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Investigating the Benefits and Challenges Associated with E-Surveying- A Review



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ABSTRACT

Email and Web surveys are the major evolution in the recent era and the limelight lies in their abilities in shrinking the errands of researchers' through simplification of their data collection process. Researchers in the recent times have started to adapt the internet as their prime platform for collection of primary data for their research. E-surveying or Internet based survey process has its own benefits and challenges like any other technique. This paper identifies both the benefits as well as challenges associated with the adaptation of E-survey technique by a researcher for data collection through a systematic review of existing literature. The review reveals that E-surveying technique is faster, better, less expensive and less demanding when compared with that of manual surveys. At the same time, E-surveying is prone to some ethical issues, usage issues and security related issues. This study brings into picture both the benefits and challenges associated with E-surveys.

1 INTRODUCTION

With the arrival of the World Wide Web (WWW) and Electronic mail (Email), the Internet has given new ways in surveying. Instead of taking the survey by sending paper based questionnaires through postal mails, these days the target respondents involved in the primary data collection in a research, are being given a link to a website that has the survey questions. As the next development the questionnaires are being sent to the target respondent by means of email, potentially as a connection, in the name of email surveys. Internet based surveys as pointed out by Couper *et al* (2001) do offer new kind of abilities to the survey approach when compared with that of the traditional paper based survey approach such as phone, postal mails, face to face meetings and so on.

In the year 1980s and mid 1990s, preceding the far reaching accessibility of the Web, email was initially investigated as a survey approach. Likewise with the Web, email opens the chance of almost quick broadcast of surveys to beneficiaries while evading the postal expenses. The Early email was fundamentally ASCII content based, with simple designing, best case scenario, that tended to restrain their length and extension (Zhang 2000; Parker, 1992). In the time of mid-1990s, the web has developed and immediately after the E-mail emerged, an internet based survey has been raised and there came the problem of difficulty in performance (Hamilton 2001). Subsequently, "fast surveys" and different sorts of stimulation surveys have turned out to be progressively prominent and prevalent on the Web.

Internet-based surveys presently stand as the trendsetters specifically in light of three suppositions: (a) Internet-based surveys are less expensive to handle; (b) Internet-based surveys are speedier and, (c) if it is joined with other survey modes, they give higher rates of response than ordinary survey methods by them.

Researchers who make use of electronic surveys, there will be a quickly developing set of literature tending to outline problems and giving arrangements of expenses and advantages connected with electronic survey strategies (Schmidt, 1997; Lazar and Preece, 1999; Stanton, 1998). Possibly the three most basic explanations behind picking an e-survey over conventional paper-and-pencil methodologies are (1) diminished costs, (2) quicker reaction times, and (3) expanded reaction rates (Lazar and Preece, 1999; Oppermann, 1995; Saris, 1991). In spite of the

fact that research in the course of recent years has been mixed on the acknowledgment of these advantages (Mehta and Sivadas, 1995; Kiesler and Sproull, 1986; Sproull, 1986; Tse *et al* 1995), generally, researchers concur that quicker rate of response and reduced expenses are achievable advantages, while rates of response contrast in light of variables ahead of administration mode only. This study tries to identify the benefits and challenges associated with E-surveying/internet based survey/online survey. Internet based surveys are prominently increasing nowadays and it can be done at no time and effort. However, there are some drawbacks and proven challenges in this kind of data collection when compared to manual data collection. Hence the below sections shall proceed with the major reviews on the benefits and challenges concerned with E-surveying/internet based survey/online survey.

2 LITERATURE REVIEW

2.1 E-Surveying as an interest for researchers of the recent times

The Internet revolution has emerged and influenced the process of research in such a way that huge time is saved in data collection for a researcher. With the internet, the researcher also requires to put very less effort when compared to the conventional data collection strategies. Through the World Wide Web and its ability of supporting interoperability of information structures, the Internet has transformed into a fundamental place for test demand in various zones of health and academic investigation developments. As a result Internet based surveys have drawn the interest of many researchers in the recent times. For instance, Leung and Lee (2004) and Jackson (1999) researched Internet-based experiences and individual fulfilment. Dillman (2000) experimented on the rational implications of the Internet as a social setting. Huberman & Miles (1994) considered the impact of the Internet on long range interpersonal correspondence and social support for creating social capital. Cassell *et al* (1998) examined the amplexness of 'e-wellbeing' elements for a combination of individuals and masses. A specific issue of the journal of Health Education Research focused just on the modernized "mob" happening within health and academic instruction research and practice. A study by Szlemko & Benfield (2006) identified that it was not till the latest time that the usage of the Internet for key information collection began to rise. Their chase of the Web of Science bibliographic database shown only 494 evaluated articles circulated in and around 1996 and 2006 when the "word web based

