

**Data Collection Procedures Equivalence in
International Business Research :
An Analysis of Publications Between 2000 - 2009**

Abstract:

- Following the work undertaken by Hult *et al.*, (2008) on data equivalence in cross-cultural international business research, this article uses a content analysis of articles published in four leading international business journals from 2000 to 2009, to uncover the current state of mail survey administration procedures used by researchers.
- The results show that, despite the existence of a well established theoretical frameworks for mail survey data collection by Don Dillman (1978, 1999), international business scholars have not been inspired to adopt and report the data collection procedures adequately in their work. We hope this work will bring to an end continuance of this neglect.

Keywords: International business research · Content analysis · Mail survey · Data collection procedure · Equivalence

1. Introduction

A growing global economy has forced the demand for information about international markets by both academics and practitioners. However, gathering cross-cultural data is not an easy task and the problems with undertaking international research have long been acknowledged by researchers (Przeworski and Teune, 1966; Berry, 1969; Sekaran, 1983; Nasif *et al.*, 1991; Cavusgil and Das, 1997). While workable solutions have been offered in some areas (Jobber *et al.*, 1991; Jobber and Saunders 1988; Harzing, 1997; Brock, 2003; Reynolds *et al.*, 2003), other issues still remain to be resolved (Kjeldgaard *et al.*, 2006; Yaprak, 2006; Hult *et al.*, 2008, Piekkari *et al.*, 2009). One of the issues that is still unresolved relates to data collection procedure equivalence which includes comparability with regards to research instrument equivalence (e.g. face-to-face interviews, mail surveys, etc), the sampling coverage and survey administration procedures (Craig and Douglas, 2000; Hult *et al.*, 2008).

By examine six top international business (IB) journals in search of a common research practice Yang *et al.*, 2006, found that a mail survey questionnaire was “the most popular data collection method (p.612)” utilised by IB scholars between 1992 – 2003. This finding was consistent with previous studies of Peng *et al.* (1991) and Adler (1983a). As postal surveys dominate other methods of gathering cross-cultural data, the aim of this work is to investigate “if” and “how” international business scholars report postal survey administration procedures in the last decade, mainly the contacts that are established with potential respondents, in order to seek the establishment of data collection procedure equivalence in cross-cultural research. By doing so, the study is structured as follows. First, it draws attention to data collection procedure equivalence. Second, it turns to the multiple-contacts for mail surveys proposed by Dillman (1978, 1999). Third, it points out at the effectiveness of Dillman’s framework, grounded in a social exchange perspective, to cross-cultural research. Fourth, it presents the analytical approached that was used to examine data on the mail survey administration procedures employed in 285 studies that were published in four highly ranked international business journals between 2000 and 2009. Fifth, reports the results in line with the paper’s objectives. Sixth, it focuses on discussions and implications of the findings for IB research. Finally, it concludes.

2. Data collection procedure equivalence

By going beyond the borders of one country, doesn’t mean that comparative research differs from any other type of social science inquiry with respect to, for example, to its rigour. Hence, like any other social science analysis, cross-cultural research requires procedures that involve caution in order to yield validity and reliability in more differentiated settings.

Methodological issues in cross-cultural analysis, with respect to equivalence, have been the subject of investigation for many academics across several disciplines over the past four decades (Przeworski and Teune, 1966; Berry and Dasen, 1974; Green and White, 1976; Adler, 1983; Cavusgil and Das, 1997; Nasif et al., 1991; Sekaran 1981; Herk et al., 2005; Coviello and Jones, 2004; Hult *et al.*, 2008).

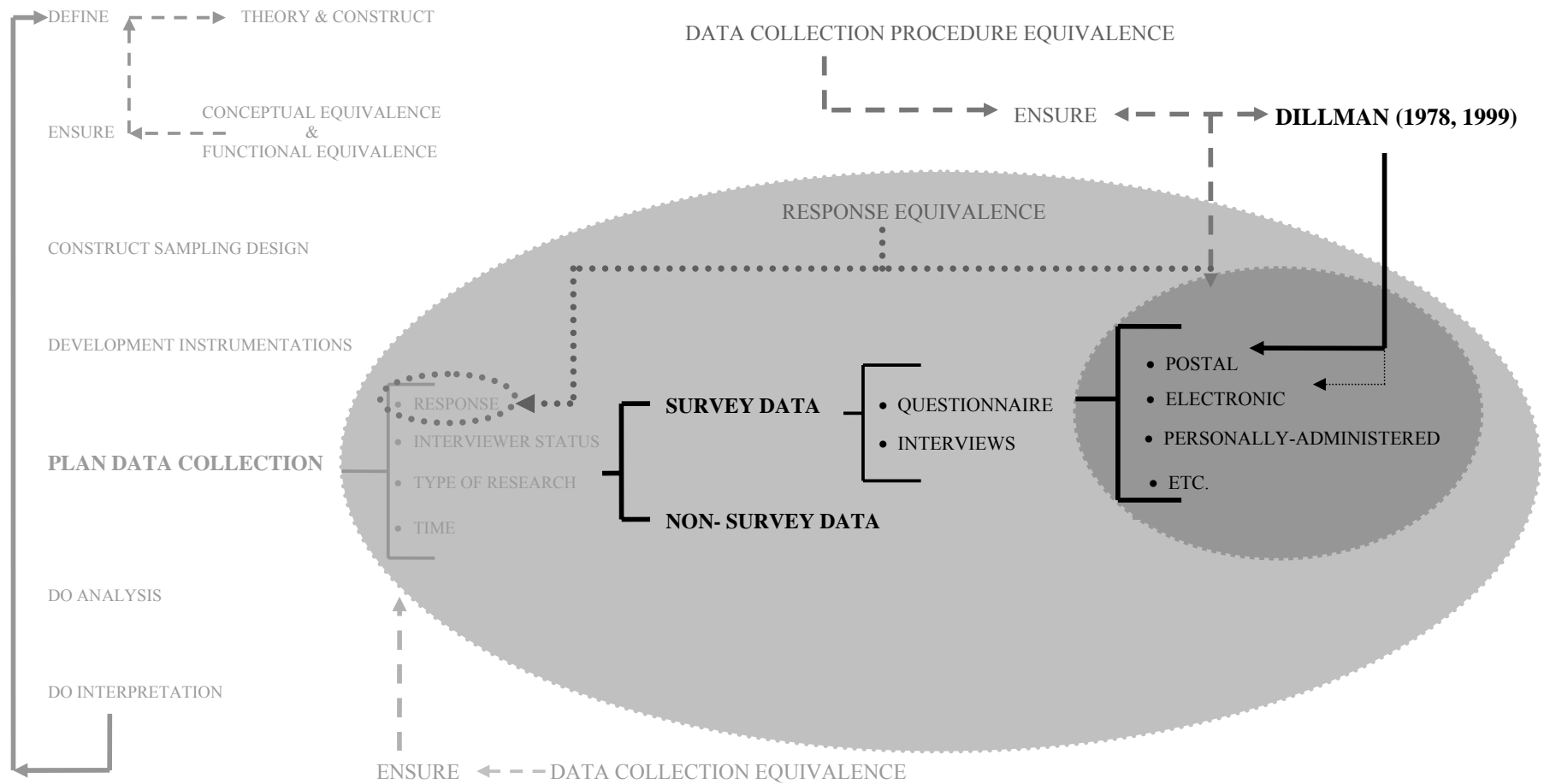
Craig and Douglas (2000, p.141) define equivalence as “data that have, as far as possible, the same meaning or interpretation, and the same level of accuracy, precision of measurement, or reliability in all countries and cultures”. This implies that “the elements of a research design have the same meaning and can be applied in the same way, in different cultural contexts” (Hult *et al.*, 2008, p. 1027).

