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The role of the Internet in market research: time to move forward?

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The use of the Internet in market research draws mixed reactions from various research role players. On the one hand, some regard the Internet as a solution for access to cheap and quick mass market research. Others regard the Internet as a market research tool still in a stage of infancy. While both groups have valid arguments to support their cases, the authors argue that it is time for the market research industry to move forward constructively in implementing Internet-based research

1. Introduction

The use of the Internet in conducting market research is typically one that draws mixed reactions from various research role players. On the one hand, some regard the Internet as a solution for access to cheap and fast mass market research. Others regard the Internet as a market research tool still in a stage of infancy, and are reluctant to utilise it in market research. Some of these divergent views are highlighted in table 1. Both groups have compelling arguments to support their cases, but the paper argues the importance of moving forward with the constructive implementation of Internet-based research.

The negative…	The positive…
'…the problem with the Internet continues to be that it cannot deliver a representative sample of any population' (John O'Brien, BMRB International)	*'…the accuracy of our forecasts* [using Internet based research] *surprised many colleagues in the survey research community…' (Humphrey Taylor and George Terhanian, Louis Harris Associates)*
' …it's a fairly useless medium for general purpose surveys.' (Prof Martin Collins, City University Business School)	*'Good, fast, cheap. Now you can pick all three' (Dick McCullough, MACRO Consulting Inc.)*

Sources: Kavanagh (1998), McCullough (1998), Taylor and Terhanian (1999)

In the meantime, the Internet phenomenon continues. The Chicago Tribune (on-line version) reported recently that another 35 million people world wide will become Internet users this year, raising the total number of users to 130 million. This figure is predicted to rise to 350 million by the year 2003. In South Africa, Media Africa (1998) reported a user base of around 1.2 million users. The medium is becoming ubiquitous, and is generally accepted to be an ideal medium for gathering and distributing secondary market research. Unfortunately, it is not being adopted as a primary research tool at the same rate.

The good news is that market research is not the only discipline slow to catch up with the Internet. Harris (1997) points out that marketing activities on the Internet can

largely be regarded as 'practice without theory'. This is confirmed by the fact that there are so far relatively few examples of really successful Internet-based business models.

The topic will be addressed in the following phases:

- Different Internet-based research methodologies will be discussed and highlighted with practical examples
- The benefits and drawbacks of on-line research will be discussed
- Lessons learned and International comparisons will be discussed
- Some ideas for moving forward in implementing Internet-based research in South Africa will be shared
- Potential constraints and pitfalls to avoid will be identified
- Future developments in on-line research will be discussed within the context of converging technologies and platforms.

2. Defining Internet based research

In the context of this paper, Internet-based research (or on-line research) will be regarded as all research using Internet technology as a basis. There are essentially three research models within this context.

i. A World Wide Web based model, where a questionnaire is hosted on a web site/ server. It allows fairly complex interactivity, help facilities and skip procedures. Respondents are lured to the site by e-mail, by means of a banner on the web site, by focused media (such as snail mail or telephone) or by unfocused media such as radio or television (which does not allow probability sampling).

Advantages:

- High level of interactivity.
- Control can be more efficient since it is possible to integrate control procedures with the server architecture. The server can for example verify certain user characteristics or identification codes interactively while the respondent logs onto the questionnaire.

- The questionnaire can be adjusted on the spur of the moment.

- The session variables can be monitored very closely, for instance the time spent on a specific question.

- Data is immediately available, for example for pilot analysis.

- Respondents do not need an e-mailbox (which makes it for instance universities and Internet cafés). It is possible to obtain more meaningful results by drawing a sample out of the customisation database and offer the questionnaire only to a probability sample through a banner link. This sample can then be extrapolated to cover the customised users, the type of users that seek for relationship type interaction from the content/service provider.

Disadvantages:

- Respondent pays for the telephone connection (local charges in UK and South Africa).