research", "electronic data collection" and "Internet research," were utilized. Similarly, the study conducted by Duffy, O'Connor and Madge (2003) and Liamputtong (2002) recommended that the discussion on e-research must be stretched out to empower and bring forth practical adjustment such that Internet-based theory can propel and best practices can be created thereby guiding the researchers.

2.2 Benefits of E-surveying

2.2.1 Greater response Rate

A standard approach to evaluate the survey execution is by looking at response rates with different survey modes. The study done by Parker (1992) reveals that E-surveys attained a high and equal response from the target participants of the investigation. The author carried out a survey with 140 expatriate employees of AT & T concerning the factors concerned with the expatriate and repatriation of employees. The study is conducted through E-survey. The response rate is 63 percent (from 100 mails sent, 63 were replied back) and this is a contrast of postal mails which acquired only 38 percent of response rate (from the 40 postal sent; only 14 replied back).

Likewise from the study carried out by McCabe *et al.* (2002), the students of Michigan University were the targets and the target was 5000 that were chosen randomly about the medication and liquor use. In that survey, 2500 potential respondents were sent with mail surveys and 2500 respondents were requested for the postal survey. A gift of \$ 10 was offered to both the group of respondents as a motivating factor to participate in the research. As a result, the author acquired 63 percent response rate for web-based and 40 percent for the other.

The other main study that abled with a high response rate with the internet-based survey was carried out by Walsh *et al.* (1992). In the study potential respondents were informed through email and given the choice to respond by email or demand a paper survey by postal mail. The author found that 76 percent of the respondents answered by email and the postal response rate was only 24 percent.

2.2.2. Speedy data collection

In addition to the fact that the Internet stands as a target for the researchers in health and academic setting, in collecting survey data, it has been identified that the Internet plays a major role in secondary data collection as well (Andrews *et al* 2003). Wood *et al* (2004); According to Wright (2005) researchers make use of the Internet generally for secondary data collection which is the data derived from existing Internet-based sources namely, bibliographic databases (i.e. peer evaluated journals, data from library and so on), government databases and lists (like system reports, people measurements and so on), maps, changing media records and data documents.

As McCoy & Marks (2001); Nielson (2000); Norman *et al* (2001) says that, further, as a new development research organizations that agree health training researchers to join in a range of vital Internet-based information gathering work have aroused in the recent times (Paolo *et al* 2000; Pereira *et al* 2001; Sheehan 2001). Concerning speed, sending questionnaires out and obtaining them by means of EST (E-mail survey technique) are quick. Mail survey can be carried out with more than thousand individuals at the same time easily and through this, every single respondent will get the survey questionnaire without any effort and in a very short span of time (Sproull and Kiesler, 1986). Moreover, responses for the mails can come back pretty much as quickly as the respondents check their email day by day. None of the current survey procedures can furnish investigators with such speed in contacting determined people. In this way, EST guarantees to give information in an opportune way when a speedy answer is being looked for.

Authors, Sivadas and Mehta (1995) have recommended, EST yields quick information not just on the grounds that email is a quick correspondence medium additionally in light of the fact that people are prone to react all the more rapidly to an email, though, in examination, a mail survey might stay on an individual's work area for quite a while. In like manner, EST is a standout amongst the most advantageous information accumulation systems. As the time that survey is produced, it will be messaged effectively. EST spares time that is required for a general postal survey like photocopying survey questionnaires, stuffing envelopes, and tending to active mail. Since a copy of all e-mails can be sent to the recipients at a single stretch (through cc, bcc) in the electronic mailbox, EST additionally makes repeated communication with respondents, for example, sending follow-up questionnaires in a simple way.