The idea of equivalence is supported based on two concepts: “emic” and “etic”¹. The aim of an emic approach is to examine a phenomenon with specific concepts used in a particular culture. However, the goal of an etic approach is to study a phenomenon in order to develop a universal law that can identify commonalities and differences across cultures using equivalent concepts, metric or indicators (Peng *et al.*, 1991; Cavusgil and Das, 1997; Schaffer and Riordan, 2003). The challenge that faces cross-cultural scholars lies in the choice between these two approaches and it is known in the management literature as the etic-emic dilemma (Adler, 1984).

Following the work of Sekaran (1983) in comparative research, in general terms, five forms of equivalence are distinguished: functional equivalence, instrumentation, data collection, sampling design, and data analysis. Other researchers in this field like, for example, Adler (1983), Nasif *et al.* (1991), Peng *et al.* (1991), Cavusgil and Das (1997), and Hult *et al.* (2008) have supported the above framework. In brief, the functional equivalence is linked with the roles of objects or behaviours in different countries. Instrumentation equivalence takes account of equivalence in translation, concepts and syntax. Data collection equivalence stresses the importance of comparability across cultures with regards to the sources of data, the methods of eliciting data and the resulting samples. Sampling equivalence consists of such issues as representativeness and matching of samples. Data analysis equivalence demonstrates whether or not cross-cultural data can be taken as equivalent

Following the establishment of the equivalence framework in comparative research, Cavusgil and Das (1997) developed a seven stage methodology model for conducting cross-cultural studies. Building on their work, and mainly focusing on the data collection stage of their model², we hope to demonstrate the importance of data collection procedure equivalence which is an integral element of data collection equivalence for knowledge creation in the field of IB research (Figure 1).

Figure 1. A Generic Process Model for Cross-cultural Research



Source: Based on Cavusgil and Das (1997)

When designing a cross-cultural research a careful attention should be focused, amongst other things, on data collection to ensure comparability across cultures. This is because many countries have noticeably different social systems, literacy rates, and cultural norms and values. During the data collection phase, timing of data gathering in different cultures, interviewer status, type of research, and response equivalence are important (Sekaran, 1983; Nasif *et al.*, 1991; Cavusgil and Das, 1997, Herk *et al.*, 2005). Thus, to provide equivalence within the data collection stage, great effort should be made to ensure that data collection in the different research places are as simultaneous as possible, as this enhances the comparability of the data collected. In addition, the researcher should also place emphasis on the status and authority in the data collection process as different cultures have different understanding of power and authority (Hofstede 1980). Further, researchers are encouraged to use a mix-method approach for gathering data to give a static and dynamic picture of research sites. Finally, “response equivalence can be ensured by adopting uniform data collection procedures in all the cultures in which a problem is being investigated” (Sekaran, 1983, p. 63).

As researchers are opened to the use of many techniques in gathering cross-cultural data to warrant data collection equivalence, it is adequate to say that different methods will acquire different data collection procedures. Focusing on survey data methods, mainly those that use a questionnaire as a tool of gathering data (Figure 1), it is critical to say that administration procedures are necessary, if not critical, to achieve sufficient response rate. This is because the issues of equivalence are linked to stages in the research process, for example, equivalence of administration and equivalence of responses are linked to the phase in the research process where the instrument is developed.

Before we discuss the system of administration procedures (see next section) for mail survey developed by Dillman (1978) that could ensure equivalence in administration and response, we first turn the attention to the sources of biases that could be found in survey methodologies.

When undertaking comparative survey research, scholars face at least four potential sources of bias, any of which can make the results unacceptable. These sources of error contain: sampling error, non-coverage error, measurement error and non-response error (Groves, 1989, 2004; Dillman, 1991; Weisberg, 2005)³. Challenges to employ quality postal surveys require attempts to eliminate, or at least reduce, all four types of error.

Sampling error occurs when a sample of the population rather than the whole population is surveyed. It is the aspect of survey quality examined through inferential statistics applied to sample survey results, from which conclusions about significant differences in the population are achieved. In comparative research, sampling error “should be reference and standardized with regards to the extent of presence of the underlying statistical assumptions in each culture or country” (Cavusgil

and Das, 1997, p.87). Results ought to be presented in terms of statistical significance and magnitude estimates (Brock, 2003).

Non-coverage error arises when some members of the population are not covered by the sampling frame and therefore have no possibility of being selected into the sample. It has been proposed by Samiee and Jeong (1994) that paying close attention to the sample frame in the countries being studied and ensuring subject selection in cross-cultural research can increase within-subject homogeneity.

Measurement error takes place when the measure obtained fails to reflect the accurate extent to which the subject possesses the attribute being measured. The error may arise due to, for example, flaws in scale design, instrument invalidity and inadequate application of the scale. However, various steps have been proposed in comparative research literature minimize the measurement error and at the same time to ensure measurement equivalence (Hult *et al.*, 2008).

Non-response error appears from the fact that some of the members of the sample population do not respond to the survey questions. The substantial amount of research on improving mail survey methods has focused on response rates, the generally accepted proxy for non-response error (Heberlein and Baumgartner, 1978; Eichner and Habermehl, 1981; Baruch and Holtom, 2008; Cycota and Harris 2006). This almost singular focus on response rates takes place because high non-response bias has long been considered as the major drawback of postal surveys. Just as important, however, is the awareness fostered by much of the comparative research literature that such studies could be successful if somewhat uniform administration procedures were identified, as equivalence of administration procedures and equivalence of responses are linked during the research process. Maintaining equivalence in data collection procedures might appear straightforward (Hult *et al.*, 2008). However, the nature of international business research can often lead to differences in data collection procedures (Eichner and Habbermelh, 1981). Hence, the establishment of appropriate and comparable survey data collection techniques is a crucial element of rigorous scholarship, as it can minimise threats to validity and reliability of gathered data. A failure to do so, could have significant consequences for knowledge creation in the IB field (Mullen, 1995; Singh, 1995).

3. Dillman's framework for mail survey data collection

Guided by social exchange theory, in the late 1970s, Don A. Dillman (1978) proposed a comprehensive framework for mail survey data collection known in the literature as the Total Design Method (ToDM). According to social exchange theory (Blau, 1964; Homans, 1973) a questionnaire recipients are most likely to complete and return a questionnaire if they expect that the perceived benefits of doing so will outweigh the perceived costs (material and psychological) of

responding. Consequently, the researcher (whether in international or/and domestic market) needs to minimise the expected costs and maximise the expected benefits of participation. Three elements are crucial for reinforcing this kind of behaviour: rewards, costs, and trust. In simple terms “rewards” are what one anticipates to gain from a particular activity, “costs” are what one gives up or spends to obtain the rewards, and “trust” is the expectation that in the long term the rewards of doing something will offset the costs (Dillman, 1978). The most important strength of the ToDM is a set of procedures for increasing response rates (i.e. decreasing the non-response error)⁴.

Among those procedures, which are of a great interest of this work, four carefully spaced mailings to potential respondents are proposed. These are:

1. A *questionnaire* mailing. This questionnaire is mailed in an envelope (approximately 15.5 x 21 cm), along with a stamped and addressed return envelope and a *detailed covering letter*.
2. A *postcard* is sent out to all potential respondents once week after mailing the questionnaire, thanking them for their co-operation and reminding those who have not yet responded that it is important to co-operate.
3. Two weeks later a *second copy of the questionnaire* is sent out to those who have not yet sent in the completed questionnaire, along with a *reminder letter* that their replies have not yet been received.
4. Four weeks later⁵ a *third copy of the questionnaire* is mailed, this time by *certified mail* to emphasize the importance of the survey. A note is also added in this procedure to remind the potential respondents of the importance of their response for the success of the survey.

Under social exchange approach, contacts that are different from previously used are generally more powerful than repetition of a previously used method. Individuals with whom the first contact was successful will not be subject to receiving a replacement questionnaire. As a result, the later contacts need to be varied in an effort to increase their effectiveness with nonrespondents. Therefore it is important, that each communication method differs from a previous one in order to convey a sense of appropriate renewal of an effort to communicate. Each of these delivery contacts, described above, builds upon past research (Dillman *et al.*, 1974; Heberlein and Baumgartner, 1978) showing that a distinctively different final contact improves response to mail surveys. In addition, it has been shown in the literature that multiple contacts have a significantly greater collective capability for influencing response rates than any other technique for increasing response to mail surveys (Scott, 1961; Linsky, 1975; Dillman *et al.*, 1978).