- Respondents need an Internet Browser.

- Time spent to complete the questionnaire is reliant on the quality of the connection to the Internet.

ii. An e-mail based model. In this instance the full questionnaire is e-mailed to the respondent. This model has varying levels of interactivity – for example from mailing a Microsoft word document to mailing a fully interactive executable file.

Advantages

- Respondent only pays for the connection time necessary to download the e-mail message and to return the e-mail to the sender.

- Respondent needs access to e-mail only.

Disadvantages:

- Control is restricted to what can be included in the e-mail message.

- Questionnaire can not be altered or deleted on the mail server.

- Data is only available for analysis after mail has been sent back.

- The response mechanism is technically relatively complex.

iii. A hybrid model, which is a combination of the above mentioned models, so that the respondent chooses which model to respond to. For instance, inviting potential

respondents to either complete the questionnaire on a web page or to reply to the e-mail questionnaire.

3. Internet-based research: analysis of cases

To further explore the definitions provided above and to highlight differences between the various methodologies, several practical examples were compared. The variables used to compare them were:

- Incentive offered
- Response rate
- Direct cost
- Time to complete survey

Different examples of studies using the Internet as a basis are discussed below.

- An Internet Service provider performed a customer satisfaction, retention and segmentation study during the period September to November 1998. Two probability samples of 5 000 e-mail addresses each where drawn from the Internet Service Provider database. An e-mail invite to a web-based questionnaire was mailed out on the first of October 1998 at 10:00. One sample was promised 100 double movie tickets for the first 100 completed questionnaires submitted and mouse-pads for the next 200 responses. No incentive was offered to the other sample.

- An Internet service provider launched an Internet based questionnaire to evaluate the their home site. The questionnaire was launched on 25 September 1998 and removed end of day 6 October 1998 (12 days). Small incentives were offered to 30 randomly drawn respondents. A banner on the home page was used to lure on-line users into the questionnaire.

- As part of a doctoral study, 1000 marketing decision-makers were contacted by snail mail. Respondents were offered the option of responding by reply-paid mail (envelope was not included) or completing an on-line questionnaire on a web site.

- A customer satisfaction survey was conducted for a division in a large company. 980 users of this division's services were randomly selected. E-mail was sent to the sample to warn them that a questionnaire would be sent to them the next day

and to solicit co-operation. An executable file was attached to the survey e-mail, which respondents had to open, complete and e-mail back by automated process. The covering letter (on e-mail) announced the incentives, and provided instructions to completing and submitting questionnaires.

- An internal survey on marketing information needs and perceptions was conducted and 136 marketing staff members were contacted by e-mail, containing the questionnaire in an executable file format. The questionnaire had to be completed and returned – this involved a relatively complex procedure. An incentive was provided in the sense that every respondent could get a copy of the report.

The various studies are compared in the following table:

