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“The reasons for attrition: we (still) haven’t got a clue”

Stream – reflective practice

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Abstract “The reasons for attrition: we (still) haven’t got a clue”

This paper describes a small survey (attrition survey) undertaken to ascertain reasons of attrition and non-response in questionnaire responses from student participants as part of a larger longitudinal survey (longitudinal study). Due to difficulties in retaining participants within the longitudinal study, determining reasons for attrition and non-response became important; mainly. The questionnaire employed in the longitudinal study was developed by the Cambridge Management Institute (CMI) and is widely known as the HEGI instrument or the SPEED network questionnaire. The questionnaire was designed to be completed three times by the participants; one pre-test and two post-tests.

Following 18 months of problems of attrition, questions were raised about its value and whether it was suitable to be administered in the environment and setting within which we were using it, in traditional semesters in higher education. Therefore, the subsequent attrition survey was undertaken to look at a number of factors that the authors believed were significant in causing the high rates of attrition and non-response. This data was obtained using a very short questionnaire sent to a proportion of the sample originally part of the longitudinal study. The factors deemed to be of potential significance were plenty and are discussed at detail throughout the paper

Predominantly, issues concerning web-based and paper-based survey methods were also of significance as the former becomes more prevalent but raises the question, how do response rates compare with traditional methods? This was a further area of concern for the authors because a change to the survey mode i.e. distribution and completion method from paper to online was reluctantly introduced as a cost-saving measure.

This paper will report the results of the attrition survey in relation to the participants’ responses about reasons for attrition and non-response. .

Keywords: survey attrition; survey response rates; longitudinal; enterprise education; HEGI questionnaire

Introduction

This paper describes a small research project (the 'attrition survey' hereafter) which was undertaken as a consequence of a much larger longitudinal research project (longitudinal study hereafter). The 'attrition survey' was undertaken outside of and separate to the longitudinal study to ascertain reasons of non-response and attrition from the study sample participants. For us 'non-response' relates to the sample contacted and requested to complete a questionnaire but who declined, and 'attrition' relates to those of the sample that completed the first questionnaire i.e. pre-test but then declined to further participate at subsequent waves. Due to difficulties in retaining participants within the longitudinal study, determining reasons for non-response and attrition became important; mainly due to the authors' own assumptions relating to the value of the actual questionnaire used, factors associated with its design and administration modes. The questionnaire in our longitudinal study was developed by the Cambridge Management Institute (CMI) and is widely known as the HEGI instrument or the SPEED network questionnaire. The questionnaire was designed to be completed three times by the participants; one pre-test and two post-tests.

The longitudinal study was planned to run for three years from 2007-2010 but the decision was taken to change the design of the project in May 2009, due to the problems with non-response and attrition. The original objective was to assess the impact of enterprise focused modules which were accessible to numerous subject disciplines. However, the authors encountered many problems, pitfalls and struggles within the first 18 months of the project which were reported at this conference in 2009. Both of these projects, attrition survey and longitudinal study, are part of the work of The Institute for Enterprise, a Centre for Excellence in Teaching & Learning (CETL) funded by the Higher Education Funding Council for England (HEFCE) based within Leeds Metropolitan University.

The main focus of this paper is twofold: first, to reflect on our approach, decisions and knowledge as regards non-response and attrition, and second, to discuss the 'attrition survey'; as the title suggests 'reasons for attrition'. The paper will not discuss the actual results of the longitudinal study.

The objectives of the paper therefore, are to:

- briefly outline and discuss the longitudinal study and the rationale for the attrition survey;
- outline and discuss the chosen research methods to obtain the appropriate data and associated problems of measuring/capturing reasons for non-response and attrition;
- discuss in detail the results of the 'attrition survey' with reference to relevant literature and lessons learned with recommendations for future research.