Taking into account the globalisation of markets, the surge of mail surveys techniques (Dillman, 1972; Dillman and Sangster, 1990), and the influence of sometimes conflicting pressures from groups with much influence over how surveys get done, Don A. Dillman (1999, 2000) modified the original ToDM in the late 1990s and called it the Tailored Design Method (TaDM).

One of the new features⁶ of the TaDM is the change in the number of contacts. Here the use of *five* not *four* contacts are described. The new contact that was added to the existing contacts in ToDM, and described above, represents a *brief prenotice letter*. This is sent to potential respondents a few days prior to mailing the questionnaire as a special mail. It aims to signal that a questionnaire for an important survey will arrive in a few days and that the person's response would be greatly appreciated.

Dillman's intention in designing each aspect of the implementation system from prenotice letter to return envelopes was to create positive salience where each element of the process is noticeable but in a way that creates a positive impression and by that increases a sense of reward, diminishes perceived costs and at the same time creates trust. The overall impression that is established depends not only on individual contacts but also on the consistency amongst those contacts. Therefore, it is important that each contact should not be thought of as self-standing but as part of an overall implementation system for which a change in one part is likely to be unintended consequences for another. In addition none of these contacts talked above should be omitted because either the ToDM or the TaDM should be seen as a package of procedures which interact with each other to produce a maximum response rate.

4. The efficiency of Dillman's framework to cross-cultural research

Since the development of the ToDM technique its adaptation has lead to an increase in the number of mail surveys, which have become one of the most common forms for gathering data in the United States (Dillman, 1991). Because the ToDM was developed in the United States, Goyder (1982), by refereeing to Ladd's (1980) work, points out that return rates on mail surveys would be lower in foreign cultures than in the United States due to "higher legitimacy of surveying in American cultures (p.553)". However, this is no longer sufficient since there have been investigations carried out in Europe, Australia and Asia on whether the ToDM was a culture-bound survey methodology and proved otherwise. For example, Greatz (1985) assessed the feasibility of using the implementation procedures proposed by the ToDM in Australia. He found that multiple contacts with potential respondents yield to high response rates and good quality of data. His results were comparable with those obtained in the United States. De Leeuw and Hox (1988), however, analysed the efficiency of the personalisation of a covering letter and reminder by certified mail (i.e. response-increasing factors of the ToDM) on a sample of the Dutch population. They found that response-stimulating factors have a statistically significant effect on the number of completed questionnaires and data quality, and that response rates do not differ to any great extent from those in the USA either. Another study comparing the appropriateness of the ToDM (i.e. the usefulness of non-monetary incentives) in the Netherlands is that of Nederhof (1983). He shows that the use of an

incentive positively influences the speed and quality of survey results. His results were also comparable with those in the American literature (Brennan, 1958; Watson, 1965), and at the same time indicating the cross-cultural effectiveness of the ToDM method initially developed in the United States. Rada (2000), on the other hand, examined the usefulness of Dillman's implementation procedures from the TaDM on the response rate in Spain. He found that multiple contacts do indeed increase the number of returned questionnaires. He also pointed out that his results do not greatly differ from those obtained by other researchers on efficiency of the ToDM in countries such as the United States, and the Netherlands and Australia. In the study of a comparison of the viability the ToDM in Japan and the United States, Jussaume and Yamada (1990) showed that "mail surveys are feasible research tool in Japan and potentially in other cultures where the majority of the intended universe is literate, can be sampled, and can be contacted through a dependable postal system (p.226)". Their results also showed that the theoretical foundations of the ToDM is not culture bound to Western countries and that consideration to the theoretical base is the key to implementing the ToDM to foreign settings.

Based on the above, the fact that methodological data obtained from different countries under similar conditions is comparable to those in the United States, suggests that the generalizability of findings may not necessary be limited to one nation or continent as claimed by Goyder (1982).

5. The analytical approach

To investigate "if" and "how" IB researchers report the mail survey administration procedures, we carried out a comprehensive and systematic content analysis of Journal of International Business Studies (JIBS), International Business Studies (IBS), Journal of World Business (JWB) and Management International Review (MIR) between 2000 and 2008 (Krippendorff, 2004; Weber, 1990). We choose those four journals for our review because they symbolise very highly ranked and "the key" international business specific journals (DuBois and Reeb, 2000). Even though, as pointed out by Platt (1996) and cited in Piekkari *et al.*, (2009), it cannot be presume that highly ranked journals "contain a representative cross-section of publications, they do tell something about disciplinary standards and ideas (p.563)".

5.1 Data Collection

The data collection process consisted of the following stages. First, all studies were identified one-by-one through individual on-line access to the journal using library's electronic resources available at authors' institutions. The only exception was MIR where studies were located using electronic access to the journal plus the examination of hard copies of special and focus issues kindly supplied to authors from the journal's editor-in-chief's office⁷. Second, every article

(omitting editorials, commentaries and award winning) published in these four journals, in the period under investigation, was then categorised as qualitative and quantitative (Piekkari *et al.*, 2009; Coudounaris *et al.*, 2009; Yang *et al.*, 2006). Within the qualitative category, each article was then grouped into a survey (i.e. where only a questionnaire was used for data collection) and survey plus other qualitative technique (e.g. interviews, focus groups) category. Further the survey category was re-grouped into the following sub-categories: a mail, an electronic, a fax, a personally-administered, an internal mail and a mixed method. This was undertaken in order to examine, in more detail, the ways through which a questionnaire was delivered to potential respondents. In situations where a distribution method was not mentioned by authors, a study was placed under the "not mentioned" category (see Table 1). This identification was based on the method or methods used for data collection by authors and reported in the methodology section of their papers. Finally, one of the authors coded the articles in search for the multi contact strategies developed by Dillman (1978, 1999, 2000) and discussed above. The coding process was undertaken shortly after a sample of articles was coded by two authors to establish an intercoder agreement (Tinsley and Weiss, 1975; Neuendorf, 2002). The Inter-rater reliability was achieved at 84 % ($\alpha = 0.843$). The result was comparable to others coding of published studies (Hult *et al.*, 2008; Boyd *et al.*, 2005), and allowed for one of the authors to undertake the data collection process. Any confusions relating to the coding process were resolved by discussions between all three authors.

Table 1 about here

As shown in Table 1, 754 out of 1440 papers published in four journals, under the investigation period, were of qualitative nature, accounting for 52 percent. 348 (46 %) of 754 studies were identified as those that used a questionnaire as their only data collection method. It can also be seen from Table 1 that the three most common ways of sending a questionnaire to potential responders, amongst authors in the four journals together, were by post (82%), followed by personally-administered delivery (8%) and a mixed-method approach (5%). Further, three (1%) studies out of 348 failed to mention how a questionnaire was delivered.

In order to examine our objectives, we decided to include only studies that utilised a mail survey as a primary data collection method for the following reasons. First, the fact that mail surveys are becoming a popular way of gathering data amongst IB researchers (Yang *et al.*, 2006). Second, the theoretical framework proposed by Dillman in 1978 was developed for postal survey

data collection. Second, the number of studies that used this type of data collection technique in our sample. Finally, to minimise research type confounds.

Based on the above criterias, 285 articles were included in our analysis. As indicated in Table 1, JIBS offered the largest number of articles (99 or 35%), followed by IBR (71 or 25%), then JWB (60, 21%), and MIR (55 or 19%). A list of the sample articles is available from the corresponding author.

We selected a time period of 2000 – 2009 to examine how well international business researchers have reported data collection procedures for mail surveys in the last decade. The year 2000 was chosen to be a departure point, as the publication year of Dillman's book (Dillman, 2000) where he modified his original framework into the TaDM.