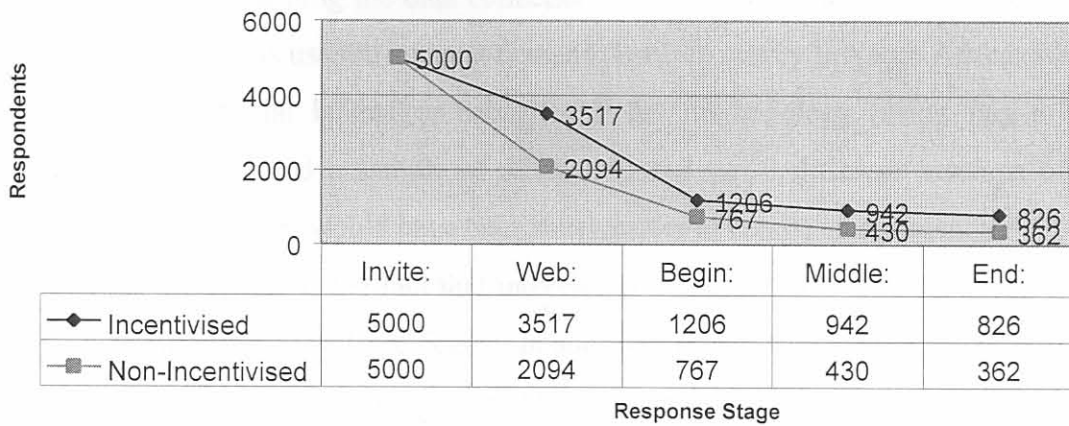| STUDY	INCENTIVE	RESPONSE	COST	TIMING
ISP customer satisfaction (5000 sample, WWW based)	Small gifts to first 300	16.5%	R35000	
ISP customer satisfaction (5000 sample, WWW based)	None	7.2%	As above	
Web site rating questionnaire (WWW based, self selection)	Small prizes (random)	1% of 'hits'	-	
Mail survey with WWW option	Feedback	12.3%	R3000	2 months
Internal CSM (e-mail based)	Small gifts to first 30	41.2%	-	10 days
Internal user needs/ perceptions survey	Copy of report	20.1%	-	10 days

Some interesting observations were made:

Figure 1: Response by Date
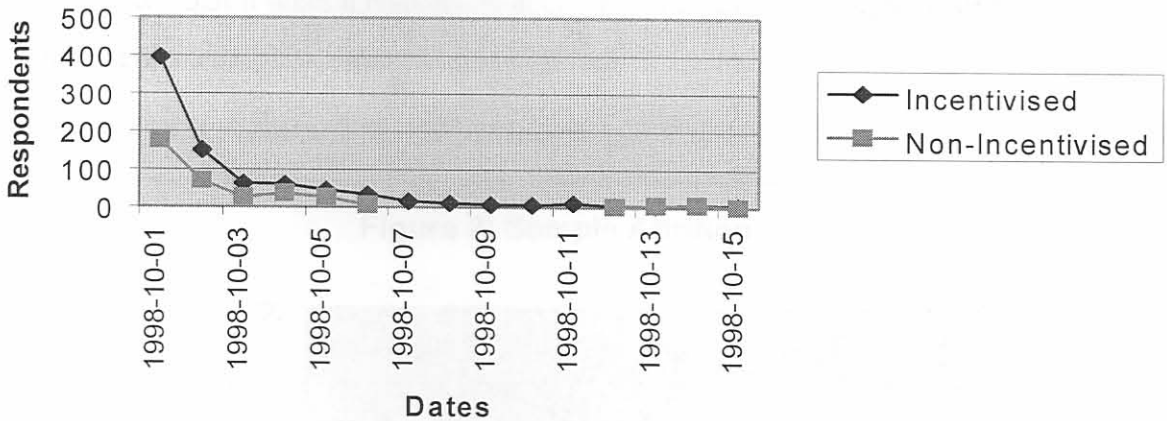
- With on-line research, it would seem that the first 48 hours is the most crucial, as approximately 60% of total responses would be received during this time. Figure 1 below relates to the first two case studies (ISP customer satisfaction) and illustrates this principle. In this case, about 66% of responses were received within 48 Hours. After that, response rates taper down sharply. Enander and Sajti (1999) report the same pattern, but have managed to raise response rates substantially by sending out a reminder on the 4th day after questionnaire launch. This resulted in a much higher response to the reminder than with other media, and resulted in an overall response rate for the two samples of 44% and 40% respectively. These authors also reported that the main reasons (in order of priority) for non-response were lack of time, technical problems and lack of interest.

- Incentives seem to make a difference. In cases where incentives are offered, response rates follow similar patterns, but at lower levels of response. In the case above, the non-incentivised response rate was 9.3 percentage points lower than the incentivised response. Enander & Sajti reported a 4% higher response rate for the incentivised sample.

