

Business Education Leaders Compare E-mail and Regular Mail Survey Research

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As we step into the new century and adapt to many new technological advancements, researchers are looking to technology to increase the effectiveness of the data collection process. Indeed, researchers have touted

the notion that e-mail will be the preferred survey delivery method in the 21st century (e.g., Bachmann, Elfrink, & Vazzana, 1996). Several writers have outlined the strengths of e-mail technology as a survey delivery method

(e.g., Oppermann, 1995; Thach, 1995; Truell, 1997). As a technology, e-mail offers several strengths as a survey delivery method, chiefly delivery/response speed, lower costs, worldwide geographic coverage, favorable response

rates, ease of editing, openness of responses, environmental correctness, semi-interactive nature, and a variety of response options (Truell, 1997). Despite the strengths associated with using e-mail technology for survey delivery, it behooves researchers to compare the use of this technology with an established method such as postal mail prior to making decisions on its appropriateness for use. Indeed, Truell (1997) noted that the difficulties of using e-mail technology for survey distribution will likely be reduced as researchers conduct more e-mail research and establish a protocol.

Researchers who have used e-mail technology for survey delivery report mixed results. Investigators, in the majority of studies, have reported higher response rates for postal mail than for e-mail delivered surveys (e.g., Bachmann et al., 1996; Kittleson, 1995; Mavis & Brocato, 1998; Tse, 1998). Kawasaki and Raven (1995) reported mixed results depending on the participants involved, while Parker (1992) indicated a higher return rate for e-mail than for postal mail surveys. In addition to response rates, e-mail and postal mail surveys have been assessed regarding response speed and response quality. In all cases, email surveys were distributed and returned faster than postal mail surveys (e.g., Bachmann et al., 1996; Mavis & Brocato, 1998; Oppermann, 1995). Researchers have reported similar response quality for the two methods (Mavis & Brocato, 1998; Mehta & Sivadas, 1995; Tse, 1998).

The literature contains relatively few studies that compare the

effectiveness of email technology with postal mail as a survey delivery method (i.e., Bachmann et al., 1996; Kiesler & Sproull, 1986; Kittleson, 1995; Marvis & Brocato, 1998; Parker, 1992; Rafaeli, 1986; Schuldt & Totten, 1994; Tse, 1998). In fact, "the potential for collecting data through e-mail is relatively unknown in the social sciences" (Kittleson, 1995, p. 27). Mehta and Sivadas (1995) stated that "very few studies have attempted to evaluate newer information technologies as a way of collecting data" (p. 429). Many of "the earliest studies of e-mail surveys were restricted to populations sampled from within a single company or university" (Bachmann et al., 1996, p. 31). Consequently, this research builds upon the previous studies that have examined the feasibility of e-mail as a survey delivery method by assessing its effectiveness for use with leaders in the field of business education and by incorporating recommended design changes put forward by earlier researcher into this study. Results of this study are expected to provide insight as to the potential of using e-mail as a survey delivery method in a setting involving leaders in the field of business education.

The Why and How of the Study

We worked to examine the response rate, response speed, and response quality of e-mail and postal mail surveys distributed to business education leaders. Specifically, we wanted to determine (a) the response rate of e-mail and postal mail surveys distributed to leaders in the field of business

education, (b) the response speed of e-mail and postal mail surveys, and (c) the difference in the response quality of e-mail and postal mail surveys. Two hundred fifty-six leaders in the field of business education included on the Business Education Professional Leadership Roster that appeared in the December 1998 issue of *Business Education Forum* with working e-mail addresses served as study participants. A 10-question dummy survey containing five closed-ended and five open-ended questions was used to collect data. The same questions were included in both versions of the survey with the e-mail version consisting of a slightly different format to avoid any potential word wrap viewing problems. Recipients of the e-mail version of the survey were also provided additional options of returning completed surveys by regular mail or fax because of the flexibility these options reportedly provide respondents (Parker, 1992; Truell, 1997). The 256 participants were randomly assigned to one of two groups. One group was e-mailed the survey while the other group was mailed the paper version of the survey. Three weeks following the initial distribution, a follow-up e-mail or postal mail survey was sent to nonrespondents. Data collection ended on day 56 of the study.