Sample's characteristics presented in Table 2 point out that in 228 (80%) of the papers the corresponding author was a male and in only 57 (20%) of the papers, a female. In majority of the studies (132 or 46%) the corresponding author was a professor, followed by an assistant professor (77 or 27%), and an associate professor (69, 24%). In most of the papers (110 or 39%) the corresponding author was located in Europe, followed by North-America (97 or 34%), and Asia (54 or 19%). The largest percentage of the European authors (43 or 39%) was from the UK, followed by Denmark and Spain (10 or 9% each)⁸. The majority of articles were written by two authors (119 or 42%), followed by three authors (73 or 26%), and a single authorship (55 or 19%). The most frequent number of countries surveyed by authors was one (160 or 56%), followed by more than three (66 or 23%), and two (32 or 11%). The continent most surveyed by authors was Europe (82 or 29%), followed by Asia (24%), and America (39 or 14%). More than half of the studies under investigation (183 or 64%) used a pilot study to pre-test the postal questionnaire. The most reported response rate by authors was between 20 to 29.99 percent (57 papers, 20%), and the mean response rate was 28%. A slightly higher percentage than that obtained by Yang *et al.*, (2006) for postal surveys across IB journals between 1992 – 2003.

Table 2 about here

6. Results

6.1. Across Journals

As demonstrated in Table 3, only 14 of the 285 articles under investigation referred to Dillman's ToDM and/or TaDM for the mail survey administration procedures. However, there are no statistically significant differences between studies that mention or not Dillman's frameworks. The journals with the most authors referring to those frameworks were MIR (5 studies), followed by

JIBS and IBR (4 and 3 studies, respectively). Out of the 14 studies that mentioned Dillman's work, only 6 studies (43%) did actually mention the survey data collection procedures.

Table 3 about here

An examination across journals between those 14 studies that mentioned Dillman's framework, in Table 3, shows that MIR was the journal with the most studies (3 or 50%) referring to data collection procedures, while the other three journals included only one study each (1 or 17%). The contact strategies mostly used by authors in MIR were a pre-notice letter, a covering letter and a follow-up (2 studies or 40% each). Overall across journals, however, the most often data collection procedure mentioned amongst the 14 studies that referred to Dillman's work was a covering letter (5 or 36%), followed by a pre-notice letter (4 or 28%) and a follow-up (4 or 28%), and a reminder (3 or 21%). An interesting finding here is that none of the studies across journals mentioned the use of a thank you letter as a data collection procedure despite the fact that Dillman (1978, 1999) states that this is an important element of a survey implementation strategy.

Based on our above findings, for further analysis across journals, we decided to exclude those 14 articles that mentioned Dillman's framework to examine "if" and "how" researchers in international business report the mail survey administration procedures without mentioning Dillman's work. The results form the remaining portion of Table 3. It can be seen from this table that 108 (40%) out of 271 mail survey studies reported data collection procedures of any kind, and that the highest number of studies reported was in JIBS (30 or 32%), followed by IBR (28 or 41%) and JWB (27 or 47%). The findings indicate that there are no statistically significant differences in the reporting or not reporting of any multi contact strategies across journals. In general, the most frequent data collection procedures used for studies that did not referred to Dillman's framework for mail survey administration were follow-ups (55 or 20%), followed by incentives (40 or 15%) and a covering letter (11%). Looking at the findings in Table 3 it can be seen that statistically significant results, across journals, were found for reporting incentives ($\chi^2=13.22$, $p=0.00$), a pre-notice letter ($\chi^2=7.00$, $p=0.07$), a reminder ($\chi^2=6.81$, $p=0.08$) and follow-ups ($\chi^2=6.26$, $p=0.10$). JWB included the most studies that reported a pre-notice letter (11 or 19%) and incentives (17 or 29%). IBR contained the biggest amount of articles that used reminders (10 or 15%). However, both IBR and JIBS included the highest number of studies that mentioned follow-ups (18 or 19% and 18 or 27%, respectively). As indicated in this part of Table 3, there was only one study (1%), published in JIBS, which reported a thank you letter as a mail survey administration procedure.

6.2. Across Years

As shown in Table 4, statistically significant differences were found between studies that did and did not report Dillman's framework for the postal surveys data collection process across years ($\chi^2=17.22$, $p=0.04$). Out of the 14 studies that mentioned Dillman's framework for the mail survey administration procedures, the highest annual percentage of reporting such approach amongst studies was in 2004 (15% or 5) followed by 2007 (14% or 4). Of the five studies published in 2004, three (60%) actually mentioned the mail survey data collection procedures, and of the four studies published in 2007 only one (25%) referred to such strategies. The most popular contact procedure used by authors that referred to Dillman's work in 2004 was a follow-up (2 studies or 40%).

Looking at the results in Table 4 for studies that did not mention Dillman's framework but reported data collection procedures for mail survey of any kind (108 of 271), it can be seen that 13 studies (12%) were published between 2006-2009, followed by 12 studies (11%) between 2002-2003, and 9 studies (8%) in 2000. Our findings across years point out that statistically significant result amongst studies was only found for reporting a covering letter as a data collection strategy for mail surveys ($\chi^2=15.03$, $p=0.09$).

Table 4 about here

6.2. By the Number of Countries Surveyed

Table 5 displays, the results of either reporting or not reporting mail survey data collection procedures across four journals by the number of countries surveyed by authors⁹.

Table 5 about here

As shown in Table 5, amongst studies that surveyed one country, JIBS was the journal with the most studies (45 or 28%), followed by IBR (43 or 27%), and MIR (37 or 23%). Out of one hundred and sixty studies that surveyed one country, seventy seven studies (48%) referred to postal survey data collection procedures. MIR was the journal with most studies (21 or 27%) that reported any techniques while JIBS was the journal with the least studies (16 or 21%). Both IBR and JWB contained an equal number of studies (20 or 26%) that referred to postal data collection methods.

Further, it looks like the most common procedures utilized by authors that surveyed one country were follow-ups (41 or 26%), and the least common techniques was a reminder (18 or 12%). In addition, the findings indicate that statistically significant results were only found for reporting incentives ($\chi^2=8.09$, $p=0.04$) and reminders ($\chi^2=7.75$, $p=0.05$) amongst studies that surveyed one country across four journals. None of the studies that surveyed one country used a thank you letter as a postal data collection procedure.

As indicated in Table 5, amongst studies that surveyed more than one country, once again JIBS was the journal with the most studies (54 or 46%). JIBS was followed equally by IBR and JWB (25 or 21%), and MIR (13 or 11%). Only thirty five studies (30%), out of one hundred and seventeen studies that surveyed more than one country, referred to mail survey data techniques. In contrast to previous findings, JIBS was the journal with most studies (15 or 43%) that reported any techniques while MIR was the journal with the least studies (14 or 12%). Once again, Both IBR and JWB contained an equal number of studies (8 or 23%) that referred to postal data collection methods. The findings also suggest that the most frequent data collection procedures were incentives (16 or 14%) and follow-ups (16 or 14%), and the least used technique a pre-notice letter (7 or 6%). More, our findings point out that statistically significant result was only found for reporting a pre-notice letter ($\chi^2=6.34$, $p=0.10$) as a data collection strategy amongst studies that surveyed more than one country across journals.

Neither studies that surveyed one country nor studies that surveyed more than one country were statistically significant for referring or not referring to mail survey administration techniques across journals.

6. Discussions and Implications of IB research

The findings of this study in relation to “if” and “how” researchers in international business report the mail survey administration procedures are concerning. It has been shown that out of 285 studies examined across journals from 2000 to 2009, only 14 studies referred to Dillman’s framework for postal data collection techniques. In addition, out of the remaining 271 studies, only 108 reported any of the data collection procedures proposed by Dillman (1978, 1999). More than fifty percent of studies under investigation surveyed one country, and forty percent more than one country. Overall, the continent most surveyed by authors across journals was Europe, followed by Asia and America. This finding suggests that IB researchers had been still focusing their attention on a limited number of countries (Yang *et al.* (2006). Moreover, authors that collected data on one country, Asia was the most often continent being surveyed. However, for authors that gathered data based on more than one country, America, Europe and Asia were together there most frequent

continents being surveyed. Further, Europe was the second most favourable continent to be surveyed by authors that surveyed one, and more than one country.