- Probably because of the lack of interviewer intervention, responses taper off quite sharply from start of the questionnaire to finish, as respondents quit during the completion of the questionnaire. This point is illustrated in Figure 2.

- A lot of questionnaires sent out to the ISP customer base were submitted by respondents after office hours – even into the early morning hours.
- It is interesting to note that the incentivised sample took less time to complete the questionnaire than the non-incentivised sample. In addition, McCullough (1998) have noted that it takes a respondent about half the time of a telephone or personal interview to complete a questionnaire on-line.

Figure 2: Sample Attrition

Response Stage	Invite:	Web:	Begin:	Middle:	End:
Incentivised	5000	3517	1206	942	826
Non-Incentivised	5000	2094	767	430	362

- Generally, whole surveys can be comfortably completed in around 10 working days. This compares well with the findings of McCullough (1998) who have conducted studies in 5 to 6 days on the Web that would have taken 6 to 7 weeks with conventional methods.

4. Advantages and drawbacks of Internet based research

There are many advantages to using the Internet as a primary research tool:
- It provides an additional tool in the toolkit of market researchers, who are increasingly under pressure to come up with more cost effective and innovative research solutions.
- Generally, once money has been spent on buying software, paying for development and so on, there are very little direct costs involved in gathering the

data. In fact, it could be argued that respondents often bear the cost of the 'interview'.

- It saves time. Projects with hundreds of responses can be handled literally in days. Time saved in this way can then be utilised for more thorough analysis and client interface in order to add more value to the research process.

- It is a very flexible research tool, with the ability to build random exposure to different questionnaires, automatic routing, visual aids and other stimuli into the questionnaire. This is particularly relevant since research is evolving into issues of complex design such as discrete choice modelling and conjoint value analysis which is complicating the data collection process. For instance, a discrete choice methodology was used in a recent demand research survey In South Africa. With 6 of the 11 official languages being used, the methodology (using face-to-face interviews) dictated a sample of 1200, exposed to 90 different versions of the questionnaire. This would have been much easier to handle electronically.

- A great advantage is the fact that interviewer error, bias and data capturing errors can be eliminated to a large degree. In addition, it may help overcome the effect of households refusing to co-operate with interviewers, having inaccessible properties and unlisted telephone numbers which may raise the probability of interviewer error.

- Feedback is immediate. Pilot testing can be completed in a very short time frame. In addition, the database of responses can be updated as completed questionnaires are returned, and analysed whenever top line results are required. In fact, judging from the case histories, good top line results may be drawn about 48 hours from questionnaire launch.

- It is a very convenient research tool for the respondent. As the cases have shown, respondents complete questionnaires at times that no sane interviewer would contact them telephonically or in person. In addition it removes all geographical boundaries and international time differences.

- It is a multimedia tool, which means that audio, graphics and video may be included if necessary.

There are, however, some obvious disadvantages or potential problems with Internet-based research as well.

- The high drop-off rate is a concern.

- Generally, response rates are low, similar to response rates encountered in mail-based questionnaires.

- Great care has to be taken in setting up the questionnaires, since in most cases the data is provided back in processed format. For example, if text labels were used instead of numeric labels, this may cause problems later on when analysing the data.

- Response consistency can be a problem. In a face to face or even telephone interview, the interviewer has some contact. In an on-line interview, there is no control over the respondent, and you have no indication of possible fatigue, anger, boredom, intoxication or an altogether unsuitable frame of mind (Stanton 1998).

- There is no guarantee that the person responding is the respondent selected from the sampling frame. One way of overcoming this is by including a unique identifier in the initial solicitation (for example a password; Enander & Sajti 1999).

The next section deals with the more fundamental concerns around Internet-based research.

5. Avoiding the pitfalls

With the benefits to be gained by Internet research it is not surprising that buyers and suppliers alike are trying to reap the benefits of Internet-based research as soon as possible. However, there are many pitfalls waiting. These are discussed below.

Pitfall #1

Research conducted on the on-line population is extrapolated to the general population.

