		*507*	*578*	*625*	*629*	*526*
Sex						
Male	48%	42%	49%	41%	47%	47%
Female	52%	58%	51%	59%	53%	53%
Age						
18 - 24 yrs	11%	9%	15%	8%	5%	5%
25 - 34 yrs	18%	15%	19%	25%	17%	21%
35 - 49 yrs	27%	29%	23%	32%	28%	32%
50 - 64 yrs	26%	29%	31%	27%	30%	33%
65 & over	17%	18%	11%	9%	18%	9%
Average (18+)	46.3	47.9	44.0	43.5	48.3	45.9

**Note that the base size for telephone interviews in Halifax is smaller than the online test because in the traditional telephone survey, two waves are generated in each city and combined to produce annual estimates. The total annual sample size for telephone surveys is approximately 500.*

TABLE 13
READERSHIP, TORONTO – WEIGHTED, PROJECTED

	Telephone	Panel A	Panel B	Panel C	Panel D
Toronto Star					
Read yesterday's	**22%**	24%	30%	31%	35%
5-Day cume	**38%**	39%	45%	47%	51%
Read last Saturday's	**28%**	32%	39%	38%	44%
Read last Sunday's	**18%**	21%	26%	26%	31%
7-Day cume	**45%**	46%	53%	54%	59%
Online past week	**13%**	19%	20%	22%	29%
Total weekly readership	**50%**	53%	58%	61%	66%
The Toronto Sun					
Read yesterday's	**10%**	14%	15%	12%	9%
5-Day cume	**22%**	27%	28%	25%	19%
Read last Saturday's	**8%**	13%	15%	12%	9%
Read last Sunday's	**12%**	18%	19%	16%	11%
7-Day cume	**26%**	32%	33%	31%	23%
Online past week	**4%**	9%	9%	10%	9%
Total weekly readership	**27%**	35%	35%	34%	27%
The Globe and Mail					
Read yesterday's	**9%**	8%	9%	12%	21%
5-Day cume	**19%**	15%	17%	20%	34%
Read last Saturday's	**10%**	8%	9%	10%	19%
6-Day cume	**20%**	16%	18%	22%	36%
Online past week	**9%**	9%	9%	12%	22%
Total weekly readership	**24%**	20%	22%	27%	43%
National Post					
Read yesterday's	**5%**	7%	7%	7%	12%
5-Day cume	**11%**	11%	12%	12%	20%
Read last Saturday's	**5%**	5%	6%	6%	11%
6-Day cume	**12%**	11%	13%	13%	21%
Online past week	**3%**	3%	4%	4%	8%
Total weekly readership	**14%**	13%	14%	15%	24%
Metro Toronto					
Read yesterday's	**11%**	12%	12%	11%	12%
5-Day cume	**22%**	23%	22%	23%	23%
Online past week	**1%**	4%	3%	4%	3%
Total weekly readership	**22%**	24%	23%	24%	24%

	Telephone	Panel A	Panel B	Panel C	Panel D
24 Hours					
Read yesterday's	**8%**	12%	10%	9%	8%
5-Day cume	**16%**	22%	19%	20%	16%
Online past week	**2%**	4%	3%	4%	4%
Total weekly readership	**17%**	23%	20%	21%	18%
Any					
Read yesterday's	**46%**	48%	53%	53%	62%
5-Day cume	**68%**	67%	69%	71%	77%
Read last Saturday's	**40%**	44%	51%	50%	61%
Read last Sunday's	**27%**	33%	39%	37%	37%
6/7-Day cume	**73%**	73%	76%	77%	82%
Online past week	**21%**	28%	29%	34%	44%
Total weekly readership	**77%**	77%	80%	82%	87%

TABLE 14
READERSHIP, HALIFAX – WEIGHTED, PROJECTED

	Telephone	Panel A	Panel B	Panel C	Panel D
The ChronicleHerald					
Read yesterday's	40%	43%	54%	52%	54%
5-Day cume	63%	63%	71%	71%	73%
Read last Saturday's	42%	43%	52%	48%	55%
Read last Sunday's	31%	34%	42%	39%	44%
7-Day cume	69%	65%	74%	74%	76%
Online past week	14%	33%	37%	32%	37%
Total weekly readership	72%	75%	83%	80%	83%
The Daily News					
Read yesterday's	17%	19%	25%	20%	27%
5-Day cume	32%	38%	43%	41%	44%
Read last Saturday's	15%	17%	20%	15%	24%
Read last Sunday's	15%	18%	20%	16%	21%
7-Day cume	34%	39%	45%	44%	47%
Online past week	8%	15%	17%	14%	17%
Total weekly readership	37%	44%	50%	49%	52%
Any*					
Read yesterday's	48%	51%	63%	58%	65%
5-Day cume	73%	73%	81%	77%	84%
Read last Saturday's	48%	51%	63%	53%	66%
Read last Sunday's	39%	43%	52%	45%	53%
6/7-Day cume	77%	74%	83%	79%	86%
Online past week	17%	38%	42%	37%	47%
Total weekly readership	81%	81%	89%	86%	92%

**Any includes national newspapers that are not displayed in this table.*

TABLE 15
READERSHIP, QUÉBEC CITY – WEIGHTED, PROJECTED

	Telephone	Panel A	Panel B	Panel C	Panel D
Le Journal de Québec					
Read yesterday's	29%	31%	30%	26%	23%
5-Day cume	48%	46%	43%	41%	45%
Read last Saturday's	34%	37%	34%	37%	30%
Read last Sunday's	21%	27%	25%	30%	22%
7-Day cume	54%	51%	51%	50%	50%
Le Soleil					
Read yesterday's	23%	23%	25%	25%	32%
5-Day cume	35%	35%	33%	31%	46%
Read last Saturday's	32%	32%	33%	40%	34%
Read last Sunday's	23%	23%	26%	30%	0%
7-Day cume	41%	40%	42%	45%	51%
Online past week	7%	18%	14%	16%	21%
Total weekly readership	43%	45%	47%	51%	56%
Any					
Read yesterday's	48%	47%	48%	45%	48%
5-Day cume	68%	63%	59%	58%	67%
Read last Saturday's	58%	58%	56%	62%	56%
Read last Sunday's	41%	43%	45%	50%	22%
6/7-Day cume	77%	71%	69%	72%	75%