2.2.3 Cost effective

A study from Raziano *et al.* (2001) portrayed that in a small investigation of 110 Geriatric Chiefs in the US, register the expense per respondent for their mail study costs to be \$7.70 and for their postal costs \$10.50. The framing time to build the email survey is figured into this estimation. Though, the aggregate framing time represented, two hours, might be unreasonable for an expansive or confounded survey operation. Additionally, these evaluations neglect to mirror the postal costs response rate derived from the principal mail-out surpassed the email cost response rate after contact efforts. Thus, in a given needed response rate, the distinction in expenses will be less as few mails required.

From the study led by Schleyer and Forrest (2000) obtained responses through the Web, via fax and mail, and identified that the aggregate expenses for the Web survey ended up with 38 percent less than equal mail survey which reduced the cost. Online surveys reduce costs and photocopy charges, postal charges can be saved. Moreover timely delivery of data will help in further money saving (Witte *et al* 2000).

In the study conducted by Asch (2001), the responses through the web are recorded as 580 through The Web and when the internet is set as the mode for essential response and surveys are mailed out to non-respondents as it were. The counts depend on the exchange off from the normal funds in printing and postage and work expenses to plan mail survey codes and bundles the consequent survey returns besides the normal additional expenses of framing, further maintenance and administration effort, and maintaining a phone line for the Web survey. Cost savings are the result of the study since it secured more than 1,000 Web responses.

2.2.4 Quality

Tse (1998) and Tse *et al* (1995) found no distinction in the quality of responses from postal mail and email survey respondents.

A study by Walsh *et al.* (1992) reports that self-chosen participants give higher-quality answers than chose participants in a random manner, as may be normal. Open-ended answers from self-chosen target respondents were huge that those from randomly chosen respondents, and self-

those participants missed a normal of 5% of close-ended inquiries vs. arbitrarily chosen target participants who missed a normal of 12%.

A study by Zang (2000) results in the better data quality as the web-survey participants have a high self-perceived capability to exercise the internet and they can be able to know the importance of the requirement and hence their responses will be in better quality. In his study, the participants are divided into two age groups, one is in middle-age and the other is seven years lesser. Though the web access is equal among the two groups and the quality of responses given by them are equal and acceptable.

From a study by De Leeuw (2012), it is revealed that data collection has changed its pace in the changeover of time. In the present age, internet-based surveys help the researcher in collecting fast and reliable data. The collected data can be then and there evaluated for validation methods and thus quality of the data can be maintained.

There is a belief that the quality of data will be varied for qualitative and quantitative data collection but numerous recent investigations portray that there is no significant difference between both methods. Lindhjem and Navrud (2011), Nielsen (2011) and Marta reveals from their study that the assumption and the means of the quality estimates from group valuation procedures are the same in interviews as well as in the online survey.

2.3 Problems or challenges associated with E-mail surveys techniques (EST)

According to Rowe and Couper (1996) when it comes to E-survey technique, the researcher has been getting a change in response from participants like less instructed people, aged participants and those with less computer knowledge. Such participants are less inclined to finish a self-controlled system based survey. For these kinds of participants in person meeting will help a lot to interact well with the researcher. The study identified that the researchers' accomplishment of appropriate data collection through E-surveys is purely dependant on the nature of population under study. Further, Anderson and Gansender (1995) and Dillman (1991) have identified that the usage of E-surveying as a technique for data collection will result in successful data collection by a researcher only when the demographic profile of the respondents under study is suitable for E-survey technique.

As Daff and Lengel (1984); Daft and Lengel and Trevino (1987) major drawback in an online survey are fraud. Survey statistics clearly depends on the reliability which is called panel integrity. E-mail and online surveys will set minimum time frame that will result in very short and irrelevant answers by the respondents just for the sake of completing the survey. Some people are getting irritated by surveys and knowing about the survey software, will block the portals to avoid them completely. In this point of view, up close and personal cooperation is seen as the strong medium, trailed by phone, electronic mail, letters, and notices. In actuality, email offers restricted intuitiveness and educational prompts contrasted with up close and personal collaborations. Undoubtedly when compared with other surveying systems, EST includes low transmission of nonverbal signs, shifted language, timely criticism, and low feeling of personalization.