It should by now be obvious that the Internet cannot be used for studies on the general population, since the demographics of the two populations differ dramatically. However, there are segments of the market that are heavily on-line, and these

segments may be successfully targeted with Internet-based research. For example, in large companies, 70% of executives have indicated that they prefer e-mail to all other communication (SA Business Survey 1997).

Pitfall #2

Tomorrow, I am sending everybody on-line a questionnaire.

The fact that that Internet research is so quick and cheap to do belies the fact that there may be a lot of time and expense required before the benefits can be reaped. In this regard, it is important to note the following:

- Internet users are notoriously jealous of their privacy, and can react extremely negatively to unsolicited contact. This may mean that the researcher would either have to obtain commercial, vetted e-mail address lists, or would have to obtain this consent up front. In South Africa, list brokers are only now getting into the business of obtaining e-mail addresses in addition to other contact details for commercial databases. Panels for specific market segments may be another way of solving this problem. In all cases, it is important to ensure that research initiatives conform to legislation and research codes of conduct, for instance the ESOMAR code of conduct for Internet research. The good news is that, once permission is given, respondents are very likely to give permission to be interviewed again. In this regard, Kavanagh (1998) reports a figure of up to 75%.

- Technical problems may arise when incompatibilities between various software versions or systems create complications. Hays (1998) warns that technical problems that may arise when sending questionnaires to networked environments, for instance due to security measures. In addition, technical problems with completing and submitting the questionnaire may arise. Experience has taught that, on the design side, different versions of browsers and e-mail packages should be taken into account. Thorough pilot testing and online 'torture testing' is required to make sure that potential technical problems are solved before questionnaire launch. In addition, clear instructions should be provided to respondents at every opportunity.

- Another concern is the high attrition rate of responses. Between steps in the response process, and even during questionnaire completion, sample attrition is high (see figure 1 and 2). Even the number of drop-offs in the beginning and

middle of samples is a concern. This necessitates the quest innovative means of ensuring respondent attention and click-through to next steps in the process. There is the potential that the respondent may not be the intended respondent, or that the respondent, using an alias, responds more than once. In the ISP case the customer database was used to validate respondents as subscribers and make sure they complete only one questionnaire. Currently, ISPs and companies hosting mail servers are the only entities in a position to control of these problems, since they control all e-mail addresses and aliases from their databases.

- The Internet is not representative of the broader population, which limits its uses to specific grouping who are heavily on-line. Some examples of this include decision-makers in large businesses, specific professional groups, 'home office' type consumers and internal company research.

- With design being a crucial factor in on-line research, it may be necessary to spend a lot of time (and possibly money) on the design of on-line questionnaires.

Pitfall #3

Tomorrow I am firing my research supplier and hiring an IT company

Internet-based research moves research takes market research into the realm of information technology, and this may prompt certain IT companies to become 'research vendors' by cutting costs and corners and avoiding traditional recruitment techniques (Kavanagh, 1998). However, before research suppliers are fired in large numbers, it should be remembered that Internet-based research is not a new paradigm, but merely another tool for conducting research. On the other hand, market research suppliers cannot expect that it is business as usual – they will have to adapt as well and assist their clients in reaping the benefits of Internet-based research.

8. Moving forward with Internet-based research

One of the causes of criticism of Internet research seems to be a result of organisations either trying to reap the benefits of Internet based research prematurely or simply trying to 'get on the bandwagon'. It has to be stressed that Internet research may in fact require a considerable 'ramp-up' in terms of preparation before the benefits can be reaped. It should still be used subject to the rigors of the research process. In other

words, the research process should drive the decision whether Internet based research (compared to the advantages and disadvantages of other media) is a proper medium to use, and not vice versa. An added problem stems from eliminating the variable cost of data collection combined with the ease of administering large samples. This tempts the researcher to go for sheer numbers, which creates the danger that the online population may become over-researched, creating further attrition in response rates. Therefore, sampling plays a vital role even in Internet based research. Some practical guidelines for implementing Internet-based research are discussed below:

- While experimenting with Internet based research, it may be a good idea to validate findings by running parallel control groups outside of the Internet using conventional research media. That will give an indication whether findings from the Internet based sample can be extrapolated. In this regard, Taylor & Terhanian (1999) have achieved very similar results between on-line and telephonic polling, while Willke, Adams & Girnius (1999) have reported very similar results for on-line and central location interviewing.

