Internet-based Research: option in research

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Introduction

Research utilizing the internet has become more popular in recent times. Internet-based research includes online surveys, web page content analysis, video-conferencing for online focus groups and/or interviews, analysis of ‘e-conversations’ through social networking sites, email, chat rooms, discussion boards and/or blogs.

It has been carried out in qualitative research, utilizing questionnaires, qualitative research as well as experimental studies in many fields of social sciences, health sciences and education.

Implementing Internet based research

The process involved in this research follows that of the traditional way including the development of the proposals as well as the validated questionnaires. However, the validated questionnaires need to be uploaded on to the website dedicated for the research. During the data collection, potential respondents are identified earlier and contacted either by individually or group e-mails, with a cover-letter, inviting them to participate in the research. Most often the respondents are directed to hyperlinks of websites specifically designed for the research. With the click of the mouse, the questionnaire/proforma will appear to be filled. Reminders, in the forms of e-mails or other technologies have been utilized to ensure that the respondents respond. This form of data collection can be completed in a much shorter time as compared to the traditional data collection. After completion of the data collection, the databases are linked with spreadsheet for further processing and analysis. Preparation of the data entry process might be tedious and very specialized, with some cost incurred.
Internet-based research is perceived as an easier way of collection of data, assessing the research subjects, and with costs of development of the specific computer system, seem more feasible for unfunded research projects.

The respondents have the choice of how to fill the on-line questionnaire, which could be done at his own pace, with gaps and at his own convenience. Thus respondents’ fatigue and boredom can be overcome.

**Selection of samples**

Evidence showed that Internet-based research can produce representative results. It is very useful in certain population who are difficult to access. This method of data collection is very useful in an e-powered society, those who have internet access, possess some knowledge and skills of the usage of the computers and some understanding of language used. This is very attractive to young people who are very acceptable to new technologies. As such this method has been gaining popularity among research in universities, institutions as well as occupational settings.

However, over-representation of certain populations like college and university students is most likely to occur. The existing selection bias make generalizations to other populations especially among those who do not possess internet coverage, of older age groups and certain socio-economic status are impossible.

Random selection of respondents is possible to be done in closed, Internet-based research, provided the sampling frames of the email addresses are available. The author had embarked in a cross sectional study utilizing the e-mails of an alumni which was sampled using the simple random method (Liwas J et al, 2013). Most often, researchers resort to the non-random snowball sampling when other methods fail to provide the response.

However in an open survey, anyone interested can participate without any restrictions. The samples then are unrepresentative and making conclusions regarding the outcomes studied would be difficult and problematic.

**Response rates in Internet-based research**

Response rates are counted differently from Internet-based research, as compared to the traditional ones. In Internet-based research, response rate are calculated from the numbers who completed the on-line questionnaire, divided by the number of visitors to the website, multiplied by 100 (Duffy, 2002).

Results from this type of research tend to be much lower than the traditional methods. Giving honorarium, regular contacts and reminders are useful in increasing the response rate (Najafi F, et al 2014).

**Ethical Issues**

Research institutions ethic committee stress on three important principles as laid by the Belmont Report of 1978 (a) *beneficence* (i.e., lack of harm and/or received benefit), (b) *respect for persons* (i.e., confidentiality and ability to withdraw from research), and (c) *justice* (i.e., opportunity for all participants to benefit from outcome)(Belmont Report 1978).
In regards to internet based research, all the above principles should not be neglected. Informed consent need to be obtained before the actual collection of the data itself. Anonymity should also be observed stringently. Security of the information need to be looked at. Firewalls to prevent hacking and the use of passwords, PIN codes, and access codes need to be inplace for this method of data collection.

Research on minors need the consent from parents and guardian. In this kind of research, there are many possible ways of non-adherence. Deception of age or the actual identity of the chosen respondent can be easily practiced and most often goes undetected. Online space with unclear guidelines can cause harm and violations to personal information.

**Issues in related to participation**

Generally, the public are still suspicious regarding Internet-based research, especially when imparting personal information. This could be attributed to the many gaps in guidelines as well as protection of the individuals’ privacy.

The researchers sometimes are not identified clearly, as opposed to the traditional face-to-face encounters which are personalized with interpersonal warmth. The author and group, in another internet-based study of the intervention type, made several attempts to approach the respondents in person, to gain confidence and develop rapport. Subsequently frequent emails, phone call reminders were also implemented, which has resulted in a good response rate of 90% among the intervention arm (Najafi F et al, 2014).

**Conclusion:**

Despite it being relatively new, internet-based research is very promising and challenging for all researchers. It is best done on selected groups of people. Issues regarding validity need to be addressed with great caution. Development of the system need to be thoroughly addressed for optimum and valid research outcomes. The ethical issues cannot be ignored. All possible attempts need to be undertaken for the best response from respondents.

**References:**