The findings demonstrate that JIBS published the most studies that surveyed one and more than one country. Moreover, the results indicate that MIR published the most studies that refer to postal data collection procedures for studies that surveyed one country, while JIBS published the most studies for those that surveyed more than one country. Both IBR and JWB published an equal number of studies that referred to mail data collection techniques for studies that surveyed one and more than one country.

In addition, the findings reveal that follow-ups seemed to be the most common data collection procedure for mail survey amongst studies that surveyed one country, while follow-ups and incentives appeared to be the most frequent data collection technique between studies that surveyed more than one country.

Further, incentives and reminders seemed to be only statistically significant in studies that surveyed one country, while a pre-notice letter was found to be the only statistically significant procedure found in studies that surveyed more than one country.

What is more, none of the studies that surveyed one country reported the use of a thank you letter as a postal data collection method.

Without the establishment of data collection procedure equivalence, an issue recently pointed out by Hult *et al.*, (2008), the reliability and validity of findings are called to question. To minimise those threats it is therefore essential to ensure comparable mail survey data collection procedures. While ensuring consistency in data collection methods may seem straightforward, cross-cultural differences might explain the variations (Craig and Douglas, 2000; Hult *et al.*, 2008). However, those disparities could be overcome if, for example, researchers become more thorough in reporting and explaining how and why a particular strategy (or strategies) was used to gather data.

7. Conclusions

In a period when IB researchers are confronted with a trend of increasing unwillingness of the general public to participate in the mail survey research, the success of postal surveys remains conditional upon the implementation of proven strategies for stimulating response (e.g., Eichner and Habermehl, 1981; Cycota and Harris 2006; Baruch and Holtom, 2008).

When undertaking culture comparative studies, gathered data should have the same meaning across cultures (countries), because biased information can lead to ambiguous or even flawed conclusions (Herk *et al.*, 2005; Sekaran 1983; Singh 1995). Although complete equivalence might probably never be possible, attempts have to be made to achieve equivalence. Thus, the objective of this study was to investigate “if” and “how” researchers in IB report the mail survey administration

procedures in order to seek the establishment of data collection procedure equivalence in cross-cultural research. In general, we found that inadequate emphasis on data collection procedures was placed in all examined journals between 2000 and 2009. Despite its importance and also the existence of either the ToDM or TaDM, the equivalence of data collection procedures is usually not examined and addressed by authors. The reasons for this carelessness are not clear. In order to advance in this field a greater attention needs to be focused on the equivalence of such procedures for future research designs and methodologies.

The purpose of this work is not to criticize prior work but to recognize and bring to an end continuance of this neglect and to extend the ongoing commentary on methodological issues in the IB field. Especially, it is hoped to increase researchers', editors' and reviewers' awareness of the importance of an adequate reporting of the mail survey administration procedures in order to develop a commonly understood IB vocabulary that allows the establishment of data collection procedures equivalence for postal questionnaires in cross-cultural studies.

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Endnote:

¹According to Pike (1966) the terms "emic" and "etic" stem from a linguistic distinction between phonemics and phonetics.

²Please refer to Cavusgil and Das (1997) for more detailed explanation of the model.

³For other potential sources of bias in research project refer, for example, to Cox (1974) or Cavusgil and Das (1997).

⁴For other details of the ToDM and how they are integrated to make a holistic effect please see Dillman (1978).

⁵Or seven weeks after the first questionnaire was sent out.

⁶For more detail please see Dillman (2000).

⁷At the time of data collection, none of the special and focus issues were available electronically.

⁸This data is not present in Table 2 but can be available from the corresponding author.

⁹Excluding 8 studies for which it was not clear how many countries were surveyed. See Table 2 for sample characteristics

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Table 1 Categorisation of Journal Articles with Respect to Survey Data Collection Methods, 2000 - 2009.

<i>Year</i>	<i>Journal¹</i>	<i>Mail (%)</i>	<i>Electronic (%)</i>	<i>Personally Administered (%)</i>	<i>Fax (%)</i>	<i>Internal Mail(%)</i>	<i>Mixed (%)²</i>	<i>Not Mentioned (%)</i>	<i>Total Survey (%)³</i>	<i>Total Qualitative⁴</i>	<i>Articles per Year</i>
2000	JIBS	10	-	-	-	-	-	-	10(50.00)	20	41
2001	JIBS	16	-	-	-	-	-	-	16(80.00)	20	45
2002	JIBS	13(92.86)	-	-	-	-	1(7.14)	-	14(66.67)	21	43
2003	JIBS	6(85.71)	-	-	-	-	-	1(14.29)	7(46.67)	15	37
2004	JIBS	9	-	-	-	-	-	-	9(64.29)	14	23
2005	JIBS	5	-	-	-	-	-	-	5(35.71)	14	33
2006	JIBS	10	-	-	-	-	-	-	10(52.63)	19	42
2007	JIBS	12(92.31)	-	-	-	-	1(7.69)	-	13(54.17)	24	52
2008	JIBS	11	-	-	-	-	-	-	11(35.48)	31	62
2009	JIBS	7(70.00)	1(10.00)	1(10.00)	-	-	1(10.00)	-	10(34.48)	29	71
Total		99(34.74)	1(10.00)	1(3.45)	-	-	3(16.67)	1(25.00)	105(64.02)	207	449
2000	IBR	6(85.71)	-	-	-	-	1(14.29)	-	7(31.82)	22	37
2001	IBR	8(80.00)	-	2(20.00)	-	-	-	-	10(50.00)	20	35
2002	IBR	5(71.43)	-	1(14.29)	-	-	1(14.29)	-	7(41.18)	17	36
2003	IBR	11(91.67)	-	-	-	-	1(8.33)	-	12(54.55)	22	36
2004	IBR	9(90.00)	-	1(10.00)	-	-	-	-	10(55.56)	18	36
2005	IBR	6(66.67)	-	1(11.11)	-	-	2(22.22)	-	9(42.86)	21	36
2006	IBR	9(81.82)	-	1(9.09)	-	-	1(9.09)	-	11(50.00)	22	38
2007	IBR	1(20.00)	2(40.00)	1(20.00)	-	-	1(20.00)	-	5(27.78)	18	34
2008	IBR	4(57.14)	1(14.29)	1(14.29)	-	-	1(14.29)	-	7(25.00)	28	46
2009	IBR	12(63.16)	2(10.53)	3(15.79)	-	-	2(10.53)	-	19(65.52)	29	48
Total		71(24.91)	5(50.00)	11(37.93)	-	-	10(55.56)	-	97(44.70)	217	382

Table 1 Categorisation of Journal Articles with Respect to Survey Data Collection Methods, 2000 - 2009 (continued)

