

Getting results from online surveys – Reflections on a personal journey

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Abstract: In this paper we present a personal reflection on the implementation of an online survey, highlighting the tradeoffs between the potential benefits and pitfalls. It is argued that casting your net out too wide, in a bid to maximise responses can result ultimately in a low response rate. We evaluate the experience of completing an online survey from the perspective of both the researcher and the respondent to outline the dynamics of the completion and submission process. Finally, in a bid to assist those interested, a review of some of the online survey tools is presented.

Keywords: Questionnaires, Surveys, Research Design, Research Process, Design and Implementation, Stakeholder Perspectives

1. Introduction

The effective design and implementation of surveys has been extensively written about over the course of research history. Best practice is well established and it is not hard to find resources to assist the beginner in constructing a well thought out and useful survey. However most of the advice seems to be related to the use of the survey method generally, or specifics concerning layout or question construction whilst acknowledging that

“it is very difficult to state, in abstract, exactly how [a good questionnaire] may be achieved” (Webb 2000).

This paper argues that the naïve researcher is often not aware of the hands-on issues concerning implementation of surveys and this is heightened in the case of the implementation of online surveys. In this paper we present a personal reflection on the implementation of such a survey. Initially the potential benefits and pitfalls are revealed through an evaluation of a recent experience in conducting an online survey. Both the perspectives of the researcher and the respondent are addressed in an attempt to outline the dynamics of the completion and submission process. Finally, in a bid to assist those interested, a review of some of the online survey tools is presented.

2. Technological Advances

The advent of the Internet and the falling costs of personal computers has expanded the realms of possibilities for the researcher in their choice of research techniques, and in particular, methods for conducting research surveys (Schonlau, Fricher et al. 2001). Never before has it been as possible to target such a diverse range of potential respondents in terms of geography and industry background.

Historically, questionnaires have been used extensively in large scale research endeavours (Easterby-Smith, Thorpe et al. 1991), hence it is not a surprise that an opportunity to target a large respondent base over the Internet would initially appear attractive. Although the classic texts on the survey technique (Oppenheim 1966; Moser and Kalton 1971; Youngman 1984) cited in (Easterby-Smith, Thorpe et al. 1991) provide practical advice on issues concerning questionnaire design, the technological advances which have exploded over the last decade open up the debate of good research design generally to a new arena.

Developments have been made in how questions can be sequenced and presented to respondents online. Definitions and the clarification of questions are possible alongside the ability to identify and correct errors at the point of data entry (Norman, Friedman et al. 2001). However, it has been argued that online methods of research represent a cultural as well as technological change in the manner in which research is conducted (Miller and Dickson 2001).

For a new researcher, the transition from design and implementation of a hard copy mail survey to that of an online survey is fraught with complexities and anomalies that are not always pre-definable or obvious.

3. Theoretical Perspectives

“In a culture like ours, long accustomed to splitting and dividing all things as a means of control, it is sometimes a bit of a shock to be reminded that, in operational and practical fact, the medium is the message. This is merely to say that the personal and social consequences of any medium – that is, or any extension of ourselves – result from the new scale that is introduced into our affairs by each extension of ourselves,

or by any new technology” (McLuhan 1965) cited in (Miller and Dickson 2001)

The importance that the ‘medium’ plays in communication has been long discussed amongst academics and practitioners alike. Schonlau, M., R. D. J. Fricher, et al. (2001) argue that there are a number of circumstances in which the online survey may prove to be a useful approach. These can be summarised as when:

1. *..the survey can be conducted with a convenience sample*
often the respondents self select themselves into the survey.
2. *..the survey is being conducted in an organisation that has a list of e-mail addresses for the target population*
contact being made initially by e-mail.
3. *..the target population represents a small slice of the total population*
use of respondents from a pre-recruited panel that can be targeted directly.
4. *..the sample size is moderately large*

- taking advantage of the lower marginal cost per respondent.
5. *..the survey contains questions of a particularly sensitive nature*
 - distance between researcher and respondent reduces chance of reflexivity bias.
 6. *..the survey contains a large number of important open-ended questions*
 - data automatically entered and there is evidence that respondents write more.
 7. *..the survey is a multimedia survey or contains interactive elements*
 - there is no other way to use technological innovations at a reasonable cost

These characteristics are fairly general and do not particularly assist the new researcher when setting out on their journey to evaluate all the research technique options and come to some decision about which techniques to use and through which medium. Essentially it is a question of balancing numerous research priorities (see Figure 1.0).