2.0 Outline of Longitudinal Study

The original purpose of the research was to explore the extent and nature of connection between a numbers of factors i.e. the subject of enterprise; higher education, students' self-efficacy; and future career intentions. It was our intention to explore and examine the assumption that students are equipped to be more enterprising and/or that they may become more likely to pursue the desire/intention to become self-employed, following study of enterprise focused modules. We planned to do this utilising a longitudinal study approach over three years using a multi-method research design which consisted of a questionnaire and a series of semi-structured interviews. Our original research question was

To explore the impact of enterprise modules in higher education on student's own perceptions of their self-efficacy and their motivations towards particular career intentions."

The research began in October 2007, and our intended method was to use a robust survey instrument (questionnaire), developed and tested by Cambridge Management Institute (CMI), which we used with their permission. It is worth noting that when CMI undertook their project using the questionnaire they

didn't apply it longitudinally nor did they use both quantitative and qualitative methods. Furthermore, the programmes they evaluated were week-long residential programmes to develop entrepreneurial skills and build confidence and their total sample size was 55. They did however, confirm that the instrument could be used in a design such as ours and welcomed any results.

3.0 Rationale for Attrition Project

Before we embarked upon our longitudinal study the question of non-response and attrition was discussed and featured in our research design. Because the questionnaire consisted of 1 pre-test and 2 post-test completions, an initial consideration to deal with attrition and non-response was over-sampling to deal with any losses at the second wave. A further design feature to deal with non-response and attrition was to use paper-based surveys initially and offer paper- and web-based surveys at the second and third waves. However, when the second wave (first post-test) was due, as a consequence of budgetary constraints, we were forced to use the web-based distribution and completion method. This in the main was because of costs associated with publishing and operational activities such as printing, postage and inputting.

We believed this distribution method and a number of other factors had a negative impact on the respondents' desires to participate resulting in high attrition and non-response. This became the focus of our attrition survey and our main rationale. We had no concrete evidence to suggest that our assumptions were anything other than just that and the decision to do the attrition survey was an easy one. Due to the level of resources, time and effort invested in the longitudinal study determining reasons for attrition and non-response became important. In the case of longitudinal surveys, sample attrition is the cumulative effect of non-response over repeated waves of data collection efforts (Lynn, 2006). This became a problem because students representing a particular population characteristic, in our case subject discipline, dropped out more frequently from one group compared to others. The factors influencing attrition and non response that we considered for our study were:

- The questionnaire was too long
- The questions were too complex
- The questions asked were too personal
- The amount of personal information requested was too much
- Participants had concerns over privacy and confidentiality
- Participants had concerns over third parties
- Burden of 3 completions – 1 pre- and 2 post-test
- Participants level of interest in the subject was low
- Participants perceived no personal benefit from the research
- The incentive to participate was not very attractive
- Completion was via online submission
- Completion was via paper submission

All of these factors were included in a short survey to a sample of approximately n=290 to determine reasons of attrition and non-response. An additional possible cause of non-response and attrition that was not included in the survey to the students was that the actual instrument was in fact not suitable for use in higher education in the way we were applying it. We believe that the pre- and post-test design is not suitable in the traditional semester approach due to the large gap of almost 12 weeks from the beginning of the semester to the end. However, we do have colleagues in other universities that have used it successfully in the traditional semester model and in a small number of cases have achieved 3 completions. Their approaches though have been what some might refer to as 'innovative' or others as 'unethical'. Their means have been to make the completion of the questionnaire compulsory through connecting it to assessments. We did not have the luxury of this approach because we are researchers on the outside of module and course teams and do not have the responsibility or ownership of curriculum programmes. Furthermore, our project encompassed multiple modules in multiple faculties with

associated large populations rather than single modules with relatively small numbers of participants. In some respects, we believe linking to assessment is a reasonable approach if you are looking to achieve high response rates. There is though an underlying factor to take into consideration which is to do with 'levels of intent'. There is the notion, in relation to the CMI questionnaire, that it should only be administered to participants who are the recipients of a module that is compulsory and not elective. This relates to the impact of an individual's own level of intent and how this variable will differ from person to person, a variable that the questionnaire can't capture. The notion of compulsory modules is the only possible way of implementing a measure of control on the variable 'levels of intent'. This is a further finding in our conclusions following the attrition survey and relates to the notion of implicit and explicit enterprise which we discuss in a separate paper. An additional weakness with making completion compulsory through linking with assessment is the reliability of responses. 'Conscripted' respondents may not engage with the research in a reliable manner.