<i>Year</i>	<i>Journal¹</i>	<i>Mail (%)</i>	<i>Electronic (%)</i>	<i>Personally Administered (%)</i>	<i>Fax (%)</i>	<i>Internal Mail(%)</i>	<i>Mixed (%)²</i>	<i>Not Mentioned (%)</i>	<i>Total Survey (%)³</i>	<i>Total Qualitative⁴</i>	<i>Articles per Year</i>
2000	JWB	5	-	-	-	-	-	-	5(38.46)	13	23
2001	JWB	3(60.00)	-	2(40.00)	-	-	-	-	5(33.33)	15	22
2002	JWB	4	-	-	-	-	-	-	4(36.36)	11	25
2003	JWB	4(80.0)	-	1(20.00)	-	-	-	-	5(26.32)	19	27
2004	JWB	6(75.00)	-	2(25.00)	-	-	-	-	8(47.06)	17	30
2005	JWB	4(80.00)	-	1(20.00)	-	-	-	-	5(27.78)	18	28
2006	JWB	7(63.64)	-	3(27.27)	-	-	1(9.09)	-	11(52.38)	21	28
2007	JWB	8(88.89)	-	1(11.11)	-	-	-	-	9(45.00)	20	34
2008	JWB	7(77.78)	1(11.11)	-	-	-	1(11.11)	-	9(42.86)	21	33
2009	JWB	12(80.00)	1(6.67)	1(6.67)	1(6.67)	-	-	-	15(65.22)	23	39
Total		60(21.05)	2(20.00)	11(37.93)	1(100.00)	-	2(11.11)	-	76(42.70)	178	289
2000	MIR	5(83.33)	-	1(16.67)	-	-	-	-	6(54.55)	11	21
2001	MIR	4	-	-	-	-	-	-	4(40.00)	10	16
2002	MIR	7(70.00)	-	-	-	-	1(10.00)	2(20.00)	10(55.56)	18	28
2003	MIR	4(50.00)	-	3(37.50)	-	-	1(12.50)	-	8(40.00)	20	39
2004	MIR	9(90.00)	-	1(10.00)	-	-	-	-	10(52.63)	19	41
2005	MIR	6(60.00)	1(10.00)	1(10.00)	-	1(10.00)	1(10.00)	-	10(41.67)	24	42
2006	MIR	5	-	-	-	-	-	-	5(31.25)	16	31
2007	MIR	8(88.89)	1(11.11)	-	-	-	-	-	9(75.00)	12	36
2008	MIR	3	-	-	-	-	-	-	3(25.00)	12	32
2009	MIR	4(80.00)	-	-	-	-	-	1(20.00)	5(50.00)	10	34
Total		55(19.30)	2(20.00)	6(20.69)		1(100.00)	3(16.67)	3(75.00)	70(46.05)	152	320
Grand Total		285(81.90)	10(2.87)	29(8.33)	1(0.29)	1(0.29)	18(5.17)	4(1.15)	348(46.15)	754	1440

Note:

¹ JIBS=Journal of International Business Studies; IBR=International Business Review; JWB=Journal of World Business; MIR=Management International Review.

² Where two or more methods were used together (e.g. a mail and personally-administered survey, a mail, fax and personally-administered survey).

³ Studies that used a questionnaire only as a primary data collection method.

⁴ Total Survey plus other qualitative data collection method used (e.g. interviews, experiment).

Source: Author's calculations

Table 2. Sample Characteristics.

Corresponding Author's Characteristics	Categories	Total (n=285)	
		Frequency (%)	Mean (Std.dev)
Gender	Male	228(80.00)	0.20(0.40)
	Female	57(20.00)	
Position	Assistant Professor	77(27.02)	2.26(0.94)
	Associate Professor	69(24.21)	
	Professor	132(46.23)	
	PhD Student	4(1.40)	
	Non-academic	3(1.05)	
Country	North-America ¹	97(34.04)	2.91(1.67)
	South-America	3(1.05)	
	Europe ²	110(38.60)	
	Asia ³	54(18.95)	
	Oceania ⁴	21(7.37)	
Number of Authors	One Author	55(19.30)	2.33(0.94)
	Two Authors	119(41.75)	
	Three Authors	73(25.61)	
	More than Three Authors	38(13.33)	
Number of Countries Surveyed	One Country	160(56.14)	2.05(1.35)
	Two Countries	32(11.23)	
	Three Countries	19(6.67)	
	More than Three Countries	66(23.16)	
	Not Clear How Many	8(2.81)	
Number of Continents Surveyed	America ⁵	39(13.68)	10.75(6.16)
	America and Europe ⁶	15(5.26)	
	America and Asia	9(3.16)	
	America and Oceania ⁴	1(0.35)	
	America, Europe and Asia ⁷	30(10.53)	
	America, Asia, Europe and Oceania ⁴	6(2.11)	
	America, Asia and Oceania ⁴	2(0.70)	
	America, Europe and Oceania ⁴	2(0.70)	
	America, Asia and Africa	3(1.05)	
	America, Asia, Africa, Europe and Oceania ⁴	1(0.35)	
	America Asia, Europe and Africa	2(0.70)	
	Europe ⁸	82(28.77)	
	Europe and Asia	5(1.75)	
	Asia ⁹	67(23.51)	
	Oceania ⁴	7(2.46)	
	Oceania ⁴ and Europe	3(1.05)	
	Oceania ⁴ and Asia	8(2.81)	
	Africa	2(0.70)	
	Africa, Europe and Asia	1(0.35)	
Pilot Study	Not referred	183(64.21)	0.36(0.48)
	Referred	102(35.79)	
Response Rate	Less than 10 %	20(7.02)	27.91(24.45) ¹⁰
	10 to 19.99 %	27(9.47)	
	20 to 29.99 %	57(20.00)	
	30 to 39.99 %	42(14.74)	
	40 to 49.99 %	33(11.58)	
	50 to 59.99 %	14(4.91)	
	60 to 69.99 %	9(3.16)	
	70 to 79.99 %	7(2.46)	
	80 to 89.99 %	5(1.75)	
	90 to 99.99 %	2(0.70)	
	Not Mentioned ¹¹	69(24.21)	

Notes:

¹Ninety two percent of the North-American authors were based in the USA.²Thirty nine percent of the European authors were from the UK. This was followed by nine percent of authors from Denmark and Spain.³Fifty four percent of the Asian authors were located in China.⁴Mainly Australia and New Zealand.⁵America was the third most often surveyed continent amongst studies that surveyed one country.⁶America and Europe were the third most often surveyed continents amongst studies that surveyed more than one country.⁷America, Europe and Asia were the most often surveyed continents amongst studies that surveyed more than one country.⁸Europe was the second most often surveyed continent for that surveyed one and more than one country.⁹Asia was the most often surveyed continent for studies that surveyed one country.¹⁰Based on the number reported by authors and expressed in the form of a percentage. In the case of a cross-country study, the mean response rate was included.¹¹Here we mean studies where authors did not express the response rate in the form of a percentage.

Source: Author's calculations

Table 3 Reporting of Data Collection Procedures Across Journals, 2000-2009¹.

	<i>Mean (Std.dev)</i>	<i>X² (sig)²</i>	<i>Power (1-β)³</i>	<i>Categories</i>	<i>JIBS n=99(%)</i>	<i>IBR n=71(%)</i>	<i>JWB n=60(%)</i>	<i>MIR n=55(%)</i>	<i>Total n=285(%)</i>
Dillman's framework ⁴	0.49(0.22)	2.61(0.46)	0.994	Not referred Referred	95(95.96) 4(4.04)	68(95.77) 3(4.23)	58(96.67) 2(3.33)	50(90.91) 5(9.09)	271(95.09) 14(4.91)
									Total ⁶ n=14
Dillman's Data Collection Procedures ⁵	0.43(0.51)	1.27(0.76)	0.135	Not referred Referred	3(75.00) 1(25.00)	2(66.67) 1(33.33)	1(50.00) 1(50.00)	2(40.00) 3(60.00)	8(57.14) 6(42.86)
Pre-notice Letter	0.29(0.47)	1.18(0.76)		Not referred Referred	3(75.00) 1(25.00)	2(66.67) 1(33.33)	2 0	3(60.00) 2(40.00)	10(71.43) 4(28.57)
Covering Letter	0.36(0.50)	2.60(0.46)		Not referred Referred	3(75.00) 1(25.00)	1(33.33) 2(66.67)	2 0	3(60.00) 2(40.00)	9(64.29) 5(35.71)
Reminder	0.21(0.43)	0.83(0.84)		Not referred Referred	3(75.00) 1(25.00)	2(66.67) 1(33.33)	2 0	4(80.00) 1(20.00)	11(78.57) 3(21.43)
Follow-up	0.29(0.47)	1.99(0.57)		Not referred Referred	3(75.00) 1(25.00)	3 0	1(50.00) 1(50.00)	3(60.00) 2(40.00)	10(71.43) 4(28.57)
Thank You	-	-	-	Not referred Referred	4 0	3 0	2 0	5 0	14 0
Incentives ⁷	0.14(0.36)	2.02(0.57)		Not referred Referred	4 0	2(66.67) 1(33.33)	2 0	4(80.00) 1(20.00)	12(85.71) 2(14.29)