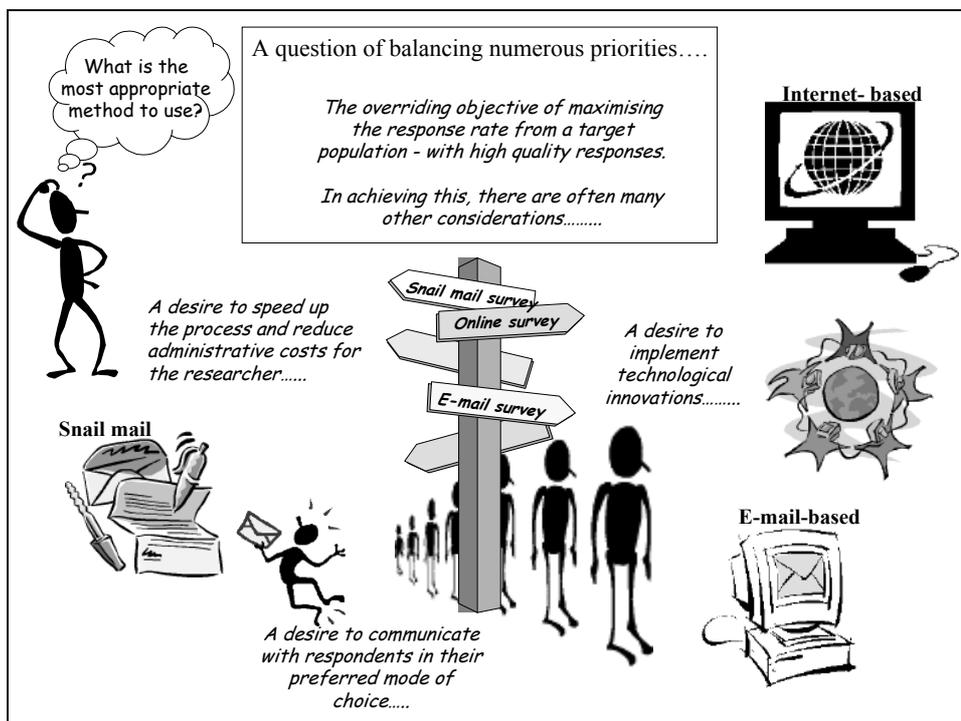


Figure 1.0: Balancing research priorities

However, in order to make a valid assessment of priorities one must first understand some of the benefits and pitfalls that might be encountered along the journey.

3.1 Potential Benefits & Pitfalls

There are a number of reasons often proposed for why one would wish to implement an online survey:

- they are less time consuming
 - they produce outputs of at least equal quality to more traditional methods
 - they are cheaper to conduct
 - they are easier to conduct
- (Schonlau, Fricher et al. 2001)

They are all inter-related. Miller and Dickson (2001) are advocates of online surveys in the context of market research. They argue that traditional methods can take a long time to implement due to separate and distinct phases of design, data collection, coding and analysis. The time taken to move successfully through the process can take weeks or even months and the costs involved are not only those of development but also of the researchers own time.

In an era where web years are 2-3 months and costs are continually being addressed, one can see the attraction in conducting research to improved timescales and costs. However,

online surveys are by no means always cheaper, easier or quicker to execute (Schonlau, Fricher et al. 2001; Vehovar, Manfreda et al. 2001). As we shall see later in a reflection on a personal experience, the quality of data entered online is not always comparable with that of a paper and pencil completed survey.

Figure 2.0 shows a recent review of survey response rates as reported in the literature. 31 studies were reviewed. Results are shown by mode of survey method and one can clearly see that using a combination of both online and traditional methods can deliver better results.