Primary information gathering by means of the Internet is prone to several security related threats (Hewson, Laurent, and Vogel, 1996). The information is most inclined to hacking, debasement, and so forth, while these are being exchanged from the respondents' computers to the investigators' computer. One moderately simple technique for constraining these conceivable outcomes is the encryption of information amid transmission. Authors Nichols and Childs (2009); Potter (2003). Information encryption might be refined through different techniques, yet from the IRB (Institutional Review Board) perspective, the strategy for encryption has all the earmarks of being of less significance than the way that encryption is being finished. Obviously, accommodating information encryption can add to the expense of the venture.

E-surveying can result in ethical challenges as well to the researcher. When conducting Internet surveys, there is a potential danger which is nothing but the probability of getting anonymous respondents for a survey (Pittenger, 2003; Waern, 2001). E-surveying lack in assessment process since the physical presence of the researcher does not take place and this will restrict the ability of the researcher to deal the risks that arise in the study participation (i.e. emotional distress etc) (Blackstone *et al* 2008; Ray *et al* 2010; Hair & Clark 2007). Online surveys will also increase falsification of participants and this will lead to ethical issues (Madge 2007).

3 Findings

E- surveying					
Benefits			Challenges		
Factor	Year	Author	Factor	Year	Author
Higher response rate	1992	Parker	Non users of Computers	1995	Oppermann
	2002	McCabe <i>et al</i>		Couper & Rowe	1996
				1984	Daft <i>et al</i>
				1987	Trevino <i>et al</i>
1992	Walsh <i>et al</i>	Demographic status of respondents	Anderson & Gansender	1995	
Speed	2003	Andrews <i>et al</i>	Fraudulent activities by respondents	Dillman	1991
				1984	Daff and Lengel
				1987	Daft and Lengel and Trevino
				1994	Schuldt & Totten
2001	McCoy & Marks; Norman <i>et al</i>	Security challenges	1994		
2000	Nielson; Paolo <i>et al</i>		1995	Kittleson	
2001	Pereira <i>et al</i> ; Sheehan		1995	Anderson & Gansender	
1986	Kiesler & Sproull		1996	Bachmann <i>et al</i>	
1995	Mehta & Sivadas				

Cost effective	2001	Raziano <i>et al</i>			
	2000	Scheyer & Forrest			
	2000	Witte <i>et al</i>			
Quality	2001	Asch	Ethics	1996	Hewson <i>et al</i>
	2000	Paolo <i>et al</i>		2003	Pittenger
	1986	Kiesler & Sproull		2001	Waern
	1998, 1995	Tse <i>et al</i>		2008	Blackstone <i>et al</i>
	1992	Walsh <i>et al</i>		2007	Hair & Clark
	2000	Zhang		2010	Ray <i>et al</i>
	2012	De Leeuw		2007	Madge
	2011	Lindhjem & Navrud; Nielsen			

4 DISCUSSION AND IMPLICATIONS

To conclude, it is very clear that that Internet-based survey accomplishes higher response rates when compared with that of ordinary surveys. Further E-surveys helps the researchers in collecting the data at a faster rate and in a cost effective manner. The collected data will be in high quality and the evaluation can be done so fast since all the actions are done in the computer. Collected data can be analysed such. The participants of the survey will be internet users and thus quality and inability in handling the questionnaire can be avoided in online surveys. Looking into the challenges encountered by the researchers who employ E-survey technique as a tool, the first and foremost challenge is the knowledge of the respondents towards the usage of the computer. The demographic profile of the respondent highly influences his/her knowledge towards the usage of the computer. As a result, it is not possible in all cases for a researcher to employ E-survey tool. In addition to that, there are also ethical and security related issues

associated with E-survey technique. E-surveys sometimes lead to fraudulent activities by other people. E-surveys are not useful when respondents are not interested and ethically it is very weak.

5 CONCLUSION

To conclude, Email surveying technique is appealing on the grounds that it allows simple information organising, space adaptability, and fast communication about the survey with all the respondents crosswise over space and time. However, it also has limitations such as non-users of computers, survey fraudulent activities, security as well as ethical issues. Though there are many challenges faced in E-surveys, the researcher of today choose e-surveys to save time and money. The drawbacks can be handled well with some strong measures by the researcher. Thus online data collection has become increasing with few pitfalls that can be managed well.

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