4.0 Methods

Because of sensitivities to students' needs and their potential to suffer 'survey fatigue', and as an attempt to encourage responses, we decided to make the attrition questionnaire as simple as possible and requiring little effort to complete it. The full questionnaire is included in Table 1 below. As can be seen respondents were presented with a list of possible reasons for attrition and non-response to the longitudinal questionnaire and were asked to select and rank the three reasons that most influenced their decision not to respond. Additional comments were also sought in an open question section. We returned to paper based and mail modes of distribution for this survey. The envelope contained a covering letter, a copy of the first page of the original questionnaire as a reminder, a reply paid envelope and a pen, to encourage and aid their participation. The sample size was approx n=290, of which n=61 responses were received. It is interesting to note that the response to the attrition survey was higher than the second wave of the longitudinal survey, This is an additional indication from our projects that paper based distribution potentially delivers higher responses than web based distribution and completion when used as a single mode of administration.

5.0 The question of Attrition and Non-response

We considered a number of the factors we believed contributed to the problem of non-response and attrition, particularly those that we believed to be key factors, prior to our attrition survey. A discussion of these follows.

Incentives

Incentives in the form of a gift or money are often given to survey respondents in the hope that this might increase response rates and possibly reduce non-response bias (Laurie, 2008) Also the aim of giving the incentive is to encourage respondents to view their participation in the research study as important and valuable. It does however also raise the question of bias in relation to 'actual completion'. Does the incentive 'coerce' the respondent to complete the questionnaire i.e. are they completing it willingly?

We offered a number of incentives to our participants in the longitudinal study, including cash, in the hope that they would remain in the study. However, we don't believe that the issue of incentives was a significant contributor on attrition and low-response rates. Sax and her colleagues (2003) found that students offered an incentive actually produced lower response rates than those offered no incentive. That said Church (1993) found that for mail surveys incentives do have an effect and that monetary incentives have a greater effect than gifts. Furthermore, the follow-up response rates also increased when the monetary incentive amounts increased. There is an abundance of discourse available on the varying approaches to incentivised responses in research studies. What is clear is that no one way is the 'best' and varying approaches have yielded results in some research more than others.

Saliency

Laurie & Lynn (2008) also propose a 'topic saliency' concept, whereby importance is placed by respondents on the content of the questionnaire and the way it is introduced by the researchers or interviewers. The argument is that if the respondent is interested in the topic or the survey or believes that they or a group might be advantaged by it, they enjoy the opportunity to exhibit their knowledge about the subject and are more likely to participate. This concept was something we considered in our longitudinal study because some of the students in the sample would have been doing modules that were compulsory and some modules that were elective. The latter obviously, we hoped, would meet the 'topic saliency' concept but unfortunately we did not have the opportunity to discover this due to high attrition at wave two. .

Greenlaw & Brown-Welty (2009) put forward the proposition that their high response rates were because the respondents in their study appeared to have a particular interest in the results of the survey and it was in their interests to participate. However, their participants were highly educated, employed and the average age was 35-45. Though these are assumptions on their part, it appears a fairly plausible claim to make that saliency has a big part to play in response rates and particularly in their study. However, the higher education (HE) landscape is markedly different from their survey landscape and demographics of HE populations also play a very big part in response rates, and most often with less positive results (Porter & Whitcomb 2005).