An interesting adjunct is that a study by Tse (1998) has shown that the initial response rate for an online survey can be quicker than other methods. This brings us to an extension of the researcher's dilemma of priorities – is the goal to maximise response rates or turnaround research quickly?

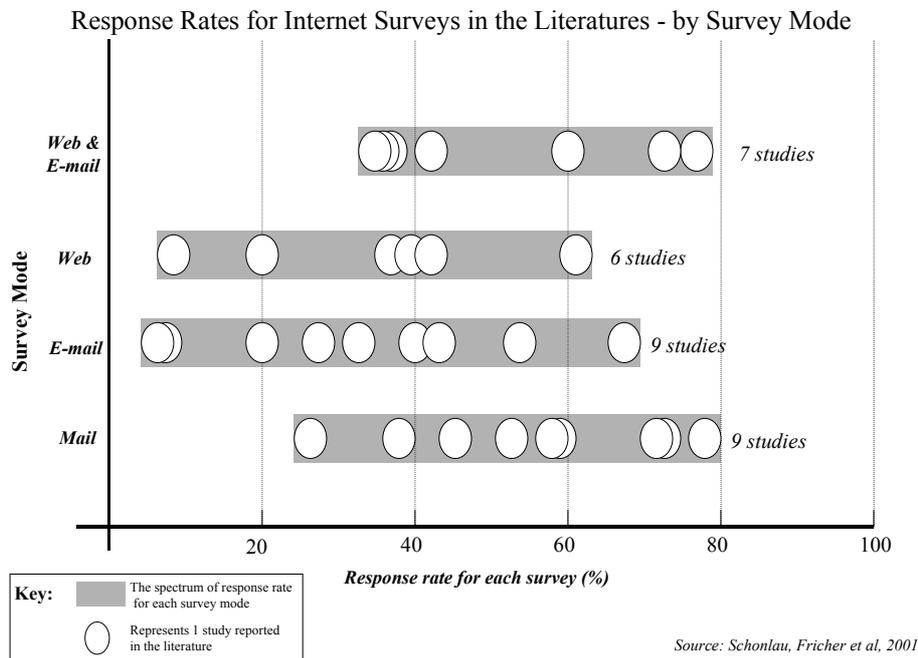


Figure 2.0: Response rates for Internet surveys in the Literature – by Survey mode

Not all research has shown that costs can be reduced through the use of online surveys. Whilst Vehovar and Manfreda et al believed online surveys to be superior in this regard, other research has shown that this is largely the case when purely postage and printing costs are taken into account (Schonlau, Fricher et al. 2001).

Considering recognised pitfalls with online survey's, the largest concern in the literature appears to be related to reliability and validity of the results collected through online means due to coverage error and the ability of respondents to access the Internet (Schonlau, Fricher et al. 2001). Depending upon the research this may lead to problems with

targeting a representative sample of the population. This problem is decreasing over time due to growth in computer access in the workplace or at home.

When it comes to potential technological and navigational issues, research has shown that respondents are generally comfortable with:

- online survey methods and may prefer online versions over paper and pencil versions or indeed interviews
- various methods of viewing online surveys including scrolling down long or partitioned forms and the presentation of single items at a time (Norman, Friedman et al. 2001).

4. The Experience

4.1 Background to the research

These anomalies can be best explored through the examination of a recent deployment of an online survey. Research conducted to date at Henley Management College has investigated Customer Relationship Management (CRM) from the position of business objectives behind such implementations (Ezingard, Nolan et al. 2001; McCalla, Ezingard et al. 2002) and has led to, amongst other outputs, the development of a taxonomy of CRM applications.

The classification developed was used as the basis for a content analysis of CRM vendors' websites. Three key business objective themes emerged of which a subset of objectives were derived. The three key objective themes were:

- Enhanced service quality
- Enhanced productivity and organisational adaptiveness
- Enhanced decision-making capabilities (of both the end customer and the organisation).