- In instances where the full sample can not be reached via Internet based research, hybrid survey methods like telephone and Internet may present a practical solution to make a survey more affordable and comprehensive.

- Using a panel may provide some solutions. This may be done in two ways. The first option is to develop and implement a custom panel of the required target market. Another option (not yet available in South Africa) is to make use of a commercial panel such as Decision Analyst or SurveySite, who also screen and select the respondent base to be exposed to the survey from their panels (Mosley-Matchett 1998).

- It is suggested that all questionnaires should contain standard demographic/corpographic or behavioural questions that can be linked back to the organisation's market segments. This will assist in validating the survey data with known population figures.

- Care should be taken to apply the right tool to the right kind of research. For instance, Web site guest books, Web boards and newsgroups can offer quick, valuable qualitative market intelligence but cannot be 'sold' as focus groups (Harris 1997).

- In Internet based research, design is a critical issue. Case histories have shown that design has to take place with the data processing in mind. In addition, design has to facilitate the flow of the questionnaire, and care needs to be taken to provide ample instructions. It is useful to give the respondent an indication of progress with the questionnaire. Graphics and open questions should be used sparingly to facilitate speed.

As researchers, we should:

- Experiment and document to help build out the theory of Internet based research.

- Never substitute quality for quantity. Just because high numbers of responses can be generated is no reason to do it.

- Use the Internet as a convenient and cost effective way to survey execution in conjunction with conventional methods. The Internet widens the response options that may be offered to potential respondents.

- Select the sample frame independently from the survey method used wherever possible. This is a problem not restricted to Internet based research since the same problem, for instance using telephone directories to select samples representing the general population, may occur with other methodologies.

9. Future pointers

There are a number of questions about the future impact of Internet-based research. Some of these are highlighted below.

- Research on the Internet is remarkably easy to conduct, with software providing a lot of the required functionality. The temptation may justifiably exist for organisations to take online research in-house. In addition, organisations that are not researchers (such as ISPs) may start to encroach on the terrain of the market research vendor. What is the effect of this going to be on the industry? One suggestion is that the market researcher of the future will be a technology 'hybrid'. Another potential avenue is one of future co-operation between e-mail list brokers, research suppliers, IT companies and ISPs.

- When and how will the flexibility of Computer Aided Personal Interviewing (CAPI) and Computer Aided Telephone Interviewing (CATI) tools be combined with Internet based research tools to get the 'best of both worlds'?
- Tools already exist to process qualitative questions by means of advanced content analysis (often requiring analyst intervention to complete). This may pave the way for automated applications of qualitative research.
- Currently ISPs have the best contact data to reach the Internet user. The search for a single sampling frame may require the co-operation of all ISPs, commercial list brokers and market research vendors.

6. Conclusions and recommendations

From the above discussion it is clear that the Internet provides an exciting additional tool that can provide organisations with relatively cheap data on fast turnaround times. However, organisations that want to use it should not be seduced by the 'smoke and mirrors' of generating sheer numbers very quickly, but should utilise the Internet in enhancing their long term research strategy. In this way, the organisation will be able to obtain the benefits of Internet research, while retaining the value of conventional research processes.

Perhaps the last words belong to Taylor and Terhanian (1999):

> 'This [on-line research] *is an unstoppable train, and it is accelerating. Those who don't get on board run the risk of being left far behind.*'

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