A further factor that we believe relates to saliency is respondents' characteristics, behaviours and attitudes, variables that we don't have access to as part of available information on demographics and populations. Given the increased use in HE of surveys and questionnaires to obtain data on assessment, curriculum and performance indicators for measures to produce league tables etc. it is important to understand why some respondents complete surveys and why some do not. This is a factor that we believe is frequently overlooked.

There is, however, a large amount of literature on the 'characteristics' of non-respondents (Lynn et al, 2005). The two main constituents on non-response are non-refusal and non-contact and it is suggested that particular demographic characteristics may have different effects on propensity to be contacted and willingness to participate once contacted. A hypothesis by Groves & Couper (1998) is that these demographic variables are indirect measures of social psychology constructs, rather than direct causal influences on participation. For a full description of characteristics of non-contact and non-refusal see Lynn et al, 2005, A Review of Methodological Research Pertinent to Longitudinal Survey Design and Data Collection, pages 16-18, section 3.5.

Modes of administration

When considering the modes of administration as part of our research design we were careful to think through possible options and approaches to maximising responses and to reduce non-response bias. One rationale for this approach was that we expected a high attrition rate at the second wave (first post-test). This expectation was in line with general experience (Burton et al, 2006; porter etc). We were correct about the expected high number of attrition but did not expect to have such a low response rate following the pre-test questionnaire at the second wave (n=13). The distribution and completion mode offered for the second wave was by web completion only. This change in the distribution and completion methods is one of a number of contributing factors that we considered may explain the low response rate as the study by Sax et al (2003) found that offering an option of paper or online completion produced higher response rates than either as a single option. In a more recent study, Greenlaw & Welty-Brown (2009) also found that offering a mixed-mode increased response rates and to provide 'response method' choice is highly advisable. However, the issue of 'respondent burden' still remains a significant factor with potential to interfere with response rates despite offering a 'response method' choice.

Respondent Burden

The issue of respondent burden can overlap into many other factors associated with non-response and attrition. Factors such as time to complete; length of questionnaire; saliency; accessibility i.e. web-based; number of completions, are all evidenced in the literature.

Lynn et al (2005) propose an 'opportunity costs' theory where sample members weigh up the costs and benefits in a survey. If the 'respondent burden' is too high relative to any benefits the notion is they are likely to refuse the survey request (Groves & Couper, 1998; Groves, Singer & Corning, 1999). Factors considered being negative that we also considered to be significant include: length (Groves & Couper, 1998; Morton-Williams, 1993), complexity of questions/interview (Baldinger *et al*, 1995; Meier, 1991; Sharpe and Frankel, 1983; Smith, 1995) and concerns about privacy and confidentiality (Cialdini *et al*, 1993; DeMaio, 1980; Frey, 1986; Goyder and MacKenzie Leiper, 1985; Olson and Klein, 1980; Singer *et al*, 1992; Singer *et al*, 1995; Singer, 1984).

Lynn et al (2005) found further that when looking at 'respondent burden' in a longitudinal study there is an additional constituent to the questionnaire length; the impact of the perceived cost of future survey participation. Our sample was aware of our longitudinal design right from the outset.

The questionnaire in our longitudinal study may have been viewed by some as quite arduous to complete and included some relatively complex questions. Lynn et al (2005) offer the suggestion that at second and subsequent waves, sample members have information about the survey which they did not encounter at the beginning. This is because they have had experience of the survey at wave one and, potentially, they have no interest. This could certainly be said to be the case with our study.

6.0 Discussion of 'attrition survey' results

Our results are of course very limited and we can argue relevance to only our study. However, they may be of interest and potential significance for other studies. Also, this paper is the focus of a reflection in and of our practice.

The results of our attrition survey are presented in Table 1 below. We converted those responses to produce an overall score and ranking for each reason. This was simply on the basis of allocating a score of 3 to a ranking of 1, a score of 2 for a ranking of 2 and a score of 1 for a ranking of 3 for each reason. These scores were then summed to give an overall score for each reason and this overall score was used to arrive at a final ranking. The results are presented in Table 2 below and analysed in more detail in the following paragraphs. Open question response comments are included to illustrate the key points.