4.2 Questionnaire Design

Building on this research, a survey was designed to test the validity of these business objectives with organisations that have either implemented or are planning to implement CRM technologies in the near future. Through the use and development of existing scales a questionnaire was both designed and tested carefully referring to best practice in questionnaire design.

4.3 The Technology

The survey was administered using the 'TeleForm' software tool, which enables the

survey to be shown on the web in either 'pdf' or 'html' formats. The TeleForm software which sits behind the web server captures the data entered online and presents the administrator with data which can then easily be converted into an Excel spreadsheet for analysis. In addition, manual surveys can also be scanned into the software package thereby providing the researcher with the option of using multiple methods for collecting and integrating data. Initially the pdf online format was used for data entry. Due to technical problems (see section 3.7), the design was changed after the survey had gone live to a html format.

4.4 The Pilot

An expert reference group of academics were used as an advice panel on the questionnaire design before it was formally issued. The pilot group were 6 members of a CRM implementation project who all had different stakeholder perspectives on the same CRM implementation.

4.5 Determining the Sample

The target population were organisations who had either implemented CRM implementations or who had such technology investments on their investment plan. A professional services membership body were identified and approached to partner with in this research endeavour.

22,000 members were targeted through an e-mail initially via their monthly newsletter. Each one of these members have selected to receive these newsletters and so were deemed as likely to have the appropriate technology to access online surveys.

Follow-up newsletters referred to the research campaign and was supported by a presence on the membership body's own website.

4.6 The End Result

After a week of the survey being live on the website only 3 surveys had been completed from a target population of 22,000 respondents. Over the forthcoming weeks the response rate did not improve significantly and finally, alternative respondents were sought:

- College alumni population
- Also targeted through a web-based newsletter that was delivered by e-mail. However due to the institution's relationship with Alumni, it was

anticipated that a higher response rate could be obtained.

- Snail mail mailing to 155 IT Directors and Managers provided through a forum of business managers facilitated through the College's own network. This list was known to be of a high quality.

4.7 The Respondent's Experience

There were two specific examples that demonstrated problems respondents faced in participating in the online survey. One is related to a technology issue and the other related to understanding clearly that this was a piece of research they may wish to participate in.

4.7.1 Technology Failure

Within two hours of the survey going live a respondent had attempted to post a response but due to technical constraints with their desktop, the survey's complete functionality was not operational. Consequently, the respondent did not submit the survey successfully. The respondent, in an attempt to find alternative means of submitting his response, attempted to save the data to a file and e-mail it.

The file he attempted to save was in pdf online format and the technology appeared to let him complete the action successfully – he dutifully e-mailed through to the contact e-mail address provided.

However after interrogation of the file, we realised that he did not have the full version of the pdf software and so had only succeeded in saving and e-mailing the blank questionnaire (all data was lost during saving).

The initial technology failure had been that only certain versions of pdf software would be able to see the 'submit' button on the web page. Also if the respondent involved had different computer settings, this may have also affected his ability to see the submit button.

The experience of the respondent was one of frustration and required a personal apology by the researcher.

4.7.2 What Research?

After poor response rates were noted a number of respondents were contacted and invited to give feedback as to their lack of participation. The majority had not seen the

newsletter with only one respondent giving a detailed response:

"I did see the newsletter with the e-mail invitation to take part in the research, but just glimpsed at it – I didn't bother to read the detailed briefing and so wasn't aware of it. I will be happy to take part now I know more about what it is about"

4.8 Reflections

- Technology failure could have led to low response rate

Whilst the technology problem was a significant stumbling block, the technology failure was resolved within hours of it being noticed. However, considering Tse's (1998) research discussed earlier (see section 2.1) if one of the benefits of an online survey can be a higher initial response rate such time lost at the beginning of the launch of an online survey may have contributed to the poor response rate.

- Poor communication & differing of priorities

A significant problem is that it appears that respondents may not have seen the invitation. In this case, the actual link to the invitation appeared towards the end of the newsletter. As research generally appeared in this area in the standard format, it was not considered to be an issue by the membership organisation. However this was not communicated properly or discussed as part of the negotiations in the research relationships. The design problem was not determined until after the e-mail had been distributed.