Table 3 Reporting of Data Collection Procedures Across Journals, 2000-2009 (continued)¹

	<i>Mean (Std.dev)</i>	$\chi^2(\text{sig})^2$	<i>Power (1-β)³</i>	<i>Categories</i>	<i>JIBS n=95(%)</i>	<i>IBR n=68(%)</i>	<i>JWB n=58(%)</i>	<i>MIR n=50(%)</i>	<i>Total n=271(%)</i>
Any Data Collection Procedures ⁸	0.40(0.50)	4.64(0.20)	0.992	Not referred	65(68.42)	40(58.82)	31(53.45)	27(54.00)	163(60.15)
				Referred	30(31.58)	28(41.18)	27(46.55)	23(46.00)	108(39.85)
Pre-notice Letter	0.11(0.31)	7.00(0.07)***		Not referred	90(94.74)	60(88.24)	47(81.03)	44(88.00)	241(88.93)
				Referred	5(5.26)	8(11.76)	11(18.97)	6(12.00)	30(11.07)
Covering Letter	0.11(0.31)	3.37(0.34)		Not referred	82(86.32)	64(94.12)	53(91.38)	43(86.00)	242(89.30)
				Referred	13(13.68)	4(5.88)	5(8.62)	7(14.00)	29(10.70)
Reminder	0.08(0.27)	6.81(0.08)***		Not referred	91(95.79)	58(85.29)	55(94.83)	45(90.00)	249(91.88)
				Referred	4(4.21)	10(14.71)	3(5.17)	5(10.00)	22(8.12)
Follow-up	0.20(0.40)	6.26(0.10)***		Not referred	77(81.05)	50(73.53)	52(89.66)	37(74.00)	216(79.70)
				Referred	18(18.95)	18(26.47)	6(10.34)	13(26.00)	55(20.30)
Thank You	0.00(0.06)	1.86(0.60)		Not referred	94(98.95)	68	58	50	270(99.63)
				Referred	1(1.05)	0	0	0	1(0.37)
Incentives ⁷	0.15(0.35)	13.22(0.00)*		Not referred	87(91.58)	59(86.76)	41(70.69)	44(88.00)	231(85.24)
				Referred	8(8.42)	9(13.24)	17(29.31)	6(1.00)	40(14.76)

Notes:

¹Table adopted from Hult *et al.*, (2008). To enhance readability and comparability of data for statistical testing, percentages for 0s are not reported.

²The Fisher tests were undertaken to confirm these results.

³Following the work of Brock (2003), a post hoc statistical power analysis was calculated using G*Power developed by Faul *et al.*, (2009, 2007) and available from <http://www.psych.uni-duesseldorf.de/abteilungen/aap/gpower3/>. $\alpha = 0.05$

⁴Dillman's ToDM and/or TaDM mentioned or not for data collection procedures.

⁵Mail survey data collection procedures proposed in Dillman's frameworks.

⁶We acknowledge the fact that 14 studies is a small sample size for a statistical analysis, but this is for illustration purposes to show how many studies that refer to Dillman's frameworks actually report the survey data collection procedures that he proposed in ToDM and/or TaDM

⁷Both monetary and non-monetary.

⁸Mail survey data collection procedures referred or not, when Dillman's framework not mentioned for data collection procedures.

*p≤ 0.01; ** p≤ 0.05; ***p≤0.10

Source: Author's own calculations.

Table 4 Reporting of Data Collection Procedure Across Years, 2000-2009¹.

	Mean (Std.dev)	χ^2 (sig) ²	Power (1- β) ³	Categories	2000 n=26(%)	2001 n=31(%)	2002 n=29(%)	2003 n=25(%)	2004 n=33(%)	2005 n=21(%)	2006 n=31(%)	2007 n=29(%)	2008 n=25(%)	2009 n=35(%)	Total n=285(%)
Dillman's framework ⁴	0.49 (0.22)	17.22 (0.04)**	0.967	Not referred	26	30(96.77)	28(96.55)	24(96.00)	28(84.85)	20(95.24)	31	25(86.21)	25	34(95.09)	271 (95.09)
				Referred	0	1(3.23)	1(3.23)	1(4.00)	5(15.15)	1(4.76)	0	4(13.79)	0	1(2.86)	14(4.91)
					n=0	n=1(%)	n=1(%)	n=1(%)	n=5(%)	n=1(%)	n=0	n=4(%)	n=0	n=1(%)	Total ⁶ n=14(%)
Dillman's	0.43	6.04	0.107	Not referred	0	1	1	0	2(40.00)	1	0	3(75.00)	0	0	8(57.14)
Data	(0.51)	(0.42)		Referred	0	0	0	1	3(60.00)	0	0	1(25.00)	0	1	6(42.86)
Collection															
Procedures ⁵															
Pre-notice	0.29	10.1		Not referred	0	1	0	0	4(80.00)	1	0	4	0	0	10(71.43)
Letter	(0.47)	(0.12)		Referred	0	0	1	1	1(20.00)	0	0	0	0	1	4(28.57)
Covering	0.36	7.25		Not referred	0	1	0	0	4(80.00)	1	0	3(75.00)	0	0	9(64.29)
Letter	(0.50)	(0.30)		Referred	0	0	1	1	1(20.00)	0	0	1(25.00)	0	1	5(35.71)
Reminder	0.21	4.80		Not referred	0	1	1	0	4(80.00)	1	0	3(75.00)	0	1	11(78.57)
	(0.43)	(0.57)		Referred	0	0	0	1	1(20.00)	0	0	1(25.00)	0	0	3(21.43)
Follow-up	0.29	8.12		Not referred	0	1	1	0	3(60.00)	1	0	4	0	0	10(71.43)
	(0.47)	(0.23)	-	Referred	0	0	0	1	2(40.00)	0	0	0	0	1	4(28.57)
Thank you	-	-		Not referred	0	1	1	1	5	1	0	4	0	1	14
				Referred	0	0	0	0	0	0	0	0	0	0	0
Incentives ⁷	0.14	1.34		Not referred	0	1	1	1	4(80.00)	1	0	3(75.00)	0	1	12(85.71)
	(0.14)	(0.97)		Referred	0	0	0	0	1(20.00)	0	0	1(25.00)	0	0	2(14.29)

Table 4 Reporting of Data Collection Procedure Across Years, 2000-2009 (continued)¹.