What We Learned

Using the Statistical Package for Social Sciences (SPSS), we used descriptive statistics of means and percentages. We also used tests to determine differences on response speed and response quality. Tests of

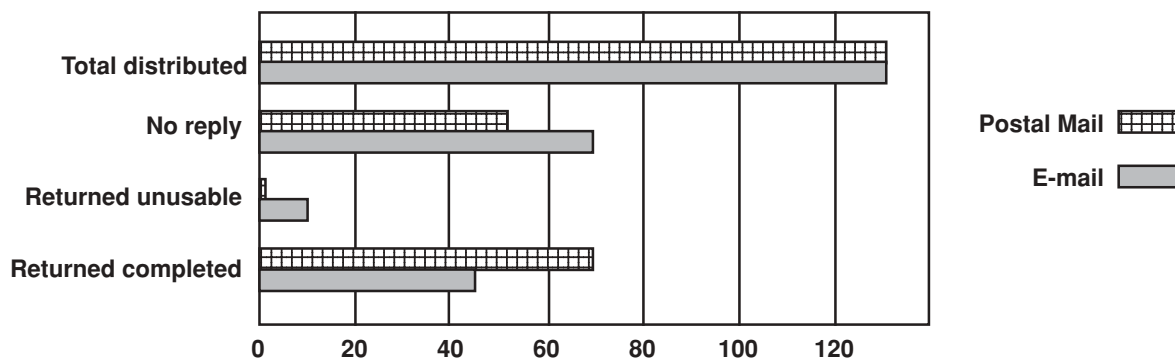


Figure 1. Response rate for e-mail and postal mail surveys.

significance were set at $\alpha = .05$.

For Objective 1 (Response Rate): Of the 128 e-mail surveys distributed, 59 (46%) were returned to the researchers in one form or another. Specifically, 34 (26.6%) surveys were completed and returned via e-mail, 13 (10.1%) were completed and returned via postal mail, and 12 (9.4%) were returned via e-mail but were blank and deemed unusable. The total number of usable e-mail responses was 47 (36.7%). Of the 128 surveys distributed via postal mail, 73 (57%) were completed and returned. All postal mail surveys returned provided usable data. Figure 1 provides a breakdown of e-mail and postal mail survey response rates.

For Objective 2 (Response Speed): It took, on average, 12.5 days over the two rounds of instrument distribution for an email survey to be returned. By contrast, it took, on average, 24.2 days over the two rounds of instrument distribution for a postal mail survey to be returned. Results of the data analysis, $t(118) = 5.42$, $p < 0.00$, show a statistically significant difference in the response speed of e-mail and postal mail distributed surveys. In being returned to the researchers, email surveys were significantly faster than postal mail surveys.

For Objective 3 (Response Quality):

On average, participants responding to the e-mail survey completed 20.9 of the 35 possible responses. By contrast, respondents filling out the postal mail survey completed, on average, 19.4 of the possible 35 responses. Results of the data analysis, $t(118) = -0.99$, $p < 0.32$, show no statistically significant difference in response quality of e-mail and postal mail distributed surveys.

What It Means

The postal mail distribution method had a higher return rate than the e-mail distribution method. This is consistent with earlier research comparing e-mail surveys and postal mail surveys. Response speed of e-mail surveys was significantly faster when compared to the response speed of postal mail surveys. These results are also consistent with the findings of earlier researchers. The response quality of e-mail distributed surveys and postal mail surveys was similar. This, too, is consistent with the findings of earlier researchers.

Recommendations

1. A replication of this study should be undertaken using a probability sample. Many of the earlier studies, including this one, have not been able to generalize

because of the nonprobability nature of participant selection. A replication of this study using a probability sample would enhance the findings of any future study comparing the response rate, speed, and quality of e-mail and postal mail surveys.

2. A study comparing the response rate, response speed, and response quality of surveys presented on the Internet with postal mail surveys should be conducted. Many businesses and organizations post surveys on the Internet as a method of collecting data from their various publics. Participants may be more likely to respond to a survey presented on the Internet than they are to a survey presented by e-mail simply because of format and familiarity. E-mail messages could be sent to participants with a link to the survey site embedded in the text for ease of locating and responding to the survey.

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Author's Note: This article is a derivative of a paper presented at the 1999 Delta Pi Epsilon National Conference in St. Louis, Missouri. The paper of which this article is a derivative was included in a collected work (Book of Readings) and distributed to the approximately 115 conference attendees.

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