- Respondents may have changed their e-mail address

In this case there is no way to determine this as the information is not readily accessible by the research organisation.

- The level of questions was specific and required a certain level of knowledge in order to be able to complete. Whilst respondents were invited to pass on the survey to a colleague if they preferred this may not have occurred.
- Last but by no means least, a larger problem may be the problem of information overload. Marketing and research survey's are prolific and arrive via the postal system as well as through e-mail. With no financial incentive offered, it is likely that a large portion of the population base placed completion of the survey low down on the list of priorities.

5. Online Survey Tools – A Review

Despite these problems and personal reflections the process has been an interesting learning experience. The technology constraints posed by the software used may have been circumvented if we had used an alternative online survey solution. This section details some of the potential options to enable those interested in pursuing online solutions further.

Chatfield-Taylor (2002), provides a useful review of a number of online survey tools. They argue the choice of tool is dependent upon 3 key factors:

- The research budget
- The researchers competence in survey design
- The analysis outputs required

They go on to summarise a few key features that would be desirable in any online tools:

- Simple survey construction without the need to know html coding
- The ability to choose multiple question formats (e.g rated scales, multiple choice, open-ended etc).
- The ability to import data for list segmentation and personalisation.
- The inclusion of analysis tools to enable cross tabulation.
- The ability to export data for manipulation, in conjunction with graphical representation of results

However, which tool do you choose? A search on the search engine www.Google.com for the term 'online survey tool' (30th January 2002) retrieved a search result of 725 documents. There is clearly a large range of tool options to choose from and we could not possibly provide in this report a review of all the tools available. Chatfield-Taylor (2002) provides a useful overview of some of the key types of tools on offer, which we have adapted and added to in *Table 1.0*:

Table 1.0: Review of A Range of Online Survey Tool Providers

Type	Examples	Description
Professional Survey Management Company	Exhibit Surveys Inc www.exhibitsurveys.com Decision Analyst Inc www.decisionanalyst.com Perseus www.perseusdevelopment.com Socratic Technologies www.sotech.com Snap Survey Software www.mercator.co.uk	<p>Where you would prefer to outsource the design and development of the survey to an outside organisation, there are a number of consultancies that will assist with the entire survey process from conceptualisation through to data analysis. This is potentially a more costly option but perhaps useful for complex or very large scale surveys.</p> <p>There is a broad range of companies that fit into this level of provision. Some only offer consultancy services and others offer lower levels of support and / or the software purchase only.</p> <p>Where software purchase is available tools are generally intuitive and do not require expert knowledge in HTML to be able to use successfully.</p>
Pay as you go tools	WebSurveyor www.websurveyor.com Surveypro.com www.surveypro.com	<p>Chatfield-Taylor (2002) describes these tool as flexible due to the pay as you go function. She goes on to explain that there is no restriction on the number of questions you can ask or on the amount of responses you can receive. 'WebSurveyor' in particular appears to be quite popular in this arena and is used by some well-known websites to evaluate their services. The flexibility also extends to the look and feel of the site – you can use your own branded image with this tool. Free trials are often offered with these tools.</p>
Limited free tools	Zoomerang www.zoomerang.com	<p>There are free tools that allow you to be able to create a survey with a limited number of questions and disseminate to your address list relatively quickly and cheaply. These have become very popular and are obviously cheap to use if you have a simple survey requirement. Such tools are quite intuitive and some such as 'Zoomerang' have a number of templates to assist you. There is a subscription charge if you require the ability to construct more complicated surveys and which results to be made available in a spreadsheet format. (Chatfield-Taylor 2002)</p>

6. So are Online Survey's of Use?

This paper has attempted to highlight some of the research issues that must be considered if an online survey is to be implemented effectively from a personal research experience. We can see from both the theory and the practice, that there are many potential benefits that can be gained from taking **Table 2.0:** A Summary of Lessons Learned

advantage of the developments in technology. However, there are a number of lessons that have been learned from this personal journey into the use of the online survey method. These have been summarised in *Table 2.0:*