Please number the three most important factors in your decision not to complete the questionnaire with number 1 being the most important, number 2 the second most important and number 3 the third most important.			
The reason I did not complete and return the questionnaire was because:	Rank		
	1 st	2 nd	3 rd
it was too long	7	2	4
the questions were too complex	-	5	2
the questions asked were too personal	2	-	-
the amount of personal information was too much	-	-	-
I had concerns over privacy and confidentiality	-	1	1
I had concerns over third parties contacting me.	-	-	1
I was required to complete the questionnaire 3 times	-	-	-
my level of interest in the subject was low	3	2	3
I perceived no personal benefit	1	3	2
the incentive to participate was not very attractive	1	2	4
I was asked to complete it online	-	4	1
I was asked to complete it on paper	-	-	-
I never received the letter in the post	8	1	1
	Totals N=61		
Qualitative responses			
<ul style="list-style-type: none"> I cannot remember what it was about (n=3) 			
<ul style="list-style-type: none"> No incentive to fill out the form 			
<ul style="list-style-type: none"> I didn't have time when I received the prompt to fill in the questionnaire, once I did have the time it was a little too late to complete it and send it back 			
<ul style="list-style-type: none"> I think if the purpose of the research were clearer (i.e. what good will come of it – for me or others) – I may have been more motivated to complete it. 			
<ul style="list-style-type: none"> I personally do not remember getting anything through the post so I will probably have been asked to complete it online and will have forgot. This method of post personally works better for me and the free pen is a bonus! Sorry for not filling in the questionnaire last year. 			
<ul style="list-style-type: none"> Just the timing with work I had to do at the time and only being in 3 days. 			
<ul style="list-style-type: none"> Can't remember being asked to fill it out online and then probably forgot due to having things more of a priority. 			
<ul style="list-style-type: none"> I read the e-mail at a time which was inconvenient to fill it in and then forgot to go back to it at a later date. 			
<ul style="list-style-type: none"> I never received the questionnaire via e-mail or in the post. 			
<ul style="list-style-type: none"> I had deadlines to meet so the questionnaire wasn't important to me. 			
<ul style="list-style-type: none"> I don't really remember another questionnaire. Therefore I was probably given it at a busy period of time or during the holidays as I would have normally filled it in if it was for someone's study. 			
<ul style="list-style-type: none"> 			

Table 1: Results from questionnaire respondents – quantitative and qualitative

The reason I did not complete and return the questionnaire was because:	SCORE	RANK
1 it was too long	29	1
2 the questions were too complex	12	4
3 the questions asked were too personal	6	7
4 the amount of personal information was too much	0	10
5 I had concerns over privacy and confidentiality	3	8
6 I had concerns over third parties contacting me.	1	9
7 I was required to complete the questionnaire 3 times	0	10
8 my level of interest in the subject was low	18	3
9 I perceived no personal benefit	11	5
10 the incentive to participate was not very attractive	11	5
11 I was asked to complete it online	9	6
12 I was asked to complete it on paper	0	10
13 I never received the letter in the post	27	2

Table 2: Analysis of questionnaire responses - quantitative

It is possible and useful to group the reasons for non-response and attrition into three broad categories. We suggest the following have some internal logic;