	Mean (Std.dev)	χ^2 (sig) ²	Power (1- β) ³	Categories	2000 n=26(%)	2001 n=30(%)	2002 n=28(%)	2003 n=24(%)	2004 n=28(%)	2005 n=20(%)	2006 n=31(%)	2007 n=25(%)	2008 n=25(%)	2009 n=34(%)	Total n=271(%)
Any Data	0.40 (0.50)	9.51 (0.39)	0.957	Not referred	17(65.38)	23(76.67)	16(57.14)	12(50.00)	20(71.43)	12(60.00)	18(58.06)	12(48.00)	12(48.00)	21(61.76)	163(60.15)
Collection				Referred	9(34.62)	7(23.33)	12(42.86)	12(50.00)	8(28.57)	8(40.00)	13(41.94)	13(52.00)	13(52.00)	13(38.24)	108(39.85)
Procedures ⁸															
Pre-notice	0.11 (0.31)	5.45 (0.80)		Not referred	23(88.46)	27(90.00)	25(89.29)	22(91.67)	25(89.29)	20	27(87.10)	23(92.00)	20(80.00)	29(85.29)	241(88.93)
Letter				Referred	3(11.54)	3(10.00)	3(10.71)	2(8.33)	3(10.71)	0	4(12.40)	2(8.00)	5(20.00)	5(14.71)	30(11.07)
Covering	0.11 (0.31)	15.03 (0.09)**		Not referred	19(73.08)	29(96.67)	25(89.29)	20(83.33)	25(89.29)	17(85.00)	30(96.77)	21(84.00)	23(92.00)	33(97.06)	242(89.30)
Letter				Referred	7(26.92)	1(3.33)	3(10.71)	4(16.67)	3(10.71)	3(15.00)	1(3.23)	4(16.00)	2(8.00)	1(2.94)	29(10.70)
Reminder	0.08 (0.27)	5.55 (0.78)		Not referred	24(92.31)	27(90.00)	27(96.43)	20(83.33)	27(96.43)	18(90.00)	28(90.32)	22(88.00)	24(96.00)	32(94.12)	249(91.88)
				Referred	2(7.69)	3(10.00)	1(3.57)	4(16.67)	1(3.57)	2(10.00)	3(9.68)	3(12.00)	1(4.00)	2(5.88)	22(8.12)
Follow-up	0.20 (0.40)	8.18 (0.51)		Not referred	21(80.77)	24(80.00)	24(85.71)	16(66.67)	24(85.71)	19	23(74.19)	18(72.00)	20(80.00)	27(79.41)	216(79.70)
				Referred	5(19.23)	6(20.00)	4(14.29)	8(33.33)	4(14.29)	0	8(25.81)	7(28.00)	5(20.00)	7(20.59)	55(20.30)
Thank you	0.00 (0.06)	8.86 (0.46)		Not referred	26	30	27(96.43)	24	28	20	31	25	25	34	270(99.63)
				Referred	0	0	1(3.57)	0	0	0	0	0	0	0	1(0.37)
Incentives ⁷	0.15 (0.35)	8.54 (0.48)		Not referred	22(84.62)	28(93.33)	21(75.00)	20(83.33)	26(92.86)	17(85.00)	27(87.10)	20(80.00)	19(76.00)	31(91.18)	231(85.24)
				Referred	4(15.38)	2(6.67)	7(25.00)	4(16.67)	2(7.14)	3(15.00)	4(12.90)	5(20.00)	6(24.00)	3(8.82)	40(14.76)

Notes:

¹Table adopted from Hult *et al.*, (2008). To enhance readability and comparability of data for statistical testing, percentages for 0s are not reported.²The Fisher's exact tests were undertaken to confirm obtained results.³Following the work of Brock (2003), a post hoc statistical power analysis was calculated using G*Power developed by Faul *et al.*, (2009, 2007) and available from <http://www.psych.uni-duesseldorf.de/abteilungen/aap/gpower3/>. $\alpha = 0.05$ ⁴Dillman's ToDM and/or TaDM mentioned or not for data collection procedures.⁵Mail survey data collection procedures proposed in Dillman's frameworks.⁶We acknowledge the fact that 14 studies is a small sample size for a statistical analysis, but this is for illustration purposes to show how many studies that refer to Dillman's frameworks actually report the survey data collection procedures that he proposed in ToDM and/or TaDM⁷Both monetary and non-monetary.⁸Mail survey data collection procedures referred or not when Dillman's framework not mentioned for data collection procedures.* $p \leq 0.01$; ** $p \leq 0.05$; *** $p \leq 0.10$

Source: Author's own calculations.

Table 5. Reporting of Data Collection Procedures Across Journals by the Number of Countries Surveyed, 2000-2009^{1,2}.

	Mean (Std.dev)	χ^2 (sig) ³	Power (1- β) ⁴	Categories	JIBS	IBR	JWB	MIR	Total
<i>One Country Surveyed</i>					<i>n=45(%)</i>	<i>n=43(%)</i>	<i>n=35(%)</i>	<i>n=37(%)</i>	<i>n=160(%)</i>
Data Collection Procedures	0.48(0.50)	5.14(0.16)	0.905	Not referred	29(64.44)	23(53.49)	15(42.86)	16(43.24)	83(51.88)
				Referred	16(35.56)	20(46.51)	20(57.14)	21(56.76)	77(48.13)
Pre-notice Letter	0.16(0.37)	5.46(0.14)		Not referred	40(88.89)	38(88.37)	25(71.43)	31(83.78)	134(83.75)
				Referred	5(11.11)	5(11.63)	10(28.57)	6(16.22)	26(16.25)
Covering Letter	0.13(0.33)	3.47(0.33)		Not referred	38(84.44)	40(93.02)	32(91.43)	30(81.08)	140(87.50)
				Referred	7(15.59)	3(6.98)	3(8.57)	7(18.92)	20(12.50)
Reminder	0.13(0.33)	7.75(0.05)**		Not referred	41(97.62)	32(76.19)	30(90.91)	28(87.50)	131(87.92)
				Referred	1(2.38)	10(23.81)	3(9.09)	4(12.50)	18(12.08)
Follow-up	0.26(0.44)	3.47(0.33)		Not referred	35(77.78)	31(72.09)	29(82.86)	24(64.86)	119(74.38)
				Referred	10(22.22)	12(27.91)	6(17.14)	13(35.14)	41(25.62)
Thank You	-	-		Not referred	-	-	-	-	-
				Referred	-	-	-	-	-
Incentives ⁵	0.16(0.37)	8.09(0.04)**		Not referred	41(91.11)	37(86.05)	24(68.57)	32(86.49)	134(83.75)
				Referred	4(8.89)	6(13.95)	11(31.43)	5(13.51)	26(16.25)
<i>More than One Country Surveyed</i>					<i>n=54(%)</i>	<i>n=25(%)</i>	<i>n=25(%)</i>	<i>n=13(%)</i>	<i>n=117(%)</i>
Data Collection Procedures	0.30(0.46)	0.26(0.97)	0.785	Not referred	39(72.22)	17(68.00)	17(68.00)	9(69.23)	82(70.09)
				Referred	15(27.78)	8(32.00)	8(32.00)	4(30.77)	35(29.91)
Pre-notice Letter	0.60(0.24)	6.34(0.10)***		Not referred	53(98.15)	21(84.00)	24(96.00)	12(92.31)	110(94.02)
				Referred	1(1.85)	4(16.00)	4(4.00)	1(7.69)	7(5.98)
Covering Letter	0.11(0.32)	0.57(0.90)		Not referred	47(87.04)	22(88.00)	23(92.00)	11(84.62)	103(88.03)
				Referred	7(12.96)	3(12.00)	2(8.00)	2(15.38)	14(11.97)
Reminder	0.04(0.20)	1.71(0.64)		Not referred	51(94.44)	24(96.00)	25	12(92.31)	112(95.73)
				Referred	3(5.56)	1(4.00)	0	1(7.69)	5(4.27)
Follow-up	0.14(0.35)	2.92(0.40)		Not referred	46(85.19)	20(80.00)	24(96.00)	11(84.62)	101(86.32)
				Referred	8(14.81)	5(20.00)	1(4.00)	2(15.38)	16(13.68)
Thank You	0.01(0.10)	1.18(0.76)		Not referred	53(98.15)	25	25	13	116(99.15)
				Referred	1(1.85)	0	0	0	1(0.85)
Incentives ⁵	0.14(0.35)	4.20(0.24)		Not referred	50(92.59)	21(84.00)	19(76.00)	11(84.62)	101(86.32)
				Referred	4(7.41)	4(16.00)	6(24.00)	2(15.38)	16(13.68)
Grand Total								n=277²	

Notes:

¹Table adopted from Hult *et al.*, (2008). To enhance readability and comparability of data for statistical testing, percentages for 0s are not reported.²See Endnote 9 and Table 2.³The Fisher tests were undertaken to confirm these results.⁴Following the work of Brock (2003), a post hoc statistical power analysis was calculated using G*Power developed by Faul *et al.*, (2009, 2007) and available from <http://www.psych.uni-duesseldorf.de/abteilungen/aap/gpower3/>. $\alpha = 0.05$ ⁵Both monetary and non-monetary.** $p \leq 0.05$; *** $p \leq 0.10$

Source: Author's own calculations.