Process Stage	Lessons Learned
Survey Design	One must not forget that the medium is the message. It is vital that the well-documented best practice in usability design is built into the survey design process. The technological interface should not be of consequence to the respondent. This means that technological innovations used to reduce the amount of errors on data entry should be used with discretion.
Survey Design	Form rules which activate mandatory field functions, should be kept to a minimum, otherwise respondents are likely to be confused or annoyed. The temptation to make as many fields as possible mandatory in order to reduce occurrences of incomplete or inaccurate data must be resisted at all costs. Failure to do so may result in respondents not submitting an online response.
Dissemination	E-mail invitations are an excellent mechanism for attracting respondents. Design of the e-mail and links to the online survey must also follow best practice usability design principles. e.g. the number of clicks required must be kept to a minimum.
Dissemination	Where e-mail newsletters are used, there must be careful consideration of where the research fits in the priorities of the newsletter content. Placing the link to the survey at the bottom of the newsletter is likely to reduce response rates
Dissemination	This consideration also extends to the research invitation appearing on a supporting website. Whilst online surveys can prove useful for convenience samples, it requires respondents from such a target population to be able to find the research in order to be able to 'self-select' themselves into the research. Obviously any negotiations that can be made to reduce this potential barrier must be negotiated early in the survey design process in order to be able to enable smooth dissemination of the survey.
Completion & Submission	Respondents must be able to report a technical problem with the survey quickly and easily. In terms of timescales, errors on the web may result in hundreds if not thousands of potential respondents being unable to access or submit an online survey. Once the opportunity for the respondent to complete the survey has gone it is unlikely that they will return.
Completion & Submission	Due to the reductions in mandatory fields discussed at the survey design stage, it is highly likely that online surveys may have missing or incomplete data. Hard copies of the same survey, completed manually, were completed to a higher standard. This has consequences for the analysis phase.
Analysis	The potential for missing data permeates to the analysis stage. The only solutions here are the standard approaches: to either use missing data statistical methods to deal with the issue or to approach the respondents to ask them to complete. The key lesson here is to ascertain the likelihood that there will be a high volume of missing data and make a trade off decision regarding whether or not to insert mandatory fields.
Feedback	If the online survey is used in conjunction with other more traditional methods of survey the timescales of the analysis may be extended. Where respondents have been invited to select into receiving a summary of the results, it may be necessary to make contact with respondents to inform them of an anticipated date by which the results will be issued.

In addition there have been two significant findings – one technology related and the other related to the organisation of the research.

Table 3.0: Two key findings – a personal reflection

Technology	Research organisation
Where an online survey method is used, the potential technological constraints that may be present for the end respondent must be considered in order to reduce problems and the potential to isolate respondents. When necessary, the lowest common denominator must be used at the expense of other features such as interface design.	Where the researcher does not have control over the dissemination of the e-mail invitation, there needs to be early communications with the third party research partner in order to ensure that the respondents will be targeted in the most effective manner possible. There is potential here for conflicting research priorities and negotiations around this should be factored into development time at the beginning of the process.

7. Conclusion

Whilst online surveys have their place in quality research endeavours and can prove a very effective method to reach your target population, the process may be more complex than first appears.

Technological innovations that seem tempting at first glance can prove difficult to manage and may inhibit respondents from submitting online survey's successfully.

We do not argue that by addressing all of these lessons one can experience a perfect implementation of a survey. Rather the aim has been to simply reflect on a personal journey and highlight the dangers of oversimplifying the benefits and pitfalls of online surveys. There is a danger that casting your net out too wide, in a bid to maximise responses can result ultimately in a low response rate.

The proclaimed time and cost benefits claimed by proponents of online survey research are not always applicable. We agree with the findings of Schonlau, Fricher et al (2001) that although useful, one may want to conduct an online survey in conjunction with more traditional methods in a bid to improve reliability and validity of the data collected. This would still enable the researcher to benefit from some of the economies of using an online approach, whilst hopefully reducing some of the problems of actually making contact with your target population.

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