- Questionnaire design
- Personal motivation
- Distribution methods

Reasons 1 to 6 were to do with questionnaire design, reasons 8 to 10 personal motivation and reasons 11 and 12 covered distribution methods. Reason 13 has turned out to be somewhat of a 'red herring' and we are disregarding this question. This question has become irrelevant because we are unable to say whether this relates to the respondents receiving the request to complete the questionnaire online or due to physically not receiving the letter via postal mail due to non-delivery or the respondent having moved house etc. On reflection, this is somewhat of a design flaw on our part. Reason 7 was a hybrid which could arguably be included in any of the categories. Given the intended use of the questionnaire in the longitudinal study multiple completions could be considered part of questionnaire design. Alternatively, multiple completions could also be connected with the distribution methods and especially in our project since they were changed between the first and second completions. Finally, non-response related to multiple completions also has a connection with the notion of 'respondent burden' under our category of personal motivation. At this point and given the results shown in Table 2 multiple completions do not figure as a significant factor in the attrition rate we experienced. This is somewhat surprising to say the least. However, does make perfect sense because saliency possibly would be a foreboding factor over the number of completions. Here we are suggesting that the burden of the three completions would not matter if the subject was thought to be of interest and benefit to the respondent.

The two highest ranked reasons come from the categories of questionnaire design and personal motivation. Taking personal motivation first, reasons associated with and included in this category were all of some importance and significance. Lack of personal interest was ranked third and (lack of)

perceived personal benefit was joint fifth (*I think if the purpose of the research were clearer (i.e. what good will come of it – for me or others) – I may have been more motivated to complete it*) with lack of a personally attractive incentive (*No incentive to fill out the form*). These results indicate that personal motivation was a significant category of reasons in our study for non response and so cause of a high attrition. The most important of these reasons is that of personal interest which suggests the need for a clear link to either exist or to be created and demonstrated to respondents if high response and low attrition are to be achieved. There are clear connections between this finding and current writing on saliency (Greenlaw & Brown-Welty, 2009; Lynn et al, 2005). However, HE students' interests are very diverse and developing a strategy to secure saliency for questionnaire completion among homogenous populations would require an innovative approach, particularly now that the 'incentivised' approach looks to be exhausted.

The highest ranked reason was the length of the questionnaire. Other reasons in this category are spread throughout the ranking; the complexity of the questions was ranked fourth and the personal nature of the questions was ranked 8th. The other reasons in this category which are related to the amount of personal information, confidentiality and third party use are the bottom three in the ranking; i.e. the lowest in importance or significance for students choosing not to respond. It seems therefore that our respondents decided that questionnaire length and complexity of questions are the two main reasons for attrition in the category of questionnaire design. We are not surprised by this outcome as our main concerns for attrition did weigh heavily on questionnaire design, length being a main concern and adds further weight to our postulations about the importance of saliency, as discussed above. We believe had respondents had more interest and higher perceived benefit, this may have affected attrition and non-response differently.

Finally, in the category of distribution methods relating to questions 11 and 12, there were no responses for the reason 'I was asked to complete it on paper' (Q11) but 'I was asked to complete it online' (Q12) was ranked as 6th. Though the responses to Q12 were low, there is some indication to suggest online completion was a reason for non-response and attrition, whereas no respondent cited Q11 as a reason contributing to either. This fits with our hypothesis that respondents would have preferred paper completion and that not as many of the X and Y generation individuals are not as technologically driven as some might suggest. Furthermore, had we been given the opportunity of administering a multi-method response choice at the second wave we would be in a much better position from a results perspective to be able to say either way what our respondents preferred.

It is not possible to do even a simple ranking of the categories. We cannot therefore offer an 'objective' view on which was most important in causing high attrition in our study. We can, however, state that our assumptions about the questionnaire are correct, particularly the length, complexity of questions, saliency and perceived benefit.

7.0 Conclusions

Although simple in design and limited in size, our attrition survey does provide some empirical evidence. This evidence lends general support to reasons for non-response and high attrition as suggested in the literature; for example saliency, modes of administration, respondent burden and use of incentives. The evidence also suggests that the three categories we identified of questionnaire design, personal motivation and distribution methods are all significant in respondent's decisions on participation in surveys. Our three categories also seem to be potentially, at least, equally important. We also suggest that the categories reflect factors previously and currently identified and discussed in the literature and so future research could usefully further investigate their utility.

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